Tanzania-Netherlands
District Rural Development Programme

RURAL SHINYANGA CWIQ
Baseline Survey on Poverty, Welfare and Services in Rural Shinyanga Districts


AUGUST 2004

FOREWORD

Shinyanga Region consists of seven rural districts. The effective management of development of this region depends on the interest of many different stakeholders who share a common concern to alleviate poverty of the rural population in those seven districts. This Shinyanga CWIQ report gives an overview of the magnitude of poverty in communities. Also it gives a representative view on utilisation and satisfaction of our rural population with the social services provided in the Shinyanga rural districts provided by the Government and the Non Government agencies.

This book is unique as it is the first comprehensive survey of its kind to be administered in Shinyanga 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.

I hope that this book will contribute to a better understanding of the daily problems of our rural population. The Government, Non-Government Organisations and other stakeholders being concerned in development of the rural population are challenged to enhance collaboration in support of a comprehensive response to overcome the developmental constraints in the context of National priorities and policies.

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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
GER	Gross Enrolment Rate
NER	Net Enrolment Rate

DEFINITIONS

General

Shinyanga Rural Region — Includes all rural districts in the Shinyanga region: Kishapu, Shinyanga Rural, Maswa, Meatu, Bukombe, Bariadi and Kahama.

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

Poverty

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

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

Education

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

Primary School Age — 7 to 13 years of age

Secondary School Age — 14 to 19 years of age

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

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

Satisfaction with Education	No problems cited with school attended.
Gross Enrolment Rate	The ratio of all individuals attending school, irrespective of their age, to the population of children of school age.
Net Enrolment Rate	The ratio of children of school age currently enrolled at school to the population of children of school age
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   Households located within 30 minutes of travel from
Facilities   the nearest drinking water facility.

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1   INTRODUCTION

1.1   The Rural Shinyanga CWIQ

This report presents regional and district level analyses of data collected in the Rural Shinyanga 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 of and satisfaction with social services.

The Rural Shinyanga CWIQ was sampled to be representative at district level in all seven rural districts of Shinyanga region: Kahama, Bukombe, Bariadi, Meatu, Maswa, Shinyanga Rural, and Kishapu. 450 households were chosen in each district to represent its population. Households were clustered in 30 Enumeration Areas per district and stratified in rural and peri-urban areas.[1]

The survey started with the listing of the households in February 2004. All 3,150 sampled households were visited and administered a questionnaire in March and April 2004. Data analysis and report writing started in the beginning of May 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 Shinyanga CWIQ was the first survey of its kind to be administered in Shinyanga 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 Shinyanga CWIQ could be set against those of other CWIQ surveys that have been implemented in other districts and regions of Tanzania: Mbeya Urban District, Singida Urban District, Mtwara Urban District and Rural Kagera Region.   African countries that have implemented nationally representative CWIQ surveys include Malawi and Ghana.

The report starts with describing the survey methodology, including the sampling frame. Next, it continues with a regional level analysis of the data. Poverty, population characteristics, education, health, child delivery and nutrition, employment and perceptions of welfare 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

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[1] Although a district may generally be classified as rural, it will still contain some areas which are semi-urban (e.g. district capitals). Rural Shinyanga CWIQ is representative at district level and thus includes such areas. Throughout this report such areas shall be referred to as 'peri-urban'.

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 Census was used to select 15 households in 30 Enumeration Areas in each rural district of the Shinyanga region. This brings the total number of households to 450 per district or 3,150 at rural regional level. Households were 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		Total
	No. of selected Enumeration Areas	No. of selected households	No. of selected Enumeration Areas	No. of selected households	
Rural Shinyanga Region	192	2,880	18	270	3,150
Kishapu	27	405	3	45	450
Shinyanga Rural	29	435	1	15	450
Maswa	27	405	3	45	450
Meatu	29	435	1	15	450
Bariadi	28	420	2	30	450
Bukombe	26	390	4	60	450
Kahama	26	390	4	60	450

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 slightly redesigned 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 their consistency with the data assessed.

CWIQ does not collect information on consumption and thus cannot directly calculate poverty rates. Therefore the 2000/01 *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 Shinyanga CWIQ to analyse all data by (predicted) poverty status.[2]

To avoid technicalities, the tables in this report do not report standard errors. Statistical *t*-tests and bootstrapping techniques were nevertheless carried out on all important results. The term significant is used in a statistical sense throughout the report. When a difference is called significant, this was statistically tested at 5%. Sampling errors and confidence intervals for selected variables are presented in Annex A.

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 indicators collected in the Rural Shinyanga CWIQ survey.

1. The rural districts of Shinyanga Region – Kishapu, Shinyanga Rural, Maswa, Meatu, Bariadi, Bukombe and Kahama – have a combined population of approximately 2,500,000 individuals who live in 428,000 households. Although these households reside in rural districts, about 301,000 or 70 percent are located in rural areas and the remaining 30 percent (roughly 127,000 households) in areas classified as peri-urban.

2. Results of the Rural Shinyanga CWIQ show that the regional poverty rate is 30 percent; in other words, three out of ten households live under the Basic Needs Poverty Line. Poverty rate is significantly higher in rural than in peri-urban areas; while 42 percent of rural households live under the basic needs poverty line, in peri-urban areas this proportion is only 2 percent.

3. Overall, the literacy rate in Rural Shinyanga is 59 percent. However, there are big differences across gender, poverty status and area of residence. Results of the Rural Shinyanga CWIQ survey show that while the literacy rate among individuals from poor households is 56 percent, among members of non-poor households it is significantly higher at 73 percent. Similarly, while 57 percent of females are able to read and write, this proportion is 19 percentage points higher among men at 76 percent. Lastly, while in rural areas the literacy rate is 59 percent, in peri-urban areas it is as high as 85 percent.

4. Roughly half of the primary school age children in the region live within 30 minutes of travel from the nearest primary school; only 16 percent of secondary school age children live equally close to the nearest secondary school. At both primary and secondary levels, access, thus defined, is higher in peri-urban than rural areas. Primary school access rate in peri-urban areas is 84 percent, which is more than twice that in rural areas. Secondary school access rate in peri-urban areas is 46 percent; this is almost twelve times that in rural areas.

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[2] For more in-depth discussion on poverty predictors see Chapter 2 and Annex B.

5. The proportion of children from poor households who live within 30 minutes of travel from the nearest primary school is 39 percent. This access rate is 27 percentage points below that of children from non-poor households.

6. At the time of the survey, the primary school Gross Enrolment Rate (GER) in Rural Shinyanga was 100 percent. For 7 year olds the GER was 114 percent; this represents an increase of roughly 56 percent over a seven year period. Currently, three quarters of primary school age children (7 to 13 years) were attending school. These impressive enrolment statistics represent the effect of the Primary Education Development Plan that has been implemented since 2002.

7. Breakdown by age further shows that some children start school late and, therefore, lag behind at school throughout their schooling career. In Rural Shinyanga, only 34 percent of Standard I children were of the correct age (7 years); more than half of the children were between the ages of 8 and 10 years. This is likely to have adverse effect, as children lagging behind at school rarely complete school and, therefore, are less likely to participate in higher education.

8. Access to health facilities is defined as living within 30 minutes travel of a health facility. 30 percent of households in Rural Shinyanga have access to health facilities. Access rate to health facilities in peri-urban areas is more than three times that in rural areas at 65 percent and 18 percent respectively.

9. The access rate to health facilities is highest in Bukombe where 48 percent of households are located within 30 minutes of travel from the nearest health facility. The second highest access rate is in Kishapu district while the lowest is in Meatu, where less than a fifth of the households are located within 30 minutes of travel of the nearest health facility.

10. Results of the survey show that 323,000 individuals, or 13 percent of the population in Rural Shinyanga, had been ill in the 4 weeks preceding the survey.

11. The proportions of the population using health facilities are almost identical for both rural and peri-urban areas; the rates are 14 and 13 percent respectively.

12. 68 percent of all individuals who consulted a health provider were satisfied with the services they received. Satisfaction rates in rural and peri-urban areas deviate only slightly from the rural regional average.

13. The most common reason for dissatisfaction with health services in Rural Shinyanga is the high cost of medical services and lack of medication, cited by 44 and 40 percent of health users respectively. Long waiting time was also mentioned by a substantial proportion of health users.

14. 98 percent of all women who gave birth in the 12 months preceding the survey received prenatal care and 54 percent gave birth in a hospital or maternity ward. Child delivery is more likely to take place at home in rural areas, in poor households and in Meatu district.

15. Approximately 158,000 or 42 percent of children under five years of age in Shinyanga Rural suffer from chronic malnutrition or stunting, i.e. they are too short for their age and 24,000 children (6 percent) are acutely malnourished or wasted, i.e. they are too thin for their height.

Table 2: Rural Shinyanga at a Glance

	Rural	Peri-Urban	Total
POPULATION			
Total No. of Individuals	**1,874,884**	**608,983**	**2,483,868**
Total No. of Households	**300,615**	**127,449**	**428,064**
POVERTY			
% Households Living Under the Basic Needs Poverty Line	**42**	**2**	**30**
LITERACY			
Literacy Rate (for individuals over the age of 14)	**59**	**85**	**59**
non-poor	72	84	73
poor	60	67	56
male	74	86	76
female	61	74	57
PRIMARY SCHOOL			
Access	**44**	**84**	**53**
Satisfaction	**37**	**48**	**40**
Gross Enrolment Ratio	**96**	**115**	**100**
non-poor	96	114	104
poor	96	126	96
male	98	123	103
female	94	107	97
Net Enrolment Ratio	**73**	**88**	**76**
Non-poor	76	88	81
poor	71	79	71
male	72	86	75
female	74	89	78
SECONDARY SCHOOL			
Access	**4**	**46**	**16**
Satisfaction	**41**	**45**	**43**
Gross Enrolment Ratio	**4**	**17**	**8**
non-poor	6	17	11
poor	3	16	4
male	5	18	9
female	3	15	6
Net Enrolment Ratio	**3**	**16**	**7**
non-poor	4	16	10
poor	2	16	3
male	3	17	7
female	2	14	6
HEALTH			
Access	**18**	**65**	**30**
Need	**14**	**13**	**13**
Use	**21**	**19**	**21**
Satisfaction	**69**	**67**	**68**
NUTRITION			
% of stunted children	**42**	**40**	**42**
boys	46	38	46
girls	38	35	38
% of wasted children	**6**	**9**	**6**
boys	5	8	6
girls	6	10	7

2 POVERTY PREDICTORS

2.1 Introduction

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Household expenditure data was not collected as part of the Rural Shinyanga CWIQ. However, using other variables, household consumption expenditure was predicted to allow more in-depth analysis of the data. The first part of this chapter explains how predicted consumption was calculated and how reliable it is. Distribution of poverty across the region and levels of inequality in the region are examined in the section that follows. A brief household level poverty profile concludes the chapter.

2.2 Predicting Household Consumption Expenditure

2.2.1 Background Information

It is difficult, expensive and time consuming to collect reliable household consumption expenditure data. One reason for this is that consumption modules are typically very lengthy. In addition, household consumption patterns differ across 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.

2.2.2 Methodology

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 Rural Shinyanga CWIQ, the data collected in the *Household Budget Survey* 2000/01 (HBS) was used to select the poverty predictors and determine the quantitative relationship between these and household consumption. Work was then done to investigate the specific characteristics of the Shinyanga region in order to ensure that the model developed accurately represents this region in particular.

Some caveats are in order when tabulating variables used as poverty predictors on poverty status. Poverty status is defined as a weighted average of the poverty predictors, hence it should come as no surprise that poverty predictors are correlated to them. For instance, education of the household head is one of the variables included in the equation used to calculate household consumption. The relationship is set as a positive one, consequently when observing the patterns in the data this relationship may be positive by construction. Table 3 lists the variables that have been used to calculate predicted household income.

Table 3: Variables Used to Predict Consumption Expenditure

Basic Variables	*Ownership of Assets*
Location of the household (peri-urban/rural)	Radio, radio cassette, music system
Sex of household head	Bicycle
Age of household head	Iron, electric or charcoal
Household size	Saving/current bank account
Education of household head	
Activity of household head	*Food Security*
	Problems satisfying food needs
Distance to nearest facility	Number of meals per day
Distance to the nearest food market	Number of days meat was consumed
Ownership of house, land, animals	*Household Amenities*
Farm land owned	Source of water
Farm land used, not owned	Type of toilet
	Source of cooking fuel
	Number of people per bedroom

2.2.3 Poverty Lines and Poverty Rates

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

2.2.4 Accuracy

The Rural Shinyanga CWIQ 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 below or above the Basic Needs Poverty Line. This binary approach allows two types of mistakes associated with the prediction:
1. A poor household is predicted to be non-poor
2. A non-poor household is predicted to be poor

One way of determining the accuracy of the poverty predictors is to see how many mistakes of each type the model makes. To do this the poverty predictor model is applied to the actual consumption expenditure data – the HBS data. Results of this exercise are presented in Table 4 and show that the first type of mistake happens relatively frequently. The model wrongly predicts a poor household to be non-poor in 11 percent of the cases. The second type of mistake is made slightly less often: 9 percent of the households that were predicted to be poor were actually non-poor.

Table 4: Accuracy of Poverty Predictors in Categorising Poor and Non-Poor Households

	Actually Poor	Actually Non-poor
Predicted Poor	24	9
Predicted Non-poor	11	56

Another way of assessing the accuracy of the poverty predictors is to use Rural Shinyanga CWIQ to predict poverty rates in Shinyanga and compare these to the actual poverty rates found in the *Household Budget Survey* 2000/01. As shown in Table 5, the HBS finds that 34 percent of the households in Shinyanga are poor; these households contain 42 percent of the population. Using poverty predictors, the Rural Shinyanga CWIQ estimates these rates to be the same at individual level and only slightly different at household level.

Table 5: Accuracy of Poverty Predictors in Predicting the Regional Poverty Rate

Source	Percentage of Poor Households	Percentage of Individuals Living in Poor Households
Shinyanga Rural CWIQ 2004	30	42
HBS 2000/01	34	42

Predicting the regional poverty rate is not the purpose of CWIQ. The 2000/2001 Household Budget Survey is better suited for this purpose. The comparison is given

because the small difference between the CWIQ estimates and the HBS figure gives credence to the results of the CWIQ.

2.3 Poverty and Inequality in Rural Shinyanga

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

The remainder of this chapter presents an overview of prevalence of poverty in different parts of the Rural Shinyanga Region, the levels of inequality in the region, and the regional household level poverty profile.

2.3.1 Distribution of Poverty by Area of Residence

While overall 30 percent of households in Rural Shinyanga have a consumption level below that required to satisfy basic needs, the great majority of these households are located in rural areas. As shown in Figure 1, more than two out of five households in the rural areas of Shinyanga are poor (42 percent); in peri-urban areas this is only the case for one out of fifty households (2 percent).

Figure 1: Distribution of Poor and Non-Poor Households by Area of Residence
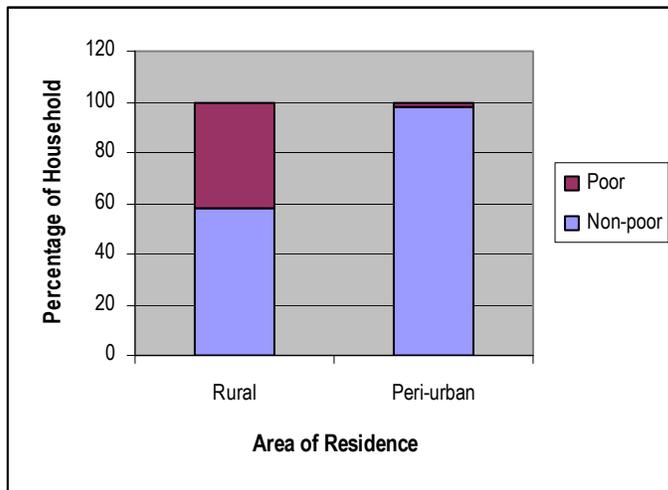
Given the above trend it is no surprise that the more rural districts in Rural Shinyanga tend to contain a higher proportion of poor households than the more urban ones.

As can be seen in Figure 2a Shinyanga Rural and Meatu are the most rural districts in the surveyed area; these are also the districts containing the highest proportions of poor households. 87 percent of households in Meatu are located in rural areas, and nearly half (48 percent) are poor. In Shinyanga Rural only 1 percent of households is located in peri-urban areas, and 40 percent are poor; this poverty rate is roughly equal to than found in Kishapu and Maswa. Bukombe is the most urban district in the region and is characterised by the second lowest poverty rate of 16 percent. The lowest poverty rate is found in Kahama, where only 13 percent of households are poor.[3]

The distribution of poor households across Rural Shinyanga is shown in Figure 2c.

Figure 2a: District Level Distribution of Households by Area of Residence
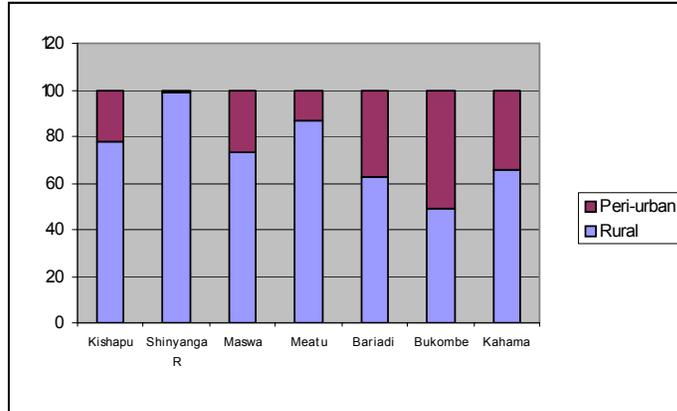
Figure 2b: District Level Distribution of Households by Poverty Status
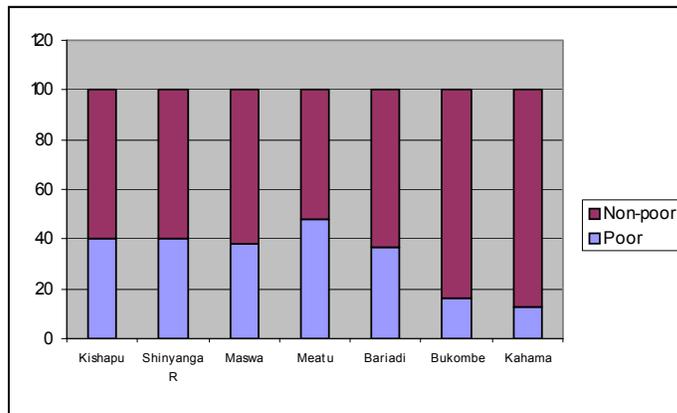
Figure 2c: District Distribution of Regional Household Poverty

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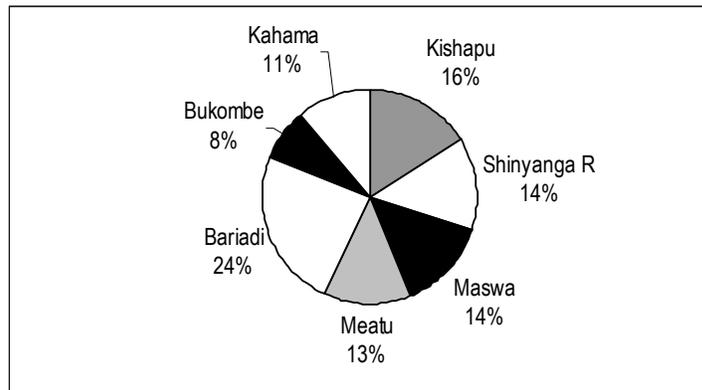
[3] Although the proportion of rural households in Kahama is close to the rural regional average at 66 percent, this is a district that has more industry and trade than the other districts in Shinyanga. The 'dry port' of Isaka is located nearby, the diamond and gold mines are also found here, with Kahama Mines Co-operation supplying work and increasing levels of trade. Hence the lowest poverty rate is found here.

2.3.2 Consumption Inequality

Figure 3 shows that 38 percent of total consumption in Shinyanga is consumed by the 20 percent richest population. The poorest 20 percent of the population only consumes 11 percent of total consumption.

Figure 3: Consumption Inequality
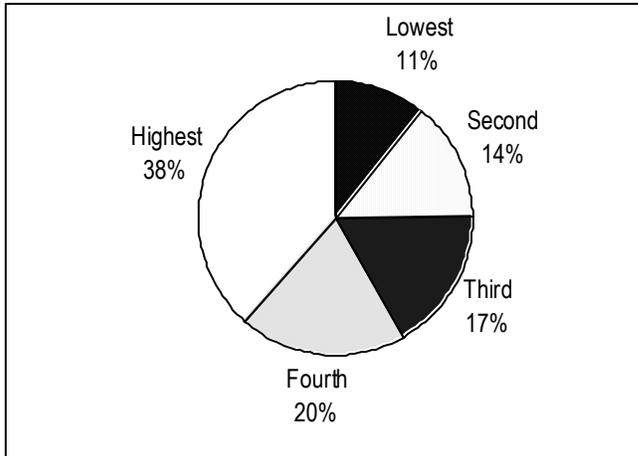
Another way of presenting the inequality figures for Rural Shinyanga can be seen in Figure 4. Individuals living in households below the Basic Needs Poverty Line make up 42 percent of the population, while their aggregate consumption constitutes only 25 percent of the total consumption in the rural part of the region.

Figure 4: Consumption Inequality in Rural Shinyanga
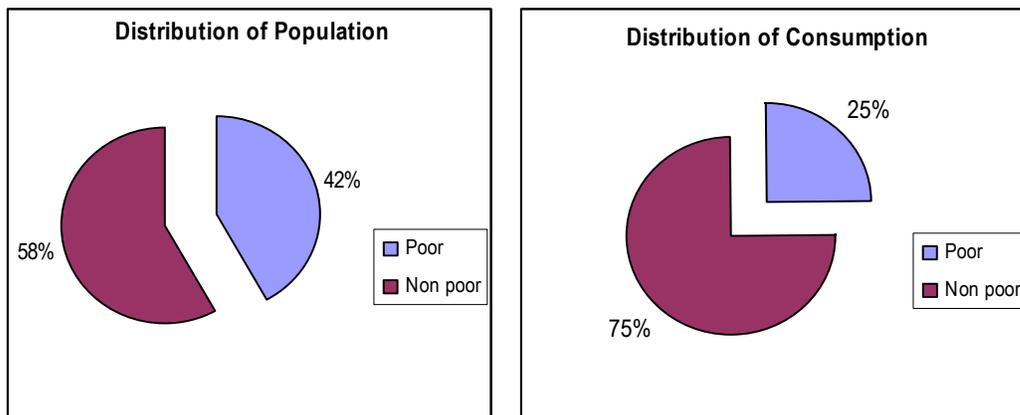
2.4 Poverty Profile

This section examines the differences and similarities in the main characteristics of poor and non-poor households. As mentioned before, the correlation of poverty with variables used to predict it, needs to be treated with due caution.

2.4.1 Household Characteristics

Past surveys have found that across Tanzania households with higher proportions of dependents (individuals under the age of 15 and over the age of 64) are more likely to be poor.[4] These results are supported by the findings of the Rural Shinyanga CWIQ. Figure 5 shows that households with relatively few dependents are less likely to be poor.

Figure 5: Proportion of Dependents per Household by Poverty Status

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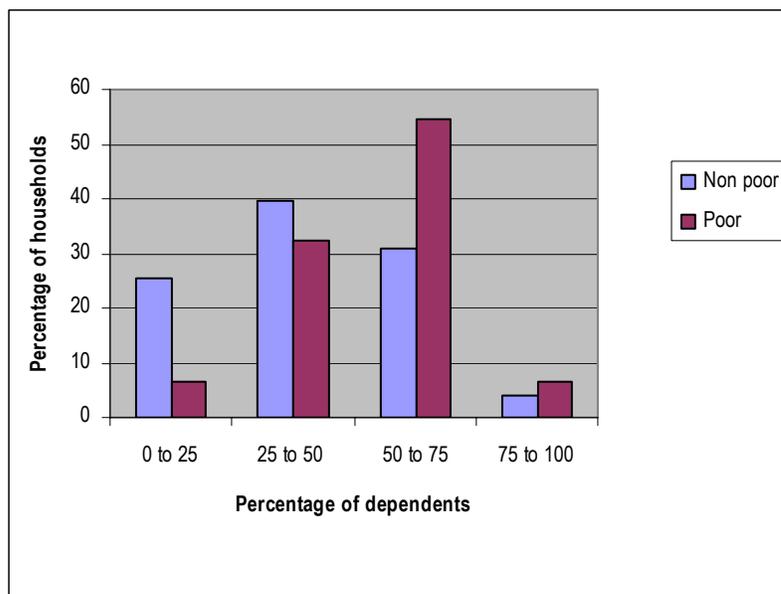
[4] *Household Budget Survey* 2000/01

2.4.2 Characteristics of Household Heads

Characteristics of the household head often affect the whole household; as the head of household is usually the main contributor of income in the household, his/her education and sector of employment is likely to affect the welfare of the household.

Results of the survey show that education of the household head is strongly correlated with household poverty status. As mentioned above this result must be treated with caution as education of the household head is one of the poverty predictors. However, this strong and highly statistically significant result is still informative.

Figure 6 shows that on average heads of households in the top consumption quintile have nearly three times as many years of schooling as those of households in the lowest consumption

Box 1: Poverty and Health
Health and poverty are related. While poverty translates into bad health, bad health also causes poverty. The Rural Shinyanga CWIQ illustrates this correlation. Where as well over 30% of household heads in the lowest consumption quintile are affected by a chronic disease (assumedly affecting their income earning capacity), only between 10 and 15 % of the households in the three highest quintiles suffer from the same.
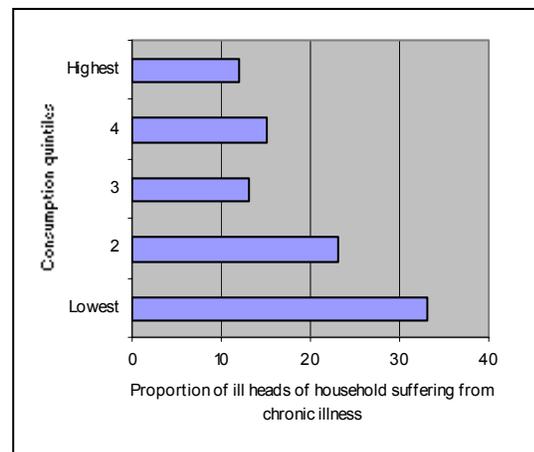
quintile at 6.5 and 2.5 years respectively. Heads of households from the middle consumption quintiles have, on average, completed between three and four years of formal schooling.

Figure 6: Average Years of Schooling Received by Household Head by Consumption Quintile

Substantial levels of consumption inequality are observable between households from different socio-economic groups (Figure 7). Very low levels of poverty were found

among households headed by individuals employed in the public/parastatal and private formal sectors, as well as those self-employed in non-agricultural industries. The poverty rate in these groups does not exceed 7 percent of the households. In sharp contrast, the poverty rate among households headed by individuals employed in the private informal sector, those who are self-employed in the agriculture sector and the unemployed is around the 50 percent mark at 47, 50 and 63 percent respectively.

Figure 7: Distribution of Poor and Non-poor Households by Socio-economic Status
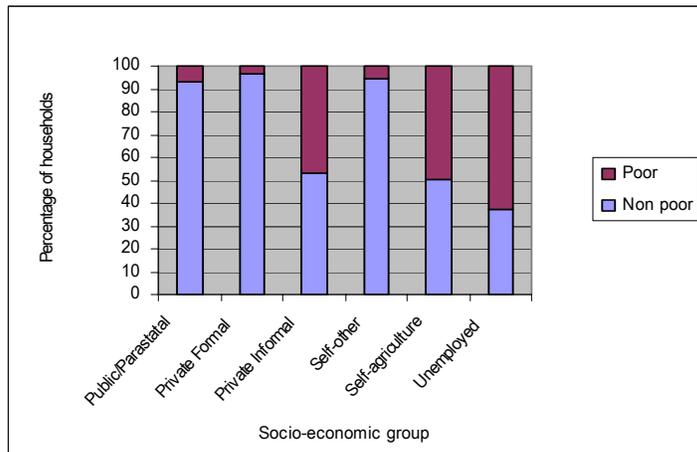
Interestingly female headed households appear to be slightly better off than male ones; Figure 8 shows that in the sample selected for the survey the proportion of female headed households in the top consumption quintile exceeded that in the bottom one by 5 percentage points. However, statistical tests which account for the error in prediction of poverty status show that this difference is not statistically significant and may therefore be characteristic of the given sample only, rather than the whole population.

Figure 8: Distribution of Gender of Household Heads by Household Consumption Level
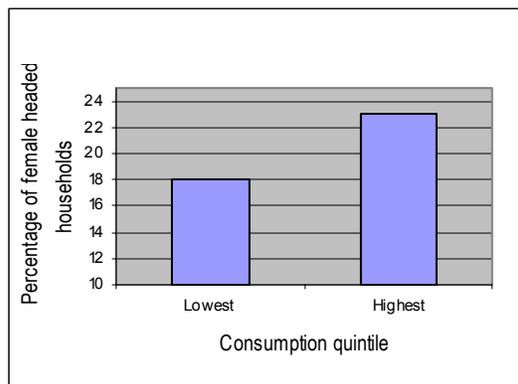
Map 1

Percentage of People Living in Households that are Below the Basic Needs Poverty Line:

Bariadi
50 %

Maswa
51 %

Meatu
60 %

Bukombe
24 %

Kahama
23 %

Shinyanga R
51 %

Kishapu
55 %

Percent
20 - 29
30 - 39
40 - 49
50 - 59
60 - 69
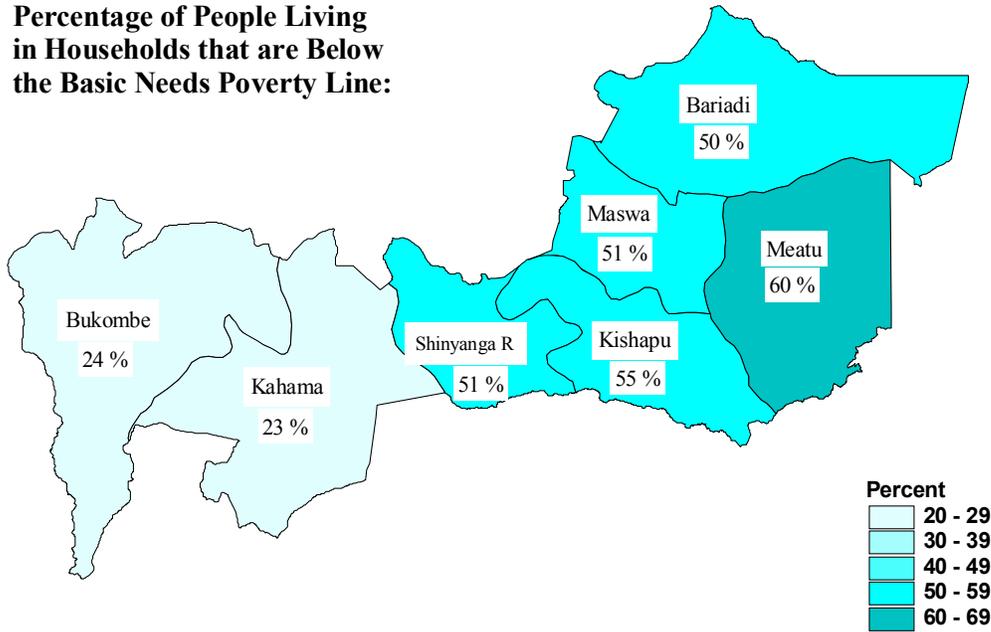
Map 2

Percentage of Households Below the Basic Needs Poverty Line:

Bariadi
37 %

Maswa
38 %

Meatu
48 %

Bukombe
16 %

Kahama
13 %

Shinyanga R
40 %

Kishapu
40 %

Percent
10 - 19
20 - 29
30 - 39
40 - 49
50 - 59
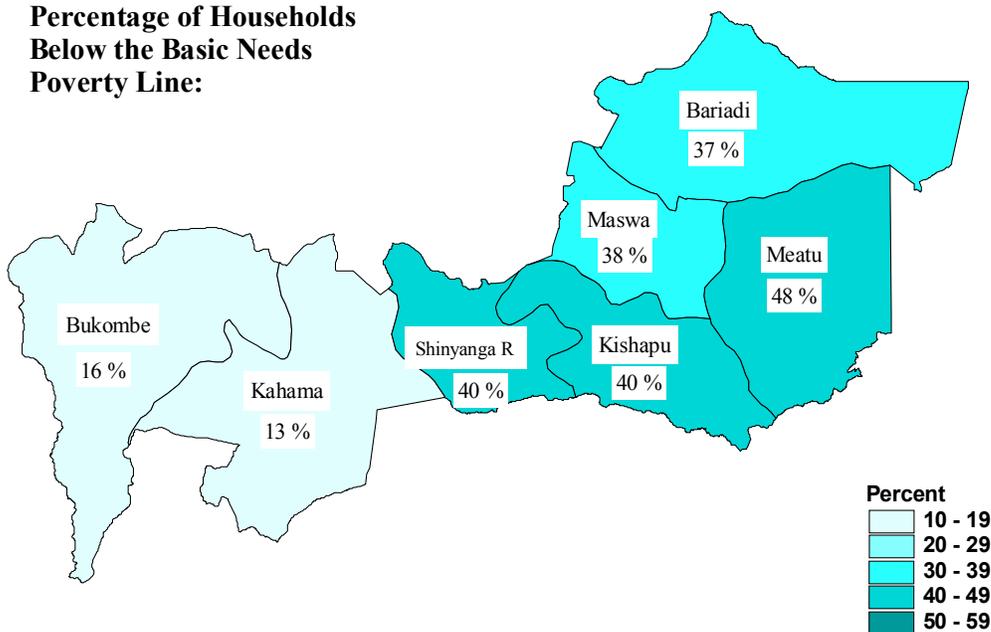
3 POPULATION AND HOUSEHOLD CHARACTERISTICS

3.1 Population Characteristics

As shown in Table 6, there were nearly two and a half million inhabitants in Rural Shinyanga Region[5] at the time of the CWIQ survey. About 76 percent of the population was living in rural areas and the rest in peri-urban areas[6].

Table 6: Population Characteristics

	Weighted population Total	Share of population
Rural Shinyanga Region	2,483,868	100.0
Rural	1,874,884	75.5
Peri-urban	608,983	24.5
District of Residence		
Kishapu	310,680	12.5
Shinyanga Rural	280,380	11.3
Maswa	294,150	11.8
Meatu	235,777	9.5
Bariadi	489,397	19.7
Bukombe	368,719	14.8
Kahama	504,764	20.3
Poverty		
Non-poor	1,431,124	57.6
Poor	1,052,744	42.4
Gender		
Male	1,231,127	49.6
Female	1,252,741	50.4
Age		
<15	1,211,368	48.8
15-64	1,204,490	48.5
65+	68,010	2.7

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[5] Rural Shinyanga Region includes all districts in Shinyanga region with the exception of Shinyanga Urban district.

[6] Although a district may generally be classified as rural, it will still contain some areas which are semi-urban (e.g. district capitals). Rural Shinyanga CWIQ is representative at district level and thus includes such areas. Throughout this report such areas shall be referred to as 'peri-urban'.

Kahama and Bariadi districts are the most populous in the rural part of the region, each containing about one fifth of the population. Bukombe district contains 15 percent of the population, while Kishapu, Shinyanga Rural and Maswa, each constitute slightly over one tenth of the population. The least populated district is Meatu with less than 10 percent of the total population.

Table 6 further shows that there are currently over a million individuals living in households with a level of consumption that is below the Basic Needs Poverty Line. These individuals make up 42 percent of the population of Rural Shinyanga.

There were slightly fewer males than females at the time of the survey in the region: for every 100 females there were 98 males.

The population of the Rural Shinyanga Region is predominantly young. Close to half of its residents are under the age of 15 and only 3 percent are aged 65 years and above. The economically active age groups (15 to 65 years) comprise only 49 percent of the population. Table 7 shows that there are 106 dependents (people under 15 or over 65 years) to every 100 economically active individuals. The ratio is much lower in peri-urban areas where there are more economically active people than dependents.

Table 7: Median Age and Dependency Ratio's

	Median Age	*Dependency Ratio*
Regional	14	106
Rural	14	108
Peri-urban	17	81

The population pyramid (Figure 9) shows that the largest age group in the population is the 5 to 9 year olds, followed by the 0 to 4 year olds. This suggests that even though a much higher proportion of the population is still in the younger age groups, fewer children were born in the last five years than in the five year period preceding this one.

Figure 9: Population Pyramid of Rural Shinyanga Region
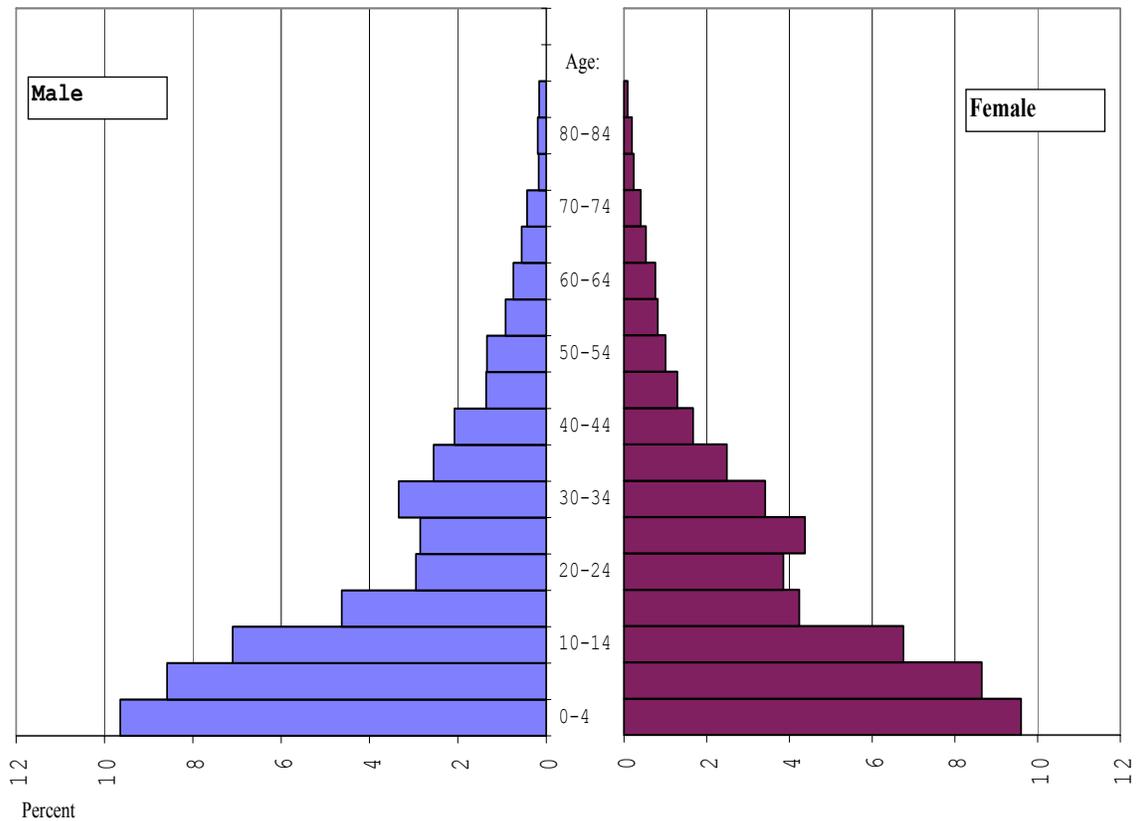
3.2 *Household Characteristics*

3.2.1 Households by Area of Residence and Household Size

The Rural Shinyanga Region consists of nearly half a million (428,064) households that are on average made up of 5.8 household members (Table 8 and Table 9.) The majority of households (70 percent) in the surveyed part of the region are located in rural areas. These households also tend to be larger than peri-urban households; on average a rural household contains 1.5 more members than a peri-urban one. Hence, 76 percent of the population live in the 70 percent of households located in rural areas, and only 25 percent of the population live in the 30 percent of households located in peri-urban areas.

The household distribution by district follows roughly the same pattern as the population distribution. Most districts contain a slightly smaller proportion of households than population, with the exception of Kahama and Bariadi – the two districts containing the highest share of households among the surveyed districts. These are also the two districts with the smallest average household size (Table 9); while the rural regional average is 5.8

19

members per household, in Kahama it is 5 and in Bariadi 5.7.[7]   In contrast, Meatu contains the smallest share of households among the surveyed districts (8 percent) and is characterised by the largest households; on average the households here have nearly 7 members.

Table 8: Households by Area of Residence

	Weighted households total	Share of population
Rural Shinyanga Region	428,064	100.0
Rural	300,615	70.2
Peri-urban	127,449	29.8
District		
Kishapu	50,705	11.8
Shinyanga Rural	45,517	10.6
Maswa	48,921	11.4
Meatu	35,238	8.2
Bariadi	85,559	20.0
Bukombe	61,271	14.3
Kahama	100,853	23.6
Poverty		
Non-poor	299,808	70.0
Poor	128,257	30.0

Examination of the household poverty rate reveals that while 42 percent of people in Rural Shinyanga Region live in households that consume less than the amount necessary to fulfil basic needs, these households constitute 30 percent of all households in the area (Table 8).   The disparity between average household sizes of poor and non-poor households explains this difference; poor households are, on average, nearly twice as large as non-poor households at 8.2 and 4.8 members respectively. Table 9 further shows that while 49 percent of non-poor households consist of less than five members, 93 percent of poor households have more than five members. The majority (33 percent) of non-poor families consist of between five and six members, whereas most of the poor households (68 percent) have seven or more members.

Overall, the average size of female headed households is smaller than that of male headed households. While the majority (54 percent) of female headed households have between one and four members and, on average, consist of 4.6 members, 67 percent of households headed by men contain five or more members and have an average of 6.1 members.

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[7] Note that, as shown in (Figure 2a, Chapter 2) Kahama is also the second least rural district in Rural Shinyanga and is the district with the lowest proportion of poor households. Rural areas have a higher proportion of poor households than peri-urban areas; poor households are on average larger than non-poor (8.2 compared to 4.8 members respectively) so the more urban a district is the smaller the household size.

Households headed by unemployed individuals tend to be larger than those from other socio-economic groups; nearly half (48 percent) of these households consist of seven or more members, while the average household size in this group exceeds the rural regional average by 1.3 people at 7.1 members. Households headed by individuals in the formal private sector, on the other hand, tend to be smaller. The average size of the households in this group is 4.3 members, and three out of five households have less than five members. Similarly, 51 percent of households headed by self-employed individuals from non-agricultural sectors consist of less than five members and have an average household size of 4.5 members which is 1.3 members smaller than the rural regional average (Table 9).

Table 9: 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
Rural Shinyanga Region	12.5	23.9	30.1	33.5	100.0	5.8
Rural	9.5	22.2	29.2	39.2	70.2	6.2
Peri-urban	19.4	27.9	32.5	20.2	29.8	4.8
District						
Kishapu	12.3	21.6	27.3	38.7	11.8	6.1
Shinyanga Rural	11.8	21.1	28.7	38.4	10.6	6.1
Maswa	12.6	24.3	26.6	36.4	11.4	6.0
Meatu	8.5	17.8	26.1	47.5	8.2	6.7
Bariadi	9.5	24.8	34.0	31.7	20.0	5.7
Bukombe	10.7	15.8	40.5	33.0	14.3	6.0
Kahama	17.8	32.2	25.8	24.2	23.6	5.0
Poverty						
Non-poor	17.7	31.1	32.6	18.6	70.0	4.8
Poor	0.3	6.9	24.5	68.3	30.0	8.2
Gender of household head						
Male	9.8	22.0	31.9	36.3	79.7	6.1
Female	22.8	31.4	23.3	22.4	20.3	4.6
Socio-economic group						
Public/Parastatal	14.6	22.8	47.6	15.0	4.1	5.1
Private Formal	27.9	31.3	18.4	22.5	5.8	4.3
Private Informal	13.0	30.6	22.0	34.4	8.2	5.7
Self-other	22.9	28.4	31.3	17.4	12.6	4.5
Self-agriculture	9.3	22.5	30.7	37.5	63.7	6.1
Unemployed	6.5	12.5	32.6	48.4	5.6	7.1

3.2.2 Land Holdings

According to the results of the survey, roughly 50 percent of the households in Rural Shinyanga Region own between one and six acres of land; 27 percent of the households in the area are landless (Table 10). Nearly a fifth of the households in the region own over six acres of land. As expected, the proportion of landless households is higher in peri-urban areas than in rural areas; only around 10 percent of the households in peri-urban areas own six or more acres of land.

Results of the survey show that 32 percent of non-poor households are landless compared to 11 percent of poor households. Overall, the proportion of poor households who own land is higher than or equal to that of non-poor households in every land ownership category. Nearly half of the poor households in Rural Shinyanga own at least four acres of land, compared to 37 percent of non-poor households (Table 10).

Households that do not have land of their own still use land for agricultural activities; over half (53 percent) of landless households use land they do not own. The majority of these (46 percent) rent the land they use, while 7 percent either make use of open-access land or privately owned land provided free of charge. 47 percent of landless households use no land at all, probably because they do not depend on self-employment in the agricultural sectors for their sustenance. Unsurprisingly, the greater the amount of land owned by the household the less common the use of land not owned by the household. Nevertheless, over a fifth of the households that own between four and six acres of land still rent land or use private land provided free of charge.

Table 10: Land holdings[8]

	Acres of land owned by the household					
	None	< 1	1 - 2	2 – 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Rural	14.3	1.5	10.8	27.5	17.0	28.8
Peri-urban	56.3	0.6	8.7	16.7	8.1	9.6
Poverty						
Non-poor	32.3	1.2	9.0	20.6	12.1	24.7
Poor	11.1	1.1	11.4	28.8	17.1	30.6
Land used but not owned						
None	46.9	58.6	68.1	72.9	79.5	82.6
Paid	45.7	35.4	28.8	25.6	18.8	15.4
Free	7.4	6.0	3.1	1.5	1.7	1.9

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.

[8] Refer to the district reports for analysis of land holdings on district level

3.2.3 Livestock Holdings

In collecting data on livestock holdings in Shinyanga Rural, livestock was classified into 'small' and 'large'. Small livestock include goats, sheep and pigs, while large livestock refers to cattle. Information regarding ownership of poultry was not collected.

At the time of the survey, nearly two thirds (64 percent) of all households in Rural Shinyanga possessed no livestock (Table 11). The proportion of households keeping no livestock was higher in peri-urban areas compared to rural areas at 83 and 55 percent respectively. The majority of households that hold livestock in Rural Shinyanga as a whole and in the rural areas hold both small and large livestock; possession of small livestock only is least common in these two areas. The pattern in peri-urban areas is slightly different – if a household holds livestock here, it is most likely to be large livestock only; while 8 percent of peri-urban households hold large livestock only, 5 percent keep both, and only 4 percent have small livestock only.

Livestock keeping is more widespread among the poor than the non-poor households. While 48 percent of the poor households keep livestock of some sort, this is true for only 32 percent of non-poor households. Consequently, proportions of households possessing small only, large only, or both types of livestock are higher among the poor households than the non-poor. However, in both instances, possession of small livestock only is least common; the majority of livestock owners among the poor and the non-poor hold both large and small livestock, at 24 and 14 percent respectively (Table 11) .

Table 11: Livestock Holdings [9]

	Ownership of Livestock			
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Rural	55.2	8.4	14	22.4
Peri-urban	82.9	4.2	7.9	5.1
Poverty				
Non-poor	68.2	6.4	11.2	14.2
Poor	52.5	8.9	14.4	24.3

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[9] Please refer to the district reports for analysis of livestock holdings on district level

3.3 Characteristics of Household Heads

3.3.1 Gender and Marital status of Household Heads

Approximately one in every five households in Rural Shinyanga Region was headed by a female at the same time of the survey. Households headed by females are slightly less common in rural areas (18 percent) than average and noticeably less common than in peri-urban areas where they constitute over a quarter (26 percent) of all households (Table 12).

Results of the survey show that the majority of households (64 percent) are headed by individuals in a monogamous marriage. Polygamous individuals head 13 percent of the households, followed by widowed individuals, who head 9 percent of the households. Divorced and separated individuals together constitute less than 10 percent of all household heads.

Some striking differences are noticeable between rural and peri-urban areas: single household heads constitute 11 percent of households in peri-urban areas while in rural areas this proportion is almost six times smaller at only 2 percent. The proportion of polygamous heads is almost two times as high in rural areas as in peri-urban areas, at 15 and 8 percent respectively. Households headed by divorced or separated individuals are more common in peri-urban areas than rural ones.

Table 12: Gender and Marital Status of Heads of Household

	Gender		Marital Status					
	Male	Female	Single	Monog-amous	Polyga-mous	Widowed	Divorced	Separated
Rural Shinyanga Region	341,248	86,817	18,802	274,392	56,537	38,301	31,395	8,637
	79.7	20.3	4.4	64.1	13.2	8.9	7.3	2.0
Rural	246,785	53,830	5,165	202,586	46,421	26,570	15,672	4,202
	82.1	17.9	1.7	67.4	15.4	8.8	5.2	1.4
Peri-urban	94,463	32,987	13,638	71,806	10,116	11,732	15,723	4,435
	74.1	25.9	10.7	56.3	7.9	9.2	12.3	3.5

3.3.2 Household Heads by Socio-Economic Group

As is to be expected in a rural setting, the majority of households in Rural Shinyanga Region are headed by individuals who are self-employed in the agricultural sector; in fact, nearly two out of every three households (64 percent) are headed by individuals thus occupied (Table 13). The second most prominent sector is that of self-employed individuals in sectors other than agriculture; 13 percent of the households are headed by

these individuals. Individuals employed in the informal private sector make up 8 percent of household heads, and those in the formal private sector - 6 percent. Individuals employed in the public/parastatal sector head only 4 percent of the households. Nearly 6 percent of households are headed by unemployed individuals.

Employment in all sectors but agriculture is more common among heads of households located in peri-urban areas. While in rural areas over three fourths (77 percent) of all household heads are self-employed in the agriculture sector, in peri-urban areas this proportion is less than half that size at 32 percent. In contrast, less than 5 percent of rural households are headed by individuals employed in public/parastatal and private formal sectors, while in peri-urban areas this is the case for roughly one in four households (23 percent). The proportion of unemployed heads of household is more than twice as high in rural areas as that in peri-urban areas at 7 and 3 percent respectively (Table 13).

Table 13: Household Heads by Socio-Economic Group

	Socio-economic group					
	Public/Paras tatal	Private formal	Private informal	Self-agriculture	Self-other	Unemployed
Rural Shinyanga Region	17,536	25,011	35,278	272,586	53,762	23,891
	4.1	5.8	8.2	63.7	12.6	5.6
Rural	8,098	5,090	23,465	231,856	11,648	20,458
	2.7	1.7	7.8	77.1	3.9	6.8
Peri-urban	9,438	19,920	11,814	40,730	42,114	3,434
	7.4	15.6	9.3	32.0	33.0	2.7

3.3.3 House Heads by Education

Most of the households in Rural Shinyanga Region are headed by individuals who have some/completed primary education; 56 percent of the household heads fall into this category (Table 14). Over a third (34 percent) of households in the surveyed districts are headed by individuals who have had no formal education. About 10 percent of the households are headed by individuals with at least some secondary education and only 3 percent of household heads have post secondary education.

There is a higher proportion of household heads with no formal education in the rural areas, where they constitute 42 percent compared to 14 percent in peri-urban areas. The proportion of household heads that did not complete primary education is also slightly higher in rural areas than in peri-urban areas. The proportion of household heads with at least some secondary education in peri-urban areas is more than five times greater than that in rural areas (Table 14).

Table 14: Household Heads by Education

				Level of education completed			
	None	Some primary	Complete primary	Post primary	Some second-dary	Complete secon-dary	Post secon-dary
Rural Shinyanga Region	145,428	49,045	188,730	3,986	27,047	1,946	11,881
	34.0	11.5	44.1	0.9	6.3	0.5	2.8
Rural	127,094	35,677	123,936	2,065	7,967	43	3,833
	42.3	11.9	41.2	0.7	2.7	0.0	1.3
Peri-urban	18,334	13,368	64,795	1,921	19,080	1,904	8,048
	14.4	10.5	50.8	1.5	15.0	1.5	6.3

Map 3

**District Level Distribution of the
Total Households:**

Bariadi
20 %

Maswa
11 %

Meatu
8 %

Bukombe
14 %

Kahama
24 %

Shinyanga R
11 %

Kishapu
12 %

Percent
	5 - 9
	10 - 14
	15 - 19
	20 - 24
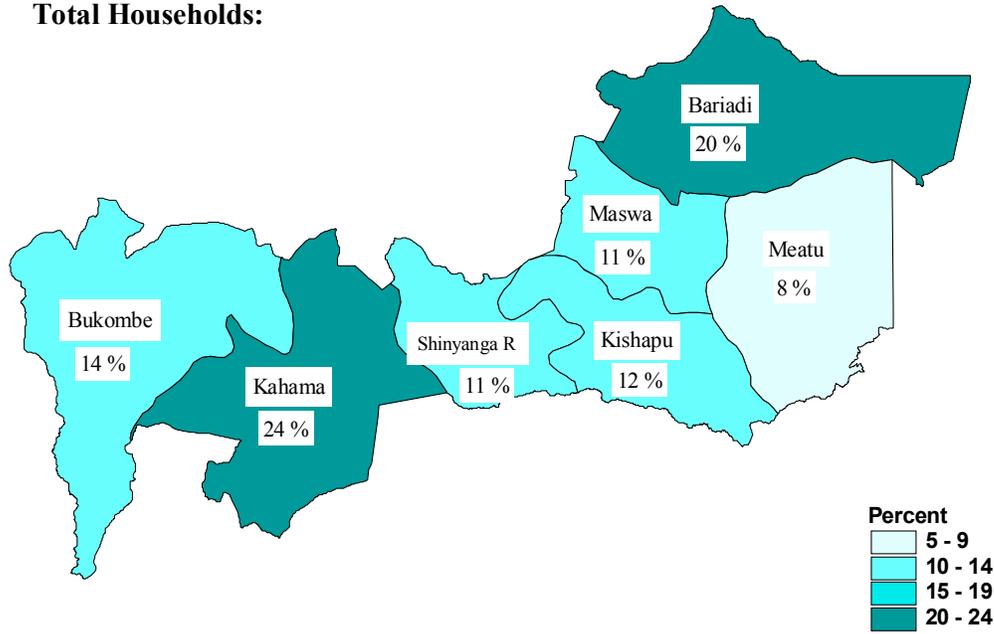
4   EDUCATION

4.1   Introduction

The first part of this chapter examines some education indicators for the adult[10] population of the Rural Shinyanga Region; literacy rate, rate of participation in formal education, and the average number of years of schooling are discussed. The second part of the chapter focuses on the population of school age. Selected education indicators are analysed, such as access and satisfaction rates, as well as reasons for dissatisfaction and non-attendance. A detailed analysis of trends in enrolment and drop out rates concludes the chapter.

4.2   Selected Adult Education Indicators

4.2.1   Literacy

Literacy rate is one of the main adult education indicators that data collected in the CWIQ survey informs on. Literacy is defined as the ability to read and write in any language, as reported by the respondent. Individuals who are able to read but cannot write are considered illiterate.

The results of the Rural Shinyanga CWIQ show that at the time of the survey, two out of three (66 percent) adults in the rural districts of Shinyanga region were literate (Table 15). A significantly higher proportion of literate adults was found in peri-urban areas than in rural ones; in the former over four fifths (85 percent) of the reference population identified themselves as being literate, while in the latter, this proportion was less than two thirds (59 percent). Despite being significantly below the rural regional average and the peri-urban literacy rates, the rural literacy rate is nevertheless 7 percentage points higher than that found four years ago in the *Household Budget Survey 2000/01* (HBS) indicating a possible gradual improvement.

Highest literacy rates were found in the Kahama and Bukombe districts at 74 and 71 percent respectively. Maswa, Bariadi, and Kishapu were characterised by mid-range literacy rates, at roughly 65 percent. The lowest literacy rate in the region was found in Shinyanga Rural, where only 59 percent of the adults could read and write in at least one language at the time of the survey.

Survey results, presented in Table 15, further show that a significantly higher proportion of men than women are literate in Rural Shinyanga; while the literacy rate for men is 76 percent, for females it is roughly 20 percentage points lower at 57 percent. A similar disparity exists between literacy rates for individuals from non-poor and poor

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[10] In this section adult population includes all individuals 15 years of age and older

households; while 44 percent of individuals from poor households are unable to read and write, only 27 percent of the adults from non-poor households are in the same position.

Break down of the data by socio-economic groups shows that, as expected, literacy rate is highest among individuals from households headed by employees of the public and parastatal sector as well as those from households headed by self-employed individuals from the non-agriculture sector; 90 percent and 87 percent of adults from these households respectively are literate. These literacy rates exceed the rural regional average rate by over 20 percentage points and are more than 25 percentage points higher than the literacy rates found among adults from households headed by self-employed individuals from the agricultural sector (62 percent) and unemployed individuals (54 percent).

4.2.2 Formal Schooling Rate

Formal schooling rate is another informative indicator of the adult education level. It indicates the proportion of adults in the region who have attended school at some point. The trends in this indicator closely resemble trends in the literacy rate.

Overall, the results show that nearly 420,000 adults in the region (33 percent) have never attended school. 88 percent of these individuals live in rural areas, where the formal schooling rate is significantly lower than that found in peri-urban areas, at 60 and 86 percent respectively (Table 15).

In both rural and peri-urban areas formal schooling rate is slightly but consistently higher than the corresponding literacy rate.

4.2.3 Average Years of Schooling

Data collected in the Rural Shinyanga CWIQ survey allows calculation of the average number of years of schooling received by individuals who had gone to school. On average, adults in the region had completed 4.5 years of formal education. This is almost two years more than the

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Box 1: Intergenerational Educational Spill-over Effects

Education has spill-over effects into future generations. The results of the survey suggest that a head who has completed primary education is more likely to send his own children to primary school. The graph below looks at whether older children in a household (those between 14 and 19 years of age) have ever attended any primary school. It shows that those children who live in households with heads who have not completed primary education themselves have one chance in five never to attend any primary school. Those who live with heads who have completed primary have one chance in ten to never attend any primary school. This strong correlation between past and current education levels may be partly due to an income effect, but nevertheless shows how failing to invest in education today has long-lasting repercussions.
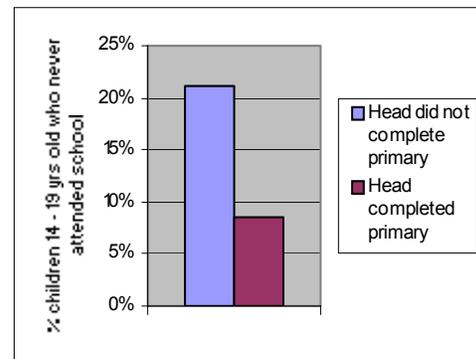
average reported for the whole of Tanzania for the year 2000 (2.7 years)[11].

The average number of years of schooling in rural areas is just over half that in peri-urban areas, at 3.9 and 6.3 years respectively (Table 15). Adults in Kahama district have, on average, spent more time (5.2 years) at school than those living in the rest of the rural districts in Shinyanga. Least amount of time was spent in school by adults in Shinyanga Rural and Meatu districts.

Individuals over the age of fourteen from non-poor households were found to have spent, on average, 1.5 more years at school than those from poor households. By far the most extensive education was received by adults from households headed by individuals employed in the public and parastatal sector and those who are self-employed in non agricultural occupations; on average, adults in these groups received 7.9 and 6.2 years of education respectively. Adults from households headed by self-employed individuals in the agriculture sector and the unemployed were found to have, overall, spent less time at school than adults from any other socio-economic group.

Analysis of the data by gender shows that men in Rural Shinyanga receive, on average, roughly one year and two months more education than women (Table 15).

Table 15: Selected Adult Education Indicators (age 15+)

	Literacy Rate[1]	Formal Schooling Rate [2]	Average Years of Schooling[3]	Share of Population
Rural Shinyanga				
Region	840,088	852,929	4.5	1,272,499
	66.0	67.0		100.0
Rural	550,411	561,863	3.9	932,136
	59.0	60.3		73.3
Peri-urban	289,677	291,066	6.3	340,363
	85.1	85.5		26.7
District				
Kishapu	104,853	106,970	4.4	167,092
	62.8	64.0		13.1
Shinyanga Rural	87,457	89,802	3.9	148,572
	58.9	60.4		11.7
Maswa	95,395	96,596	4.7	146,313
	65.2	66.0		11.5
Meatu	69,340	70,060	3.9	116,346
	59.6	60.2		9.1
Bariadi	155,506	157,917	4.5	243,267
	63.9	64.9		19.1
Bukombe	123,790	127,227	4.5	174,032
	71.1	73.1		13.7
Kahama	203,748	204,356	5.2	276,877

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[11] *2003 World Development Indicators,* World Bank

	Literacy Rate[1]	Formal Schooling Rate [2]	Average Years of Schooling[3]	Share of Population
	73.6	73.8		21.8
Poverty				
Non-poor	562,882	571,013	5.1	775,377
	72.6	73.6		60.9
Poor	277,206	281,916	3.6	497,123
	55.8	56.7		39.1
Socio-economic group				
Public/Parastatal	45,674	45,742	7.9	51,034
	89.5	89.6		4.0
Private Formal	46,284	46,138	5.6	58,311
	79.4	79.1		4.6
Private Informal	65,348	67,477	4.6	100,865
	64.8	66.9		7.9
Self-other	121,942	123,682	6.2	139,959
	87.1	88.4		11.0
Self-agriculture	509,009	516,556	4.0	826,220
	61.6	62.5		64.9
Unemployed	51,831	53,334	3.5	96,110
	53.9	55.5		7.6
Gender				
Male	472,990	478,655	5.1	622,719
	76.0	76.9		48.9
Female	367,098	374,274	3.9	649,781
	56.5	57.6		51.1

[1] Proportion of population over the age of 14 who are able to read and write
[2] Proportion of population over the age of 14 who attended school at some point
[3] Years of formal schooling received, on average, by individuals over the age of 14

4.3 Selected Child Education Indicators

4.3.1 Access

Access is defined as the proportion of children living within 30 minutes of travel from the nearest school. Hence, a primary school access rate informs on the proportion of primary school age children (7 to 13) who are able to reach a primary school within 30 minutes of travel.

Results of the survey, presented in Table 17, show large differences between primary and secondary school access rates. While 53 percent of primary school age children live within 30 minutes of travel from the nearest primary school, only 16 percent of children of secondary school age have access to a secondary school.

The rate of access to schools is significantly higher in peri-urban areas than rural areas. While 84 percent of primary school age children in peri-urban areas have access to a primary school, this is the case for only 44 percent of children from the same age-group in rural areas. The situation is even worse for individuals of secondary school age; the secondary school access rate is 46 percent in peri-urban areas and only 4 percent in rural areas.

Among the rural districts in Shinyanga region, Bukombe is characterised by the highest primary school access rate at 68 percent; the lowest rate was found in Meatu, where only 43 percent of primary school age children live within 30 minutes of travel from a primary school. Yet more substantial differences exist between districts in secondary school access rates; while in Bukombe and Bariadi 28 and 27 percent of children of primary school age respectively live within 30 minutes of travel from a secondary school, in Shinyanga this proportion is only 6 percent and in Meatu even lower at 4 percent.

There is a significant disparity in school access rates between children from poor and non-poor households. While two thirds of primary school age children from non-poor households have access to primary schools, this is true for less than two fifths (39 percent) of children of the same age from poor households. At secondary school level the gap between individuals from poor and non poor households is even wider; while 26 percent of children aged 14 to 19 from non-poor households have access to a secondary school, this is the case for only 4 percent of young people from poor households. These figures are consistent with the large difference in poverty rates between peri-urban and rural areas noted in Chapter 2.

Results of the survey further show that access rates to primary and secondary schools are similar for boys and girls. The slight differences observable in Table 17 are not statistically significant.

Access rate is a commonly used measure of the level of education provision in an area. It may, therefore, be informative to briefly extend the analysis from access rates among school age children only, to proximity of all households in Rural Shinyanga to primary and secondary schools.[12]

Across all the rural districts in the region, 84 percent of households are located within an hour of travel from the nearest primary school, and only 37 percent are in the same vicinity of the nearest secondary school. Households in peri-urban areas tend to be located much closer to primary and secondary schools than those in rural areas. For instance, while the great majority (91 percent) of rural households are located more than an hour away from a secondary school, in peri-urban areas only just over a quarter (29 percent) of households are this far away. Similarly, more than twice as high a proportion

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[12] Note that as Rural Shinyanga is characterised by a young population , dispersion of schools in the region is a relevant factor for the majority of households

of peri-urban households are located within fifteen minutes of travel from the nearest primary school as rural households, at 53 and 24 percent respectively.

Overall, as the majority of households in the surveyed area are located in rural areas (70 percent), most of the people in Rural Shinyanga are faced with the rural level of proximity to primary and secondary schools. Results of further disaggregation of data on distance to education facilities by selected household characteristics are presented in Table 16.

Table 16: 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
Rural Shinyanga Region	32.8	25.5	25.9	15.8	100.0	4.7	11.6	10.8	72.8	100.0
Rural	24.1	22.7	31.5	21.7	70.2	1.2	2.2	5.2	91.4	70.2
Peri-urban	53.3	32.2	12.7	1.9	29.8	13.2	34.0	23.9	29.0	29.8
District										
Kishapu	25.8	26.9	30.3	17.1	11.8	6.8	5.5	8.8	78.8	11.8
Shinyanga Rural	28.8	22.9	30.8	17.4	10.6	1.5	3.5	8.7	86.2	10.6
Maswa	20.1	27.1	29.7	23.1	11.4	1.9	12	9.0	77.2	11.4
Meatu	18.0	25.4	31.9	24.7	8.2	1.6	2.4	7.9	88.1	8.2
Bariadi	34.9	25.2	23.6	16.3	20.0	2.7	27.0	10.8	59.4	20.0
Bukombe	39.7	29.0	21.7	9.6	14.3	14.6	12.0	13.7	59.7	14.3
Kahama	43.4	23.4	21.9	11.2	23.6	3.3	8.2	12.8	75.8	23.6
Poverty										
Non-poor	39.3	27.0	22.0	11.8	70.0	6.2	15.7	13.6	64.5	70.0
Poor	17.6	22.1	34.9	25.3	30.0	1.2	2.2	4.3	92.3	30.0
Household size										
1 to 2	35.5	32.7	22.4	9.5	12.5	2.4	16.5	18.6	62.6	12.5
3 to 4	39.0	24.4	22.2	14.4	23.9	4.8	14.7	9.6	70.9	23.9
5 to 6	33.4	26.8	25.6	14.1	30.1	5.4	14.8	12.0	67.8	30.1
7+	26.7	22.5	30.1	20.7	33.5	4.9	4.8	7.6	82.6	33.5
Socio-economic group										
Public/Parastatal	59.0	19.6	13.3	8.1	4.1	7.3	22.0	14.9	55.7	4.1
Private Formal	65.9	24.6	5.3	4.2	5.8	12.0	36.8	8.4	42.7	5.8
Private Informal	26.0	22.7	34.6	16.7	8.2	7.4	14.6	11.8	66.2	8.2
Self-agriculture	43.5	39.8	12.0	4.6	12.6	7.9	23.0	26.4	42.6	12.6
Self-other	27.2	24.5	29.9	18.4	63.7	3.2	6.3	7.9	82.6	63.7
Unemployed	28.4	14.3	29.6	27.8	5.5	1.5	8.4	6.7	83.5	5.5
Gender of household head										
Male	32.0	25.9	25.9	16.2	79.7	5.0	10.5	10.5	74.0	79.7
Female	35.8	23.8	25.9	14.5	20.3	3.8	16.0	12.1	68.1	20.3

4.3.2 Satisfaction

Data on satisfaction with schools was collected by asking respondents currently at school if there were any problems with the school they were attending. The satisfaction rate informs on the proportion of school-going children who cited no problems with their schools.

The level of satisfaction with schools in Shinyanga Rural is low. Results of the survey show that only 41 percent of primary school pupils and 34 percent of secondary school students are satisfied with their schools. Satisfaction rate appears to be higher among children in peri-urban areas compared to those in rural areas; while nearly half (47 percent) of primary school students in peri-urban areas reported no problems with the schools they attended, this was the case for a little less than two out of five pupils in rural primary schools. The reverse pattern was found among secondary school students; the satisfaction rate among rural students exceeded that among students from peri-urban areas by 10 percentage points, at 40 and 30 percent respectively.

Satisfaction rate among primary school pupils in the majority of districts ranged between 30 and 45 percent, with the exception of Bariadi, where it was exceptionally high, at 53 percent, and Bukombe, where it was only 28 percent. At secondary school level, highest satisfaction rate was found in Kishapu (62 percent); this rate exceeds that in Shinyanga Rural, the district with the least satisfied secondary school population, by over three times.

Satisfaction does not appear to vary by poverty status at primary school level. In secondary schools, however, children from non-poor households are noticeably less satisfied than those from poor households, at 31 and 44 percent respectively.

Disaggregation of satisfaction data by socio-economic status shows that children from households headed by individuals who are self-employed in the agriculture sector tend to be more satisfied with the schools they attend than children from other socio-economic groups, at both primary and secondary levels. Primary school students from households headed by employees of the private informal sector, on the other hand, are least satisfied; only 23 percent made no complaints. At secondary school level, lowest satisfaction rates were also observed among students from this group, as well as those from households headed by employees of the private formal sector.

While male and female primary school students appear to be equally satisfied with the schools they attend, at secondary school level the proportion of boys citing no problems with their schools exceeds that of females by 9 percentage points (37 and 28 percent respectively).

Table 17: Selected Education Indicators

	Primary School		Secondary School	
	Access[1]	Satisfaction[2]	Access[1]	Satisfaction[2]
Rural Shinyanga Region	53.2	40.5	16.4	33.7
Rural	43.5	38.0	4.1	40.2
Peri-urban	84.1	47.3	46.3	29.9
District				
Kishapu	45.8	44.1	12.0	62.0
Shinyanga Rural	46.8	44.7	3.8	44.1
Maswa	43.3	33.8	16.2	25.3
Meatu	42.6	34.9	5.8	34.0
Bariadi	50.8	52.6	27.3	18.1
Bukombe	68.4	28.1	28.4	22.3
Kahama	62.8	42.2	13.0	46.6
Poverty				
Non-poor	65.7	40.2	26.4	31.1
Poor	38.8	40.9	4.4	43.7
Socio-economic group				
Public/Parastatal	74.3	33.5	37.1	37.4
Private Formal	84.2	42.1	38.2	14.9
Private Informal	42.8	22.6	19.5	16.6
Self-other	80.7	27.9	50.9	19.8
Self-agriculture	49.9	44.1	7.8	44.6
Unemployed	33.0	45.3	1.8	20.9
Gender				
Male	51.6	40.5	17.8	37.2
Female	54.8	40.5	14.9	28.3

1. Reporting to live within 30 minutes travel to the nearest school
2. Proportion of children at school who cited no problem with the school

4.3.3 Dissatisfaction

Results in Table 18 have been presented both as proportions and counts of people to make assessment of the significance of issues under discussion easier.

At the time of the survey, close to 60 percent of students in Rural Shinyanga Region were not fully content with the schools they were attending; in rural areas this proportion was 10 percentage points higher than in peri-urban areas at 62 and 52 percent respectively.

The 1996 *Regional Socio-economic Profile of Shinyanga* identified lack of teachers and bad condition of facilities as the most serious problems faced by schools in Shinyanga region. Results of the 2004 Rural Shinyanga CWIQ show that lack of teachers remains the most prominent problem; over three out of four dissatisfied students referred to this issue. Bad condition of facilities also remains a commonly cited complaint, although lack of books and supplies appears to have become a more prominent concern; 39 and 75 percent of students complained about these issues respectively. Overall, as can be seen from Table 18, lack of teachers, lack of books and supplies, and bad condition of facilities constitute the most acute problems in both rural and peri-urban schools.

The lowest dissatisfaction rate was found in Bariadi, where less than half (49 percent) of those attending school at the time of the survey were not content. It appears, however, that those students who were dissatisfied tended to cite a number of complaints. Hence, the proportions of dissatisfied students across the reasons for dissatisfaction exceed those for all other districts. For instance, while in the majority of districts lack of books and supplies was noted by between 65 and 75 percent of the dissatisfied students, in Bariadi this proportion was 10 percentage points higher. Condition of facilities is the exception to this trend; this appears to be less of a problem in Bariadi than in the other six districts. Bariadi, Meatu and Bukombe have most acute problems with teacher shortages[13]; pupils in Meatu are also suffering from bad condition of facilities and shortage of books more than pupils in other districts. The second lowest dissatisfaction rate was found in Kishapu (53 percent), where proportions of dissatisfied students by reason for dissatisfaction tended to be lower than in the rest the districts.

Neither rates of, or reasons for dissatisfaction with school appear to be affected by poverty status. Students from both poor and non-poor households are equally dissatisfied for similar reasons.

Students from households headed by individuals employed in the formal private sector, self-employed individuals in the agricultural sector, and unemployed individuals, are noticeably more satisfied than those in the public/parastatal, private informal and self non agriculture socio-economic groups. Among pupils from households headed by individuals self-employed in the agriculture sector, overcrowding, lack of teachers and bad condition of facilities were more prominent complaints than among students from households headed by individuals employed in the public/parastatal and formal private sectors, as well as the self-employed in non-agricultural occupations.

Equal levels of dissatisfaction were found among male and female students. Female and male students also gave similar reasons for their dissatisfaction.

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[13] The 1996 *Regional Socio-economic Profile of Shinyanga* also found teacher shortages to be most problematic in Meatu and Bariadi districts.

Government secondary schools have a higher rate of dissatisfaction at 73 percent compared to private and other schools where the rates are 42 and 59 percent respectively. In private secondary schools, bad condition of facilities featured prominently as a reason for dissatisfaction - cited by nearly three out of five dissatisfied students. Other reasons given were lack of books and supplies (53 percent) and lack of teachers (45 percent). Overcrowding was the least cited reason in all categories. In other types of schools, the most common complaint was lack of books and supplies, cited by 53 percent of the dissatisfied students, followed by lack of teachers at 33 percent.

Table 18: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction

		Reasons for Dissatisfaction					
	Dissatisfaction	Books/ Supplies	Poor teaching	Lack of teachers	School Overcrow ding	Bad condition of facilities	Other
Rural Shinyanga Region	337,434	254,007	69,971	254,956	53,023	132,350	93,885
	59.0	75.3	20.7	75.6	15.7	39.2	27.8
Rural	249,491	184,464	51,388	190,546	39,175	99,251	60,947
	61.9	73.9	20.6	76.4	15.7	39.8	24.4
Peri-urban	87,943	69,543	18,583	64,410	13,848	33,099	32,938
	52.2	79.1	21.1	73.2	15.7	37.6	37.5
District							
Kishapu	33,230	22,761	5,242	18,158	3,779	13,378	2,928
	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga Rural	33,596	24,554	6,149	24,390	5,773	14,636	9,476
	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	50,002	38,897	9,954	36,014	10,316	20,168	12,134
	66.6	77.8	19.9	72.0	20.6	40.3	24.3
Meatu	39,134	31,798	7,038	31,161	6,453	18,346	10,294
	65.4	81.3	18.0	79.6	16.5	46.9	26.3
Bariadi	50,751	42,973	14,637	41,993	11,540	17,106	16,506
	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	64,246	48,433	11,360	53,043	5,033	24,746	28,645
	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	66,476	44,591	15,591	50,198	10,128	23,970	13,903
	56.1	67.1	23.5	75.5	15.2	36.1	20.9
Poverty							
Non-poor	192,493	147,622	42,157	145,876	29,630	72,552	59,014
	59.2	76.7	21.9	75.8	15.4	37.7	30.7
Poor	144,941	106,385	27,813	109,080	23,393	59,798	34,871
	58.8	73.4	19.2	75.3	16.1	41.3	24.1

		Reasons for Dissatisfaction					
	Dissatisfaction	Books/ Supplies	Poor teaching	Lack of teachers	School Overcrow ding	Bad condition of facilities	Other
Socio-economic group							
Public/Parastatal	17,667	14,425	2,415	11,259	1,569	6,364	4,454
	65.5	81.7	13.7	63.7	8.9	36.0	25.2
Private Formal	19,023	13,686	4,518	13,465	1,865	3,823	8,395
	55.2	71.9	23.7	70.8	9.8	20.1	44.1
Private Informal	33,863	26,441	11,681	25,067	5,830	14,965	15,116
	76.6	78.1	34.5	74.0	17.2	44.2	44.6
Self-other	39,660	32,878	12,022	30,978	5,913	9,447	8,681
	71.0	82.9	30.3	78.1	14.9	23.8	21.9
Self-agriculture	208,477	151,099	36,473	160,260	35,342	91,448	50,123
	55.4	72.5	17.5	76.9	17.0	43.9	24.0
Unemployment	18,744	15,477	2,862	13,928	2,503	6,303	7,117
	55.5	82.6	15.3	74.3	13.4	33.6	38.0
Gender							
Male	174,144	132,131	37,578	130,269	30,839	69,480	47,091
	59	75.9	21.6	74.8	17.7	39.9	27
Female	163,290	121,876	32,392	124,687	22,183	62,870	46,794
	59	74.6	19.8	76.4	13.6	38.5	28.7
Type of school							
Primary school							
Government	317,329	237,951	64,880	241,359	47,588	125,735	86,963
	60.2	75.0	20.4	76.1	15.0	39.6	27.4
Private	62	62	62	62	0	0	0
	1.5	100.0	100.0	100.0	0.0	0.0	0.0
Other	494	136	143	358	0	136	79
	17.4	27.5	28.9	72.4	0.0	27.6	16.0
Secondary school							
Government	11,362	10,608	2,173	8,317	3,388	2,864	3,744
	73.1	93.4	19.1	73.2	29.8	25.2	32.9
Private	1,383	730	400	628	56	816	641
	42.2	52.7	28.9	45.4	4.0	59.0	46.4
Other	2,117	1,132	322	696	181	872	292
	58.8	53.4	15.2	32.9	8.5	41.2	13.8

4.4 Enrolment

There are two main indicators that inform on school enrolment: Gross Enrolment Rate (GER) and Net Enrolment Rate (NER). In the Rural Shinyanga CWIQ survey, information on enrolment 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 (GER) 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 are a large proportion of non-school age individuals attending school, the GER may exceed 100 percent. Primary school GER informs on the ratio of all individuals in primary school to the population of individuals of primary school age (7 to 13 years).

Net Enrolment Rate (NER) is defined as the ratio of children of school age currently enrolled at school to the population of children of school age. Therefore, primary school NER is the ratio of children between the ages of 7 and 13 years currently in primary school to the population of children between these ages. Secondary school NER is the ratio of individuals between the ages of 14 and 19 years currently in secondary school to the whole population of individuals in the same age group.

The NER provides more information for analysis than the GER. While trends in the actual participation of school age children in formal education are in part captured by the NER, the GER, at best, provides a broad indication of general participation in education and of the capacity of the schools. The GER gives no precise information regarding the proportions of individuals of school and non-school age at school, nor does it convey any information on the capacity of the schools in terms of quality of education provided.

4.4.1 Primary School Enrolment

The Rural Shinyanga Net Enrolment Rate indicates that 76 percent of children between the ages of 7 and 13 years are enrolled in primary school. The Gross Enrolment Rate further shows that the proportion of children enrolled in primary school, regardless of age, constitute 100 percent of children of primary school age. The difference between the GER and NER informs on school attendance by individuals of non-school age as a proportion of school age children. In Rural Shinyanga Region, non-school age individuals attending primary school constitute 27 percent of the population of primary school children (Table 19).

These figures indicate a substantial increase in primary school attendance irrespective of age as well as primary school attendance by children of primary school age, as compared to four years ago. The Rural Shinyanga CWIQ uses data on proportions of children reporting studying at the time of the survey to calculate the Net and Gross Enrolment Ratios. Similar data was collected in the 1991/92 and 2000/01 *Household Budget Surveys*. While, in the ten years between 1991 and 2001 the proportion of children reporting studying rose from 56 percent to 58 percent of all primary school age children in rural areas across Tanzania, the Rural Shinyanga CWIQ finds an increase in the NER of nearly 20 percentage points in the last four years. The increase is even greater, 30 percentage points, if compared to the NER reported in 2000/01 HBS for Shinyanga Region (46 percent). This drastic increase in the Net and Gross Enrolment Rates is explained by the introduction of the Primary Education Development Plan (2002-2006)

as part of which all primary schools are obligated to prioritise 7 year-olds for acceptance into Standard I. The PEDP also introduced other managed growth strategies that are aimed at enrolling every child between the ages of 7 and 12 years into Standard 1 by 2005. As the result, in the last two years the proportion of primary school-age children who have enrolled at a primary school has increased at a much faster rate than previously.[14]

Both GER and NER are noticeably higher in peri-urban areas than in rural areas. However, in both urban and peri-urban primary schools the non-primary school age students make up around a quarter of the population of primary school age children in the area.

As can be seen in Table 19, Kahama had the highest NER at 83 percent among the districts of the Rural Shinyanga region, while Kishapu and Bariadi have the lowest NER at 72 percent. The GER's follow almost the same pattern across the districts; Kahama and Meatu have the highest rates at 111 and 107 percent respectively, while Kishapu has the lowest at 93 percent. The proportion of non-primary school age individuals attending primary school is highest in Kahama at 28 percent, and lowest in Maswa at 18 percent.

At the time of the survey, the proportion of children of primary school age from non-poor households enrolled in primary school exceeded that of children from poor households by 10 percentage points, at 81 percent and 71 percent respectively. The proportion of non-primary school age individuals enrolled in primary school was roughly equal among members of poor and non-poor households.

Primary school NER was highest among children from households headed by individuals in the public/parastatal and private formal sectors at 94 percent in both socio-economic groups; these were also the groups with the highest GER's, at 129 and 125 percent respectively. Lowest NER was observed among children from households headed by unemployed individuals; only just over two thirds of primary school age children from these households were enrolled at a primary school at the time of the survey. Similar NER's were found for individuals from households headed by individuals employed in the private informal sector and self employed individuals from the agriculture sector.

Differences between female and male enrolment rates at primary school level were not found to exceed 6 percentage points. While a slightly higher proportion of primary school girls were found to be attending primary school compared to boys (78 and 75 percent respectively), the reverse was true in the GER trends.

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[14] Discussion of observed effects of Primary Education Development Plan is continued in Box 3

Table 19: Primary and Secondary School Enrolment Rates

	Primary School		Secondary School	
	Gross Enrolment	Net Enrolment	Gross Enrolment	Net Enrolment
Rural Shinyanga Region	100.2	76.4	7.6	6.5
Rural	95.7	72.8	4.0	2.7
Peri-urban	114.7	87.9	16.6	15.7
District				
Kishapu	92.8	72.0	6.9	4.4
Shinyanga Rural	99.6	74.6	5.7	3.5
Maswa	97.3	79.8	17.8	14.0
Meatu	106.9	81.0	4.1	3.6
Bariadi	96.3	71.6	6.8	6.1
Bukombe	97.0	73.3	7.0	6.8
Kahama	110.6	83.1	6.7	6.7
Poverty				
Non-poor	103.7	81.0	11.1	9.8
Poor	96.3	71.2	3.5	2.5
Socio-economic group				
Public/Parastatal	129.2	93.9	35.0	29.2
Private Formal	124.6	93.8	3.6	3.6
Private Informal	92.1	73.9	6.0	6.0
Self-other	111.7	85.1	14.0	13.8
Self-agriculture	97.6	74.5	4.7	3.6
Unemployed	92.9	68.1	7.5	5.1
Gender				
Male	103.1	75.1	9.0	7.2
Female	97.4	77.7	6.2	5.7

4.4.2 Secondary School Enrolment

NER and GER are far lower at secondary school compared to primary school level. At the time of the survey, only 7 percent of secondary school age individuals were enrolled in secondary school in Rural Shinyanga Region. The secondary school GER for the region was 8 percent; the proportion of non-secondary school age individuals in

secondary school hence made up only 1 percent of the fourteen to nineteen year olds in the rural part of the region (Table 19).

The disparity between enrolment rates in rural and peri-urban areas is striking. While in rural areas the NER is not substantially different from that found in the 2000/01 HBS for rural Tanzania (2.3 percent) at 2.7 percent, in peri-urban areas the NER is nearly six times higher at roughly 16 percent. This is a much greater disparity than that found between rural and peri-urban areas at primary level. In part this trend is explained by the difference in access rates at primary and secondary level between rural and peri-urban areas. Both at primary and secondary level access rates are significantly higher in peri-urban areas compared to rural areas. However, while the peri-urban primary school access rate is twice as high as the rural one, in the instance of secondary schools it is more than eleven times as high. In addition, and perhaps more importantly, as shown in Figure 2b, Chapter 2, households living below the basic needs poverty line are much more widespread in rural than in peri-urban areas; Table 19 shows that the secondary school NER of individuals from non-poor households is four times as high as the secondary school NER of individuals from poor households, at 2.5 and 10 percent respectively. Hence, the noticeably lower secondary school enrolment rates in rural areas reflect the impact of both lower access rates and higher poverty levels which characterise rural areas. For both rural and peri-urban populations, the proportion of non-secondary school age individuals enrolled in secondary school was close to the rural regional average, as is the case for both poor and non-poor populations.

Maswa district has the highest enrolment rates, with an NER of 14 percent and a GER of 18 percent; it also has the highest proportion of individuals of non-secondary school age attending secondary school. No other district in the Rural Shinyanga Region has an NER or a GER that exceeds 7 percent, which is half those in Maswa. Meatu and Shinyanga Rural districts have the lowest enrolment rates in the rural part of the region; 4 percent of the children between the ages of 14 and 19 in these districts were enrolled at a secondary school at the time of the survey. Kahama, Bukombe and Meatu are characterised by an almost total lack of

BOX 2: Where are the school-age children

A look at the whole school-age population of Rural Shinyanga Region presents a slightly different overall picture than the one conveyed through the enrolment and drop-out rates. Although Primary School Net Enrolment Ratio has improved substantially, still, nearly a quarter (22 percent) of all primary school age children (7 to 13) in Rural Shinyanga Region have never attended school.

On the other hand, while secondary school NER show that only nearly 7 percent of children of secondary school age are at school, in fact nearly half of the children of secondary school age (14 to 19) are attending school. Among individuals of secondary school age in Rural Shinyanga Region, over four fifths had attended school at some point.

Primary School

- In school
- Dropped out
- Never been to school

22%
1%
77%

Secondary School

- In school
- Dropped out
- Never been to school

15%
39%
46%

non-secondary school age individuals in their secondary schools.

Enrolment rates for those from households headed by individuals employed in the public/parastal sector are far higher than those for children from any other socio-economic group. The NER for individuals from this category is 29 percent; in other words, nearly a third of all 14 to 19 year olds from households headed by public/parastatal employees were enrolled at a secondary school at the time of the survey. This enrolment rate is more than four times higher than the rural regional average NER, and is more than double the rate for the next most advantaged group – children from households headed by self-employed individuals in non-agricultural sectors (14 percent). The same pattern exists in GER, which is 35 percent for individuals from the public/parastatal sector, compared to 14 percent for individuals from households headed by the self-employed in the non-agricultural sector. The lowest rate, surprisingly, was found among those from households headed by individuals employed in the private formal sector with both NER and GER of less than 4 percent, lower than even the rates among children from households headed by unemployed individuals (5 and 8 percent respectively). However, these results must be treated with caution as the sample of households headed by individuals employed in the private formal sector is small (Table 19).

The NER and the GER for boys are slightly higher than for girls; while among girls the NER and the GER are roughly equal to 6 percent, in the instance of boys these proportions are 7 and 9 percent respectively (Table 19).

4.4.3 Lagging Behind at School

An increase in enrolment rates should be analysed in terms of two types of progress:

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

- Children are able to begin schooling at the appropriate age (at the age of 7 in Tanzania) and have the opportunity to continue their educational career with no lag.

Results of the Rural Shinyanga CWIQ show that the first type of progress is evident at primary level. In Standards 1 through 3 Gross Enrolment Rates exceed 100 percent indicating that the number of people attending Standards 1 through 3 exceeds the whole population of 7 to 9 year olds (Table 20).

However, a look at the Net Enrolment Rates shows that the majority of students are lagging behind. Hence, the second type of progress is still slow, although also evident, as shown in Box 3. For instance, while the number of children in Standard 1 constitutes 114 percent of seven year olds in the rural part of the Shinyanga Region, only 35 percent of seven year olds are in Standard 1. This trend is further demonstrated by attendance rates presented in Table 20. Attendance is highest for 11 to 13 year olds. Only 11 percent of children in these age groups are not attending school, compared to over half (53 percent) of 7 year olds.

Box 3: Lagging on the decrease
Results of the Rural Shinyanga CWIQ highlight the effect of the Primary Education Development Plan (PEDP). The graph below shows the proportion of school-going individuals in each age-group who are in the correct grade for their age (i.e. who are not lagging behind) as reported four years ago in the *Household Budget Survey* 2000/01 and as found by the 2004 Rural Shinyanga CWIQ Survey. As can be seen, in the younger age-groups (those targeted in the PEDP) substantially higher proportions of school-going individuals are in the right grade for their age. For instance, while in 2000/01 53 percent of school going seven year olds in Tanzania were found to be in Standard 1, in 2004 this proportion in Rural Shinyanga was 72 percent. Even though the figure below compares the whole of Tanzania with Shinyanga, the trend is too large to be ignored: children are increasingly beginning school at the appropriate age.
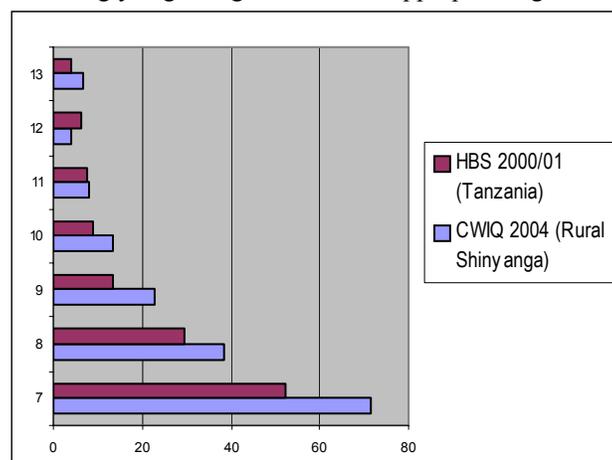
The difference between the Net Enrolment Rate (proportion of children in the right grade for their age) and the attendance rate (proportion of children at school) informs on the proportion of children lagging behind. As children start school late, the lag increases with age. While 42 percent of 8 year olds are lagging behind, the great majority (85 percent) of 12 year olds are in the same position.

The problem with delayed entry into school is the decrease in probability of completion. Hence, if a child begins school at the age of ten, he/she would have to remain at school until the age of twenty three in order to complete Form 6, assuming he/she does not have to repeat any years or take time out. Secondary school attendance rates in Table 20 show how unlikely this is. From the age of 14 onwards, attendance rates begin to drop from their peak of 89 percent in the 11 to 13 age groups. By the age of 16, less than half (44 percent) of the individuals in the age group are attending school, and of these none are in

the right grade (Form 3 NER is equal to zero). By the age of 19, only 13 percent of all 19 year olds are attending school, again none of these are in the correct grade (Form 6).

Table 20: Enrolment by Age Category

	Age in Years	Corresponding Grade	Gross Enrolment Rate[1]	Attendance Rate[2]	Net Enrolment Rate[3]
Primary School	7	Standard 1	114	47	35
	8	Standard 2	130	69	27
	9	Standard 3	133	76	17
	10	Standard 4	100	87	12
	11	Standard 5	96	89	7
	12	Standard 6	58	89	4
	13	Standard 7	58	89	6
Secondary School	14	Form 1	6	77	1
	15	Form 2	17	66	4
	16	Form 3	8	44	0
	17	Form 4	12	38	4
	18	Form 5	1	18	0
	19	Form 6	1	13	0

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 21 further shows the proportions of children of the right age in each grade, as well as the average lag incurred between the ages of 7 and 19. This table provides further insight into the trends observed in Table 20. For instance, while Table 20 shows that by the age of thirteen, only 6 percent of the children are in the right grade at school, Table 21 further shows that 90 percent of children in Standard 7, the right grade for thirteen year olds, are not in the right age group. The majority of individuals (55 percent) attending Standard 7 are, in fact, between the ages of 15 and 16. Nearly 10 percent of children in Standard 7 are 18 years of age or over. Further, it can be seen that, on average, by the age of 19, an individual in Rural Shinyanga will have incurred a lag of 5.6 years. Overall, the school population is characterised by an average lag of two years.

Table 21: 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	34	9	1	0	0	0	0
8	0.5	32	21	4	1	0	0	0
9	1.0	16	26	13	3	1	0	0
10	1.4	10	18	29	12	6	0	0
11	1.9	5	10	17	15	8	1	0
12	2.4	2	7	19	27	19	6	2
13	2.8	1	6	10	17	30	21	10
14	2.9	0	2	5	13	20	31	22
15	3.5	0	1	2	6	10	21	23
16	3.8	0	0	0	2	4	12	25
17	3.9	0	0	0	1	1	5	8
18	4.9	0	0	0	1	2	1	7
19	5.6	0	0	0	0	0	0	2
Total	2.0	100	100	100	100	100	100	100

4.5 Drop Out Rates

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 dropouts. (A child remains enrolled at school for a year after he/she stops attending).

4.5.1 Primary School Drop Out Rates

The drops out rates at primary level are generally low in Rural Shinyanga Region. At the time of the survey, the average drop out rate for children aged from 7 to 13 years was less than 1 percent, slightly more than one child in 200. Most children drop out at the age of 10 and 13 years. The increased drop out rate among the older students may in part be explained by children quitting school after failing Standard 4 examinations.

The drop out rate for the 7 to 13 year olds is higher among boys; at 0.9 percent, it is more than twice as high as the drop out rate for girls in the same age-group (Table 22).

4.5.2   Reasons for Dropping Out of Primary School

Table 23 informs on the reasons specified by children of primary school age for dropping out of school. The reference population includes not only children who attended school the year prior to the survey, and were not attending school the year of 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. In Rural Shinyanga Region this reference population constituted one percent of the primary school age children at the time of the survey.

Results of the survey show that most respondents cited lack of interest as the main or only reason for dropping out of school; 46 percent of primary school age children in the reference population said they dropped out of school because they were not interested in education or because education was of no use to them.

The second most common reason for dropping out of primary school was age; 32 percent of the respondents said they had dropped out of school because they were 'too old' for school[15]. Illness was cited by 13 percent of respondents as reason for dropping out. Less than 3 percent of the drop outs cited either long distances to school or failed examinations as reasons for not attending school.

4.5.3   Secondary School Drop Out Rates

In comparison to low drop out rates among children of primary school age, the rates among those of secondary school age are substantially higher. 12 percent of children of secondary school age had dropped out of school in the year prior to the survey (Table 22). The drop out rate in this age category was 4 percentage points higher among girls compared to boys at 14.4 compared to 10.5 percent respectively. The drop out rate is particularly high among girls between the ages of 15 and 17 years. Between the ages of 18 and 19 years, however, the drop out rate for boys becomes slightly higher than that for girls.

4.5.4   Reasons for Dropping Out of Secondary School

Age is by far the most commonly cited reason for leaving school among non-attendees of secondary school age. Results of the survey indicate that 73 percent of young people of secondary school age, who had dropped out, stopped schooling because they believed they were too old to continue participating in formal education. Cost of school, lack of interest, illness and failure at examinations were each cited by between 4 and 8 percent of those who dropped out of school.

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[15] Out of all primary school non-attendees who cited age as the reason for dropping out o school, 74 percent were 13 years old (the oldest in the primary school age group).

The prominence of age as a reason for leaving school may be misleading as age is likely to be a front for more subtle reasons like income constraints and may point to the fact that in an environment with low enrolment rates the expectation to study for long is not present.

Table 22: Drop out Rates by Age and Sex

	Drop Out Rates (%)		
Age	Male	Female	Total
Primary			
Total	0.9	0.4	0.6
7	1.0	0.4	0.7
8	1.1	0.7	0.9
9	0.0	0.0	0.0
10	2.4	0.0	1.2
11	0.0	0.5	0.2
12	0.0	0.4	0.2
13	1.4	1.0	1.2
Secondary			
Total	10.5	14.4	12.2
14	4.3	7.9	6.0
15	7.0	16.0	10.8
16	21.3	23.9	22.5
17	6.0	11.0	7.3
18	23.3	18.4	21.4
19	23.8	21.1	22.8

Table 23: Reasons for Non-Attendance by Age

		Age Group	
		7 to 13	14 to 19
	Reference Population[1]	4,276 1.0	115,090 45.9
Reasons not currently attending	Too old	1,381 32.3	83,512 72.6
	Too far	98 2.3	979 0.9
	Too expensive	134 3.1	8,253 7.2
	Working (home/job)	0 0.0	677 0.6
	Not interested/useless	1,950 45.6	8,781 7.6
	Illness	562 13.1	5,323 4.6
	Pregnancy	0 0.0	564 0.5
	Failed exam	79 1.9	4,807 4.2
	Got married	0 0.0	1,427 1.2
	Other	72 1.7	766 0.7

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

Map 4

**Literacy Rate Among Individuals
Over the Age of 14:**
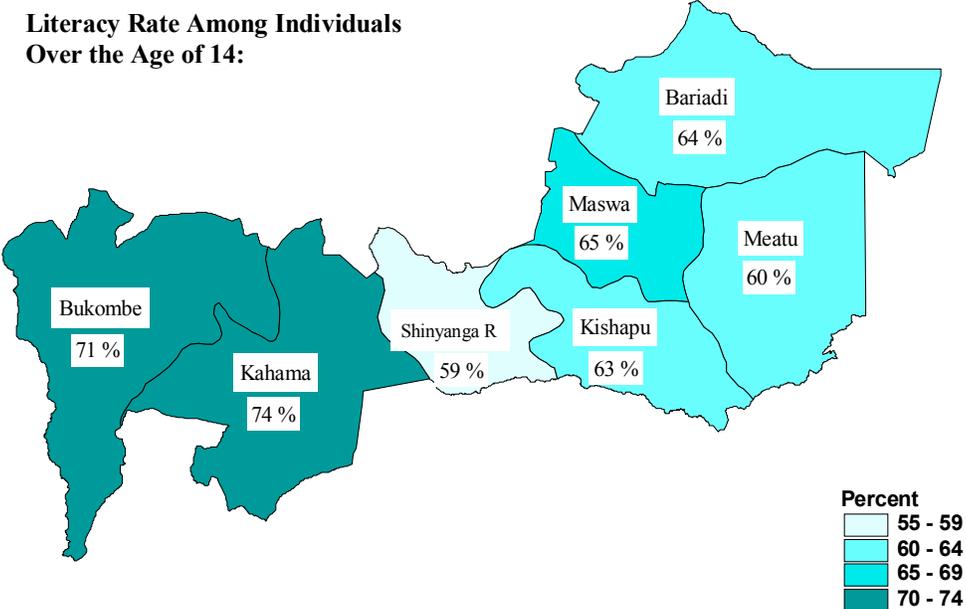
Bariadi
64 %

Maswa
65 %

Meatu
60 %

Bukombe
71 %

Shinyanga R
59 %

Kishapu
63 %

Kahama
74 %

Percent

55 - 59
60 - 64
65 - 69
70 - 74

Map 5

**Percentage of Households that are
Located within 30 Minutes of Travel
from the Nearest Primary School:**

Bariadi
51 %

Maswa
43 %

Meatu
43 %

Bukombe
68 %

Shinyanga R
47 %

Kishapu
46 %

Kahama
63 %

Percent

40 - 44
45 - 49
50 - 54
55 - 59
60 - 64
64 - 69

50

Map 6

**Percentage of Households that are
Located within 30 Minutes of Travel
from the Nearest Secondary School:**

Bariadi
27 %

Maswa
16 %

Meatu
6 %

Bukombe
28 %

Kahama
13 %

Shinyanga R
4 %

Kishapu
12 %
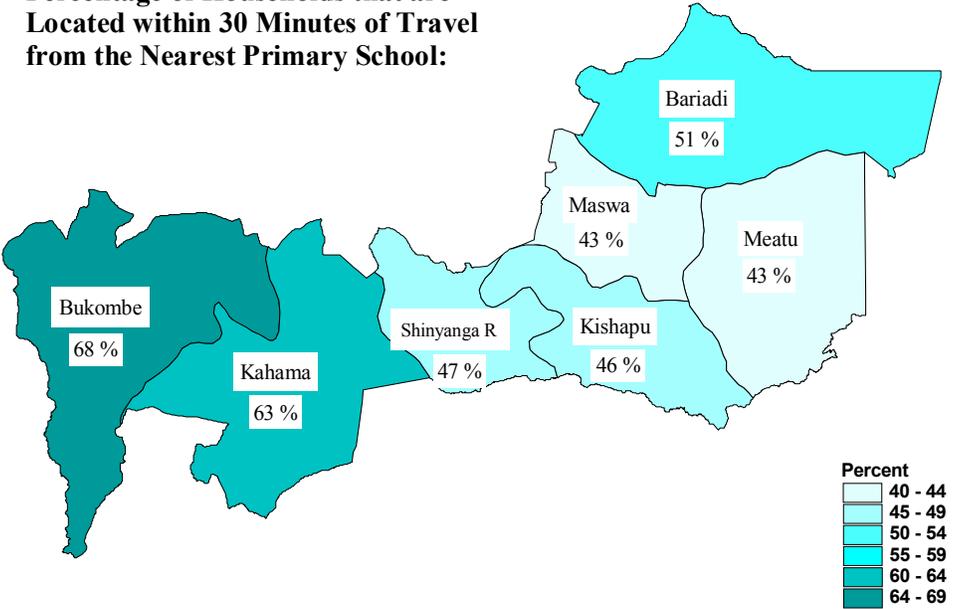
Percent
0 - 4
5 - 9
10 - 14
15 - 19
20 - 24
24 - 29
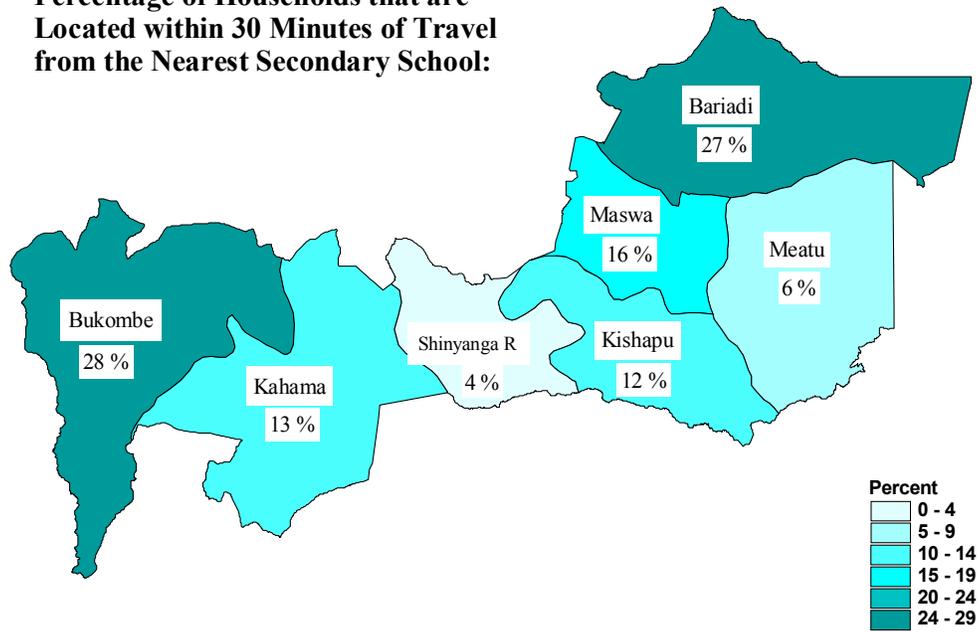
5 HEALTH

5.1 Introduction

This chapter is divided into five sections. To begin with, selected health indicators are examined for the whole population of the rural part of the region. This section is followed by analysis of the ill population by specific type of illness. A subgroup of those who had consulted a health provider is then taken from the ill population; this group is disaggregated by type of health provider used and reasons for dissatisfaction with the service received. The other subgroup of the ill population is focused on next; this group consists of ill individuals who had not consulted a health provider. The last subsection of the chapter deals with assessment of the relationship between poverty and health indicators. Self-reported health data[16] tends to present a distorted view of incidence of illness among the poorer groups in the population. Consequently, analysis of health facility use and satisfaction levels is also biased. In the concluding part of this chapter an attempt is made to present a more accurate picture of the relationship between health indicators and poverty.

The first four sections of this chapter are concerned with the formal health care sector only. Trends in of informal health care are examined in Section 5.8.

5.2 Selected Health Indicators

5.2.1 Distance to Health Services

Detailed information regarding the proximity of households in Rural Shinyanga to health facilities is presented in Table 24. Overall, it shows that while nearly one out of three households in the region is located within half an hour of travel from the nearest health facility, and 15 percent within 15 minutes, over half (51 percent) of households are located more than an hour away. It takes individuals from a significantly higher proportion of households more than an hour to get to the nearest health facility in rural than peri-urban areas; in rural areas nearly two out of three (63 percent) households are located this far away from a health facility compared to only 13 percent in rural areas. Distribution of households by distance to health facilities on district level and by selected household characteristics is shown in Table 24.

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[16] Data used is based on information provided by respondents – no records of official diagnosis were used.

Table 24: 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
Rural Shinyanga Region	15.1	14.4	19.8	50.7	100.0
Rural	7.6	10.3	19.1	63.0	75.5
Peri-urban	38.2	27.0	21.9	12.9	24.5
District					
Kishapu	12.3	18.9	19.8	49.0	12.5
Shinyanga Rural	10.2	12.1	22.3	55.4	11.3
Maswa	12.7	18.3	26.8	42.2	11.8
Meatu	9.7	9.9	23.4	57.0	9.5
Bariadi	4.9	19.3	21.4	54.5	19.7
Bukombe	39.3	8.3	10.1	42.2	14.8
Kahama	15.8	12.4	18.2	53.6	20.3
Poverty					
Non poor	21.6	17.6	20.7	40.1	57.6
Poor	6.4	10.0	18.5	65.1	42.4
Household size					
1 to 2	15.3	22.3	27.6	34.8	3.4
3 to 4	15.9	22.0	19.3	42.8	14.6
5 to 6	17.6	16.4	22.7	43.3	28.7
7+	13.6	10.7	17.9	57.8	53.4
Socio-economic group					
Public/Parastatal	37.6	19.2	13.4	29.8	3.6
Private Formal	37.8	29.7	10.2	22.3	4.4
Private Informal	12.5	12.7	18.8	56.0	8.1
Self-agriculture	31.9	19.9	24.7	23.6	9.7
Self-other	11.3	12.4	20.5	55.8	67.4
Unemployed	5.9	15.6	16.4	62.0	6.8
Gender of head of household					
Male	15.8	12.8	19.8	51.6	83.9
Female	11.4	22.6	20.0	45.9	16.1

5.2.2   Access to Health Services

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

Results of the survey show that 30 percent of households in Rural Shinyanga Region have access to a health facility (Table 25). In peri-urban areas this proportion is more than three times that in rural areas; while in rural areas just under one in five households (18 percent) is located within 30 minutes of travel from the nearest health facility, in peri-urban areas this is the case for nearly two out of three households (65 percent).

Access rate is highest in Bukombe district at 48 percent, and lowest in Meatu, where only a fifth of the households can reach a health facility within 30 minutes of travel[17]. Kishapu and Maswa districts are characterised by the second highest access rates at 31 percent; in the rest of the districts in Rural Shinyanga 20 to 30 percent of households have access to health facilities.

As can be seen in Table 25, there is a significant disparity in access to health facilities between poor and non-poor households. While only 16 percent of poor households can reach the nearest health facility within 30 minutes of travel, the proportion of non-poor households in this position is more than twice as high at 39 percent.

Households headed by employees of the private formal sector have the highest rate of access to health facilities at 68 percent. Similarly, the majority of households headed by individuals employed in the public/parastatal sector and those self-employed in non-agricultural sectors have access to health facilities, at 57 and 52 percent respectively. In all other socio-economic groups access rates range from a fifth to a quarter of all households.

Although female headed households appear to be located slightly closer to health facilities than male headed households, the difference between the two access rates is not statistically significant.

Access to health facilities does not appear to vary substantially among different age-groups. Access is highest (roughly 31 percent) for individuals aged between 10 and 64 years. For children under the age of 10 and elderly individuals aged 65 years and over access rates are slightly lower at 26 to 28 percent. Both of these groups constitute the least mobile individuals in the population, hence the difference in reported distances is

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[17] Note that among the surveyed districts Meatu has the highest and Bukombe the second lowest proportion of poor households.(Chapter 2 Figure 2a)

most likely due to differences in perception rather than an actual correlation between age and geographical location.[18]

5.2.3   Need for Health Services

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

Results of the survey show that nearly 350,000 individuals (13 percent) in Rural Shinyanga Region had been ill in the month preceding the survey; this was roughly the rate of need in both rural and peri-urban areas. Sickness was reported most often in Bukombe district, where 17 percent of the population had been sick in the four weeks preceding the survey. The lowest rates of need for health services were found in Bariadi and Meatu, at 10 and 12 percent of the population respectively. Overall, variation in rates of need across the districts did not exceed 7 percentage points.

Surprisingly, a slightly higher proportion of individuals from non-poor households (15 percent) reported illness in the four weeks preceding the survey compared to a rate of 12 percent among individuals from poor households.[19]

Disaggregation of the data by socio-economic status shows little variation between the different groups. Illness was most widespread among members of households headed by unemployed individuals and those employed in the private formal sector at just under 20 percent; while households headed by individuals self-employed in the agriculture sector reported lowest rates of need at 11 percent. Rates of need among individuals in the rest of the socio-economic groups ranged between 17 and 19 percent.

While there is no significant difference in the incidence of illness between female and male headed households, striking differences emerge once the population is disaggregated by age. The very young (under the age of 5) and the elderly (65 years and above) need health services most. In the four weeks prior to the survey, 26 percent of the very young and 24 percent of the elderly had been ill. Lowest rates of need were observed among individuals between the ages of 10 and 30 at under 10 percent of the population.[20]

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[18] Although it is also not uncommon for elderly people to move to rural areas (e.g. to return to the village they grew up in) where access to health facilities is very limited.

[19] Difficulties associated with disaggregation and interpretation of self-reported health data by poverty status are discussed at the end of this chapter (Section 5.7).

[20] A more detailed analysis of the rates and types of illness in different age groups can be found in Section 5.3

5.2.4 Use of Health Services

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

The results of the survey show that, in Rural Shinyanga, 19 percent of the population had consulted a formal health service provider in the four weeks preceding the survey; this proportion is 6 percentage points higher than the rate of need of health services (Table 25). Although the level of need was roughly the same in rural and peri-urban areas, health services were used by a slightly higher proportion of rural residents compared to peri-urban ones; this difference is not statistically significant, however.

The rate of health service use exceeds that of need in every district of Rural Shinyanga. The biggest difference between the two rates is observable in Maswa district, where the rate of use was 8 percentage points higher than the rate of need. In contrast, in Kishapu this difference was only 2 percentage points.

This pattern of use slightly exceeding need is repeated in all socio-economic, poverty and gender categories; the trend in rates of use is similar to that of need in these categories. However, disaggregation by age reveals that the rate of need exceeds that of use in all age-groups with the exception of children under the age of five; 76 percent of them had been taken to see a health professional in the four weeks preceding the survey while only 26 percent had been ill. This is because children under five often see a health professional for routine check-ups rather than because of illness.

5.2.5 Satisfaction

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

At the time of survey, 69 percent of all individuals who had consulted a formal health provider cited no problems with it. Patients in rural areas appear to be slightly more satisfied with the service received than those in peri-urban areas, with satisfaction rates of 69 and 67 percent respectively (Table 25). However, this difference was not found to be statistically significant.

Levels of satisfaction did not vary substantially between the districts; the range was seven percentage points with the highest rates in Kahama and Kishapu (71 and 70 percent respectively) and the lowest in Shinyanga Rural (65 percent).

The difference in satisfaction rates between health facility users from poor and non-poor households was only two percentage points, with poor health service users expressing slightly higher levels of satisfaction. Surprisingly, this difference was found to be statistically significant.

Three out of four patients from households headed by individuals who are self-employed in agriculture experienced no problems with the service received. Similarly over two-thirds (67 percent) of health facility users from households headed by self-employed individuals from the non-agricultural sectors were satisfied. The lowest satisfaction rates were recorded among health service users from households headed by individuals employed in the private informal sector; only 41 percent of patients from this group cited no problems with the services.

Individuals from male headed households were more satisfied with the medical help they received than those from female headed households; satisfaction rate in the former group was 69 percent compared to 66 percent in the latter. It must be noted, however, that this difference is not statistically significant.

Disaggregation of the health data by age reveals that the most satisfied groups in the population are those who are too young to be asked directly: the highest satisfaction rate was found among individuals under 5 years of age (75 percent), and in the 5 to 9 age group (64 percent). The most elderly group in the community (50+) was found to be least satisfied as well as those between the ages of 10 and 14; only just over half of health service users in these groups cited no problems with the services received, at 55 and 52 percent respectively (Table 25).

Table 25: 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
Rural Shinyanga Region	732,819	333,892	482,184	330,717
	29.5	13.4	19.4	68.6
Rural	335,764	251,451	370,167	256,063
	17.9	13.4	19.7	69.2
Peri-urban	397,056	82,441	112,017	74,654
	65.2	13.5	18.4	66.9
District				
Kishapu	96,787	48,409	56,518	39,412
	31.2	15.6	18.2	69.7
Shinyanga Rural	62,414	36,366	53,113	34,661
	22.3	13.0	18.9	65.3
Maswa	91,309	35,336	58,049	38,354
	31.0	12.0	19.7	66.5
Meatu	46,019	27,041	44,021	30,716
	19.5	11.5	18.7	69.8
Bariadi	118,221	49,204	77,955	53,918
	24.2	10.1	15.9	69.2
Bukombe	175,847	63,376	82,410	54,991
	47.7	17.2	22.4	66.7
Kahama	142,224	74,161	110,118	78,666
	28.2	14.7	21.8	71.4
Poverty				
Non-poor	560,802	212,231	290,949	196,838
	39.2	14.8	20.3	67.7
Poor	172,017	121,661	191,235	133,879
	16.3	11.6	18.2	70.0
Socio-economic group				
Public/Parastatal	51,288	15,386	22,341	11,382
	56.8	17.0	24.7	50.9
Private Formal	73,286	20,284	24,568	14,094
	67.5	18.7	22.6	57.4
Private Informal	50,664	34,901	43,039	17,453
	25.2	17.4	21.4	40.9
Self-other	124,964	40,803	52,239	35,004
	51.7	16.9	21.6	67.0
Self-agriculture	396,126	189,438	306,827	231,817
	23.7	11.3	18.3	75.6
Unemployed	36,492	33,080	33,171	20,968
	21.6	19.6	19.6	63.2

	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	597,057	278,824	405,940	280,387
	28.6	13.4	19.5	69.1
Female	135,762	55,068	76,244	50,330
	34.0	13.8	19.1	66.0
Age				
0 to 4	110,789	104,518	292,240	218,149
	27.8	26.3	73.5	74.7
5 to 9	123,493	46,897	43,627	27,736
	26.4	10.0	9.3	63.6
10 to 14	107,446	32,360	27,738	14,480
	31.1	9.4	8.0	52.2
15 to 29	186,668	51,359	44,374	27,564
	31.2	8.6	7.4	62.1
30 to 49	143,151	58,254	48,930	28,897
	30.8	12.6	10.5	59.1
50 to 64	43,775	24,023	15,870	8,755
	31.0	17.0	11.2	55.2
65+	17,497	16,480	9,406	5,136
	25.7	24.2	13.8	54.6

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

5.3 *Type of Illness*

Distribution of the ill population by type of disorder is presented in (Table 26). Among the 334,000 individuals who had been ill in the four weeks preceding the survey, over two thirds, nearly 225,000 people, suffered from fever/malaria. The second most commonly reported diseases in the same time-period were diarrhoea and ear nose and throat (ENT) problems, affecting 18 and 14 percent of the sick respectively; chronic conditions are also common, affecting a tenth of the sick individuals. Proportions of sick population afflicted by the other illnesses specified in the survey constituted less than 5 percent of the sick population.

Results of the survey show that male and female individuals suffer from fever/malaria equally acutely; there is, however, a large disparity in the incidence rate of fever/malaria between younger and older groups in the population. While the great majority of ill children under the age of five (82 percent of ill boys and 79 percent of ill girls) had been ill with fever/malaria in the four weeks preceding the survey, this was only true for 58 percent of 50 to 64 year old males and 37 percent of females over the age of 64.

The trend in the incidence of diarrhoea is less straight forward. Among the male population, it is most common in younger children. 28 percent of children under the age of 5 who had reported illness in the four weeks prior to the survey suffered from diarrhoea. Incidence of this disease decreases steadily down to 8 percent of the sick male population in the 50 to 64 age group. Among sick elderly men over the age of 64, diarrhoea is slightly more common at 11 percent of the sick. Among the female population the pattern appears to be quite different; the highest incidence of the disease was found among individuals between the ages of 10 and 29 where around a quarter of the sick respectively suffered from the disease.

As expected, chronic condition is more common among the elderly than the younger population; 40 percent of the sick male population over the age of 64 and 47 percent of the females in the same age-group suffered from a chronic condition. Roughly a quarter of the ill population were affected between the ages of 50 and 64 years, while among children under the age of 5, approximately one in twenty (6 percent) sick male children and 2 percent of sick female children suffered from chronic disorders.

Results of the survey further show that elderly men are much more prone to accidents than elderly women. Nearly a quarter if the ill men in the 65+ age-group had suffered from an accident; among women from the same age-group this was the case for only 1 percent of those who had been ill.

Overall, the working age (15 to 65) adult male population is most afflicted by malaria, ENT problems and chronic illnesses, in order of prevalence. Working age females suffer most from malaria, diarrhoea, ENT and chronic disorders.

Table 26: Type of Illness

	Fever/Malaria	Diarrhoea	Accident	Teeth	Skin condition	Eye	Ear, nose, throat	Chronic condition
Rural Shinyanga Region	223,736	60,827	7,441	4,653	14,460	8,689	45,542	34,498
	67.0	18.2	2.2	1.4	4.3	2.6	13.6	10.3
Male								
Total	102,997	27,575	4,790	1,809	6,552	3,324	20,487	17,792
	66.9	17.9	3.1	1.2	4.3	2.2	13.3	11.6
0 to 4	44,114	14,868	530	185	1,046	1,157	6,057	3,001
	82.0	27.6	1.0	0.3	1.9	2.2	11.3	5.6
5 to 9	16,049	3,732	0	201	753	282	3,906	908
	71.6	16.6	0.0	0.9	3.4	1.3	17.4	4.1
10 to 14	8,989	2,227	305	72	1,033	0	3,082	1,456
	64.0	15.8	2.2	0.5	7.4	0.0	21.9	10.4
15 to 29	9,827	2,830	755	256	2,546	485	3,203	2,990
	47.6	13.7	3.7	1.2	12.3	2.3	15.5	14.5
30 to 49	16,695	2,212	977	962	461	311	2,856	3,172

	Fever/Malaria	Diarrhoea	Accident	Teeth	Skin condition	Eye	Ear, nose, throat	Chronic condition
	68.6	9.1	4.0	4.0	1.9	1.3	11.7	13.0
50 to 64	5,834	776	208	133	335	390	873	2,824
	58.1	7.7	2.1	1.3	3.3	3.9	8.7	28.1
65+	1,489	931	2,015	0	377	697	511	3,442
	17.4	10.9	23.5	0.0	4.4	8.1	6.0	40.2
Female								
Total	120,739	33,252	2,651	2,844	7,908	5,365	25,055	16,706
	67.1	18.5	1.5	1.6	4.4	3.0	13.9	9.3
0 to 4	40,158	8,296	480	1,073	1,963	1,773	5,214	853
	79.2	16.4	0.9	2.1	3.9	3.5	10.3	1.7
5 to 9	18,184	4,318	385	194	1,478	1,037	3,540	527
	74.3	17.6	1.6	0.8	6.0	4.2	14.5	2.2
10 to 14	11,254	4,132	357	109	1,402	573	2,091	1,985
	61.5	22.6	2.0	0.6	7.7	3.1	11.4	10.8
15 to 29	19,476	7,615	570	418	851	382	4,274	2,642
	63.5	24.8	1.9	1.4	2.8	1.2	13.9	8.6
30 to 49	21,543	5,607	271	439	1,531	479	7,149	3,557
	63.5	16.5	0.8	1.3	4.5	1.4	21.1	10.5
50 to 64	7,236	2,409	489	390	141	724	1,982	3,423
	51.7	17.2	3.5	2.8	1.0	5.2	14.2	24.5
65+	2,888	876	99	222	542	397	804	3,720
	36.5	11.1	1.2	2.8	6.8	5.0	10.2	47.0

5.4 Type of Health Care Provider

The Rural Shinyanga CWIQ collected information on use of both formal and informal health care providers. A formal health care provider is defined as a health provider that has received basic formal medical training. Informal health care providers, such as traditional healers and traditional birth attendants, are those who do not practice medicine in a fashion recognized by certified medical specialists. This chapter is concerned primarily with the formal health care sector. The informal health care sector is discussed in a separate section at the end.

Results of the survey show that overall 82 percent of those who had been ill in the four weeks preceding the survey had consulted a formal health care provider. Government hospitals are the most commonly used formal health facilities in Rural Shinyanga Region; 62 percent of the individuals who had used a health provider in the four weeks preceding the survey, consulted a government hospital. Pharmacies and health posts were found to be the second most commonly used types of health provider; 13 percent of those who had consulted a health provider used a pharmacy, and 12 percent used a health post. Only a tenth of those who had used a health provider had chosen a private or missionary hospital.

A higher proportion of the rural population use government hospitals than is the case among peri-urban inhabitants, at 64 and 55 percent respectively. Although this difference appears to be relatively large, this result is not statistically significant. Similarly, individuals consulting health providers in rural areas tend to go to missionary hospitals and the regional hospital slightly more than those from peri-urban areas. In peri-urban areas, on the other hand, people are slightly more likely to use a private hospital than in rural ones. Individuals from peri-urban areas also go to health posts, private doctors/dentists and pharmacies more often than those from rural areas.

Private hospital consultation rates appear to be highest in Kishapu and Kahama districts, where 14 and 13 percent of the sick respectively chose this type of health facility. In contrast, in Maswa and Bariadi the rate of private hospital use did not exceed 5 percent. Highest rates of government hospital use were observed in Meatu at 73 percent of those who had used a health facility. The lowest rate of government hospital use was found in Kahama where it is significantly lower than that in Meatu, at roughly half of the reference population. Health posts are a more often the health facility of choice in Maswa than in the rest of the rural areas in the region. In contrast, use of private doctors/dentists here and in Meatu is less common than in any other district; use of this type of health facility is most widespread in Kahama at 4 percent of the reference population. The rates of pharmacy use in Meatu and Maswa are low at 3 and 7 percent respectively compared to the rural regional average of 13 percent. In contrast, in Bukombe nearly a quarter of those who had sought medical help, had consulted a pharmacy.

Individuals from poor households are more likely to use government hospitals than those from non-poor household. More than two out of three individuals from poor households who had consulted a health provider in the four weeks preceding the survey had gone to government hospital (68 percent); this was only the case for 58 percent of the same population from non-poor households. On the other hand, a significantly higher proportion of individuals from non-poor households used private health care facilities, such as private hospitals, private doctors/dentists and pharmacies.

A number of significant disparities exist in the distribution of health facilities used in different socio-economic groups. Government hospitals are the choice of the majority across all socio-economic groups with the exception of the private formal and self-employed non-agriculture groups. Government hospital consultation rates range from the lowest of 43 percent among health facility users from households headed by individuals employed in the private formal sector to the highest of 66 percent among those from households headed by individuals who are self-employed in the agricultural sector. Individuals from households headed by employees of the private informal sector tend to consult private hospitals more than individuals from other groups; nearly two-fifths (18 percent) of formal health care consumers from these households consulted a private hospital compared to only 6 percent among those from the self-employed agricultural group. Surprisingly, a higher proportion (11 percent) of users from households headed by unemployed individuals consult private hospitals, than those from households headed by employees of the Public/parastatal sector (6 percent); this result is not statistically significant, however. Finally, a significantly higher proportion of ill individuals from the private formal group used a health post than those from the private informal group, at 20 and 2 percent respectively.

Table 27: Type of Health Provider Used

	Private Hospital	Government Hospital	Health Post	Private Doctor/Dentist	Regional Hospital	Missionary Hospital	Pharmacy	Other
Rural Shinyanga Region	40,770	297,698	59,157	7,319	6,473	5,445	64,508	814
	8.5	61.7	12.3	1.5	1.3	1.1	13.4	0.2
Rural	27,792	236,503	43,464	5,240	5,177	4,862	46,315	814
	7.5	63.9	11.7	1.4	1.4	1.3	12.5	0.2
Peri-urban	12,978	61,195	15,693	2,079	1,296	583	18,193	0
	11.6	54.6	14.0	1.9	1.2	0.5	16.2	0.0
District								
Kishapu	7,903	38,574	2,803	370	1,072	1,142	4,655	0
	14.0	68.3	5.0	0.7	1.9	2.0	8.2	0.0
Shinyanga Rural	4,459	36,352	5,412	787	923	221	4,959	0
	8.4	68.4	10.2	1.5	1.7	0.4	9.3	0.0
Maswa	2,057	36,539	13,168	125	1,308	595	4,258	0
	3.5	62.9	22.7	0.2	2.3	1.0	7.3	0.0
Meatu	3,577	32,266	6,081	72	173	133	1,439	281

	8.1	73.3	13.8	0.2	0.4	0.3	3.3	0.6
Bariadi	3,549	49,876	12,523	233	930	1,504	8,808	533
	4.6	64.0	16.1	0.3	1.2	1.9	11.3	0.7
Bukombe	5,331	46,419	8,577	1,215	502	1,171	19,195	0
	6.5	56.3	10.4	1.5	0.6	1.4	23.3	0.0
Kahama	13,895	57,672	10,595	4,517	1,566	679	21,194	0
	12.6	52.4	9.6	4.1	1.4	0.6	19.2	0.0
Poverty								
Non-poor	29,807	168,271	35,390	5,049	3,138	3,057	45,564	673
	10.2	57.8	12.2	1.7	1.1	1.1	15.7	0.2
Poor	10,963	129,427	23,767	2,269	3,335	2,389	18,944	141
	5.7	67.7	12.4	1.2	1.7	1.2	9.9	0.1
Socio-economic group								
Public/Parastatal	1,359	13,681	2,780	949	250	73	3,250	0
	6.1	61.2	12.4	4.2	1.1	0.3	14.5	0.0
Private Formal	3,284	10,439	5,093	0	663	362	4,727	0
	13.4	42.5	20.7	0.0	2.7	1.5	19.2	0.0
Private Informal	7,857	27,235	736	391	140	226	6,407	47
	18.3	63.3	1.7	0.9	0.3	0.5	14.9	0.1
Self-other	7,136	24,576	4,483	1,496	54	115	14,333	47
	13.7	47.0	8.6	2.9	0.1	0.2	27.4	0.1
Self-agriculture	17,072	202,128	44,660	3,558	4,133	3,883	30,853	540
	5.6	65.9	14.6	1.2	1.3	1.3	10.1	0.2
Unemployed	4,062	19,639	1,405	926	1,233	787	4,938	180
	12.2	59.2	4.2	2.8	3.7	2.4	14.9	0.5

5.5 *Dissatisfaction with Health Providers*

An individual is classed as dissatisfied with health services he/she receives if, having used the services, he/she cites one or more problems with them. The satisfaction rates (Table 25) and dissatisfaction rates (Table 28) add up to 100 percent as the population under consideration in both cases consists of individuals who had used a formal health service in the four weeks preceding the survey. Therefore, the dissatisfaction rate is the inverse of the satisfaction rate described earlier. Overall, in the four weeks preceding the survey, 31 percent of those who had consulted a formal health provider expressed dissatisfaction with the service received.

Table 28 further shows the reasons given for dissatisfaction with health care received. Cost was more widely cited than any other complaint, at 45 percent. Similarly, over two fifths of the reference population (42 percent) complained about lack of medication. Another common problem, mentioned by over a third of the dissatisfied patients, was shortage of trained professionals. Overall, results of the survey show an even distribution of complaints across the potential problems identified in the survey. Hence, while

unsuccessful treatment was mentioned by fewer people than the rest of the issues, it was still identified as problematic by nearly a quarter (24 percent) of dissatisfied patients.

Cost appears to be more problematic for health facility users in rural areas than in peri-urban ones, as does hygiene, unsuccessful treatment and long waiting time. In all of these cases the proportion of individuals identifying the issues in rural areas exceeded that in peri-urban areas by between 5 and 15 percentage points. Shortage of trained professionals and lack of supplies, on the other hand, were cited by almost equal proportions of dissatisfied health facility users in peri-urban and rural areas.

Cost of health services is considered a problem by the majority (52 percent) of the dissatisfied health facility users in Kahama district. Lack of medications was cited by roughly as high a proportion of dissatisfied health facility users in Shinyanga Rural and Bukombe. Shortage of trained professional staff was felt most acutely in Meatu, where 51 percent of dissatisfied users mentioned this issue, compared to the 34 percent regional average. In Maswa district, it was the length of the waiting time that caused dissatisfaction among 51 percent of the reference population; this proportion exceeds rates of dissatisfaction caused by waiting time in the rest of the district by between 10 and 35 percentage points. Although hygiene, unsuccessful treatment and lack of supplies are not among the most serious problems in any of the districts, they are, nevertheless, commonly mentioned as reasons for dissatisfaction. Proportions of health service users dissatisfied because of hygiene range from 20 percent (Kishapu) to 38 percent (Bariadi). Unsuccessful treatment is mentioned by between 14 percent (Bariadi) and 34 percent (Meatu) of the dissatisfied patients. Lack of supplies is a problem for between a quarter (Kahama) and two fifths (Bariadi) of the reference population.

The majority of the complaints were cited by larger proportions of dissatisfied health facility users from poor households compared to non-poor; cost, waiting time and lack of medication were an exception to this trend as they were cited equally often across the two groups.

Health facility users from households headed by individuals employed in the private informal sector were found to constitute the least satisfied group. This is the only socio-economic group to be characterised by health facility users the majority of whom are dissatisfied. Over half of the dissatisfied users in this group complained about hygiene, shortage of trained professionals, cost, lack of medication and general lack of supplies. No other group is characterised by proportions exceeding 50 percent of the dissatisfied population in as many categories. However, hygiene is a commonly felt problem among individuals from the private formal group; this is also the group of patients who complained extensively about shortage of trained professionals and lack of medication. Cost was an issue for over half of the dissatisfied users from the self-employed non agriculture socio-economic group, as well as the unemployed. Lack of supplies was an issue for the majority of users from the public/parastatal group. Between 20 and 40 percent of individuals from households headed by self-employed farmers cited each of the categories identified in the survey.

Individuals from male and female headed households appear to be dissatisfied with the health facilities they used for a similar range of reasons. In contrast, dissatisfaction rates, as well as the distribution of reasons for dissatisfaction, varied substantially by type of health provider used. Dissatisfaction rates were highest among private hospital patients; nearly half (44 percent) of those who had used a private hospital in the month preceding the survey had not been content. Predominantly, private hospital users objected to the cost; as high a proportion as 76 percent of the dissatisfied users mentioned cost as a reason, compared to the rural regional average of 45 percent. Lack of medication and waiting time were cited by smaller proportions of private hospital users than average for the region; proportions across the other categories are comparable to the rural regional average trend. Patients of private doctors/dentists were most content with the treatment they received; only a fifth of them made complaints during the survey. Surprisingly, nearly 50 percent of dissatisfied patients of private doctors referred to shortage of trained professionals as the problem. However, this result is not significantly different from proportions of patients complaining about shortage of trained professionals among users of other health facilities; this is due to the small size of the sample of patients of private doctors and the consequently large standard error of 25 percent. The second most satisfied group were patients of government hospitals; 29 percent of these individuals were not satisfied with the service they received. Main problems among these users were lack of medication and shortage of trained professionals. Hygiene, long wait, cost, lack of supplies and unsuccessful treatment were all mentioned by roughly a third of the dissatisfied patients. Users of other types of health facilities[21] complained most of all about the cost; 90 percent of the dissatisfied users of pharmacies and other health facilities specified cost as a reason. In contrast, only 19 percent of individuals who had consulted a health post complained about cost; the length of the waiting time was a much more substantial problem for this group.

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[21] The category 'other' includes pharmacies.

Table 28: Reasons for Dissatisfaction with Health Services

	Dissatisfaction	Reasons for dissatisfaction[1]						
		Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	151,072	46,316	50,642	54,181	67,407	63,960	36,326	47,090
	31.4	30.7	33.5	35.9	44.6	42.3	24.0	31.2
Rural	114,103	37,763	39,429	40,645	54,785	50,283	29,018	35,501
	30.8	33.1	34.6	35.6	48.0	44.1	25.4	31.1
Peri-urban	36,968	8,552	11,212	13,536	12,622	13,677	7,308	11,589
	33.1	23.1	30.3	36.6	34.1	37.0	19.8	31.3
District								
Kishapu	17,107	3,427	5,323	3,360	6,607	4,258	3,934	5,003
	30.3	20.0	31.1	19.6	38.6	24.9	23.0	29.2
Shinyanga Rural	18,452	6,291	5,454	5,115	8,955	10,054	6,803	5,354
	34.7	34.1	29.6	27.7	48.5	54.5	36.9	29.0
Maswa	19,300	5,977	9,783	5,715	7,549	6,837	3,955	6,013
	33.5	31.0	50.7	29.6	39.1	35.4	20.5	31.2
Meatu	13,306	4,469	3,844	6,758	5,802	6,035	4,559	4,771
	30.2	33.6	28.9	50.8	43.6	45.4	34.3	35.9
Bariadi	24,037	9,153	9,881	9,210	10,880	10,211	3,319	9,272
	30.8	38.1	41.1	38.3	45.3	42.5	13.8	38.6
Bukombe	27,419	8,745	4,129	13,002	11,385	14,028	5,000	8,851
	33.3	31.9	15.1	47.4	41.5	51.2	18.2	32.3
Kahama	31,452	8,254	12,229	11,022	16,231	12,537	8,757	7,827
	28.6	26.2	38.9	35.0	51.6	39.9	27.8	24.9
Poverty								
Non-poor	93,715	26,291	31,012	32,107	41,955	39,241	20,286	28,211
	32.3	28.1	33.1	34.3	44.8	41.9	21.6	30.1
Poor	57,356	20,025	19,630	22,074	25,453	24,720	16,040	18,879
	30.0	34.9	34.2	38.5	44.4	43.1	28.0	32.9
Socio-economic group								
Public/Parastatal	10,959	2,505	2,253	4,093	4,409	4,109	1,480	6,009
	49.1	22.9	20.6	37.3	40.2	37.5	13.5	54.8
Private Formal	10,474	6,292	2,896	6,888	3,979	6,291	1,498	4,618
	42.6	60.1	27.6	65.8	38.0	60.1	14.3	44.1
Private Informal	25,191	13,544	12,183	16,716	14,562	17,824	7,726	15,019
	59.1	53.8	48.4	66.4	57.8	70.8	30.7	59.6
Self-other	17,235	2,494	6,862	3,379	8,842	4,872	4,769	2,016
	33.0	14.5	39.8	19.6	51.3	28.3	27.7	11.7
Self-agriculture	75,010	17,233	24,678	18,967	29,100	25,706	18,463	15,762
	24.4	23.0	32.9	25.3	38.8	34.3	24.6	21.0
Unemployed	12,203	4,247	1,769	4,138	6,517	5,158	2,392	3,665
	36.8	34.8	14.5	33.9	53.4	42.3	19.6	30.0

| | | Reasons for dissatisfaction[1] | | | | | | |
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Gender								
Male	71,044	22,220	23,655	27,713	32,115	31,944	17,821	24,311
	30.4	31.3	33.3	39.0	45.2	45.0	25.1	34.2
Female	80,028	24,096	26,987	26,468	35,292	32,017	18,505	22,780
	32.3	30.1	33.7	33.1	44.1	40.0	23.1	28.5
Type of provider								
Private Hospital	20,254	5,769	5,171	7,579	15,464	7,122	4,260	6,621
	43.8	28.5	25.5	37.4	76.3	35.2	21.0	32.7
Public Hospital	86,447	32,766	30,986	38,136	26,970	50,570	25,677	32,608
	28.5	37.9	35.8	44.1	31.2	58.5	29.7	37.7
Health Post	19,514	4,240	13,748	3,099	3,748	2,688	2,439	4,014
	33.0	21.7	70.5	15.9	19.2	13.8	12.5	20.6
Private Doctor/Dentist	1,482	0.0	289	723	314	0.0	156	0.0
	20.3	0.0	19.5	48.8	21.2	0.0	10.5	0.0
Other	23,374	3,541	447	4,644	20,912	3,580	3,794	3,848
	35.8	15.2	1.9	19.9	89.5	15.3	16.2	16.5

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%.

5.6 Reasons for Not Consulting a Health Provider When Ill[22]

In addition to data on health status and health facility use, the Rural Shinyanga CWIQ provides information regarding those who had identified themselves as having been ill in the four weeks preceding the survey, but having not consulted a health provider. One in ten individuals reporting illness fits into this category. Although there appears to be a slightly higher proportion of ill individuals not consulting a health provider in rural areas than peri-urban ones, the difference is not statistically significant.

At 15 percent, Kishapu had the highest proportion of individuals who had not consulted a formal or informal health provider, despite having been ill. In the majority of other districts the non-consultation rate ranged between 10 and 13 percent; Kahama and Bukombe districts are the exception with proportions of 6 and 8 percent respectively.

Non-consultation rates were higher among ill individuals from poor households compared to those from non-poor households. Although the difference between the two groups is small, it is statistically significant.

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[22] The population discussed in this section consists of individuals who had not consulted a formal health provider *or* traditional healer despite having been ill.

The proportion of ill people who did not consult a health provider was highest among individuals from households headed by unemployed persons, at nearly a fifth of the reference population (18 percent). Next were individuals from households headed by those self-employed in the agricultural sector (12 percent), and employees of the private informal sector (9 percent). Non-consultancy rate was lowest among members of families headed by individuals employed in the private formal and self employed in the non-agricultural sectors; only 3 percent of individuals from these groups had not consulted a health provider in the specified period despite suffering from an illness.

Females appear to consult health providers slightly less often than males. While 91 percent of sick males had consulted a health provider, 89 percent of sick females did the same. However, this difference is not statistically significant and is hence not necessarily characteristic of the population.

Two out of five individuals who had suffered from dental problems in the month preceding the survey had not sought medical advice. Similarly, over a quarter (28 percent) of individuals reporting eye problems had not consulted a health provider. These proportions are substantially higher than the average non-consultation rates for the region (10 percent). In contrast, over 90 percent of individuals suffering from diarrhoea, fever/ malaria and ENT problems had accessed professional medical help.

The majority of individuals (53 percent) in Rural Shinyanga who had been ill and had not consulted a health provider did so because of the cost, 29 percent were deterred by long distances while roughly a quarter (23 percent) percent felt there was no need. In Bukombe, Bariadi and Kahama cost was cited as the reason for not consulting a health provider by the majority; in these districts 77, 70 and 52 percent respectively of those who had been ill and had not consulted a health provider referred to high costs as a deterrent to health facility use. Long distances to health facilities were more of an obstacle to consulting health providers in Shinyanga Rural and Meatu districts compared to the rest of the districts; the proportions of reference population citing this reason exceeded the rural average by nearly 10 percentage points, at 39 and 38 percent respectively. Those who had chosen not to seek medical help because they felt there was no need to do so constituted 42 percent of the reference population in Maswa and 35 percent in Kishapu, compared to the rural regional average of 23 percent. Lack of necessity was the least often cited reason for non-use in Bukombe and Bariadi at less than 6 percent of the reference population, compared to between 20 and 40 percent in the rest of the districts.

Surprisingly, the proportion of sick individuals from non-poor households who cited high costs as a deterrent to consulting a health provider was 10 percentage points higher than that of sick individuals from poor households, at 57 percent. Further, this difference is statistically significant; in other words, cost is a more significant deterrent to use of health facilities among the non-poor than the poor. Individuals from households headed by employees of the public/parastal sector were deterred more by cost than these from any other socio-economic group. Similarly, the largest proportion (45 percent) of sick people from these households cited long distance as a deterrent to use of health facilities.

The latter is a particularly surprising result as predominantly these are peri-urban households with significantly higher health facility access rates than individuals from, for instance, the self-employed agricultural group.

Differences in reasons given for not consulting a health provider among sick men and women were not great, although men seemed slightly more cost sensitive than women, while women seemed to be more worried about distances than men.

When population is disaggregated by type of sickness, in all categories cost remains the dominant deterrent from consulting a health provider. Accident victims were the most cost sensitive; more than 80 percent of those among them who had not consulted a health provider had been deterred by cost. Individuals with ENT problems had the highest proportion of sufferers who felt there was no need to consult a health provider; 41 percent of individuals who were suffering from these ailments and had not sought medical help felt that there was no need to do so.

Table 29: 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
Rural Shinyanga				
Region	34,427	7,893	18,226	10,112
	10.3	22.9	52.9	29.4
Rural	27,435	6,461	12,668	10,112
	10.9	23.5	46.2	36.9
Peri-urban	6,992	1,433	5,559	0
	8.5	20.5	79.5	0.0
District				
Kishapu	7,228	2,558	3,413	1,755
	14.9	35.4	47.2	24.3
Shinyanga Rural	3,812	899	1,522	1,494
	10.5	23.6	39.9	39.2
Maswa	3,539	1,492	1,117	1,056
	10.0	42.2	31.6	29.8
Meatu	3,534	1,077	1,247	1,350
	13.1	30.5	35.3	38.2
Bariadi	6,568	393	4,582	1,720
	13.3	6.0	69.8	26.2
Bukombe	5,042	260	3,884	1,280
	8.0	5.2	77.0	25.4
Kahama	4,703	1,215	2,461	1,457
	6.3	25.8	52.3	31.0
Poverty				
Non-poor	20,349	4,576	11,589	5,347
	9.6	22.5	56.9	26.3
Poor	14,077	3,318	6,638	4,765
	11.6	23.6	47.2	33.8

	Reference population[1]	Reasons for not consulting health professional when ill[2]		
		No Need	Cost	Distance
Socio-economic group				
Public/Parastatal	592	144	329	264
	3.8	24.2	55.5	44.7
Private Formal	681	529	153	0
	3.4	77.6	22.4	0.0
Private Informal	3,010	1,247	1,134	714
	8.6	41.4	37.7	23.7
Self-other	1,372	433	652	413
	3.4	31.6	47.5	30.1
Self-agriculture	22,861	4,949	12,348	6,500
	12.1	21.6	54.0	28.4
Unemployed	5,911	592	3,611	2,220
	17.9	10.0	61.1	37.6
Gender				
Male	14,154	3,213	8,053	3,590
	9.2	22.7	56.9	25.4
Female	20,273	4,680	10,174	6,522
	11.3	23.1	50.2	32.2
Type of sickness/injury				
Fever/Malaria	18,465	4,179	9,303	5,684
	8.3	22.6	50.4	30.8
Diarrhoea	4,289	1,144	2,158	1,069
	7.1	26.7	50.3	24.9
Accident	2,486	274	2,009	204
	33.4	11.0	80.8	8.2
Dental problem	1,854	640	696	690
	39.9	34.5	37.5	37.2
Skin condition	1,647	417	1,078	384
	11.4	25.3	65.4	23.3
Eye problem	2,396	929	1,326	546
	27.6	38.8	55.3	22.8
Ear, nose, throat	4,171	1,718	1,505	1,306
	9.2	41.2	36.1	31.3
Chronic condition	5,061	622	3,451	1,605
	14.7	12.3	68.2	31.7

1. Proportion of individuals who had been ill in the four weeks preceding the survey and had not consulted a formal health provider or traditional healer
2. An individual can cite more than one reason for not consulting a health professional, hence the proportions in this part of the table add up to more than 100%.

5.7 Health and the Poor

5.7.1 Background

Poverty and equity in health are coming back into focus after over a decade of being in the shade (WHO, 2000). In line with this development the World Development Report 2004 focused on provision of services to the poor. It points out the inadequacy of provision of health services to the poor and the difficulty inherent in assessing the quality of these, prevalence of regressive public subsidization, and the problem of low demand among the poor due to low quality of available services. It further recommends policy to be geared towards benefiting the poor, the establishment of local partnerships and strengthening the client's voice. However, in order to determine optimal policy it is necessary to accurately determine patterns of health provision for the poor; data that is indicative of the relationship between health indicators and income is notoriously difficult to collect.

The main problem in analyzing health data is self-reporting bias; the poor tend to under-report incidence of illness. Studies conducted on health data from Ethiopia and Kenya show that incidence of illness is positively correlated with a number of indicators such as education, wealth, and proximity to heath facilities. It has even been suggested that "…low levels of reported illness may be seen as a cause for concern, rather than comfort…" (Ethiopia Social Sector Review, 1997).

The self-reporting bias does not only distort reported rates of illness, but also the majority of the other health indicators; for instance, health facility use rate. In simple terms self-reporting bias means that a person from a poor household would report a severe case of malaria as an illness but not a cold; an individual from a non-poor household would report both. Assuming that rates of hospital use are equally close to rates of need among individuals from poor and non-poor households, as is the case in Rural Shinyanga, a person from a poor household is not consulting a health provider because of a cold, while a person from a non-poor household is. Hence, while it looks like in time of need people from both poor and non-poor households are equally likely to consult a health provider, in fact, those from the poor households are only going to health facilities for the most severe disorders, while those from the non-poor households also get help for minor ailments. This section attempts to analyse health indicators in Rural Shinyanga by poverty status in more detail to minimise this bias.

5.7.2 Summary of Health Outcomes by Income

According to the main health indicators, individuals from poor households tend to be ill slightly less often than individuals from non-poor households. Further, while poor households are, on average, located noticeably further from health facilities than non-poor households, the proportion of individuals using health facilities from poor and non-

poor households differ by only 2 percentage points.[23]   Finally, users of health facilities from poor households are slightly more satisfied with the service received than those from non-poor households. The almost total lack of inequality in incidence of illness, use and quality of health services among poor and non-poor individuals is increasingly difficult to believe as further analysis of the data shows that cost is not more of an obstacle to health service use among poor health facility users than non-poor, nor is it a more prominent reason for non-use of health facilities in the former group than the latter (Table 28 and Table 29).

In contrast, a study conducted this year on the impact of user fees in health facilities, shows that poverty has a significant negative impact on health in Tanzania. The study further highlights that the current user fee policy benefits the better off more than the poor, and that in the current health care system poverty is a substantial obstacle to use of health facilities (REPOA, 2004). The combination of evidence presented in this paper as well as information extracted from other literature regarding the relationship between health indicators and poverty (Ethiopia Social Sector Review, 1997; World Development Report, 2004; WHO, 2000) suggest that more detailed analysis of the health data is necessary before accurate conclusions regarding the affect of poverty on health and decision making on health related issues can be made.

5.7.3   Need – Does Poverty Affect Health

As mentioned before, rates of need are determined by self-reported incidence of illness. It is commonly suggested in literature that incidence of illness is under-reported in lower income groups. Figure 10 shows that an indication of this trend is present in Rural Shinyanga; disaggregation of the data reveals that incidence of illness is lowest in the lowest consumption quintile and highest in the highest consumption quintile.

Figure 10: Incidence of Illness by Consumption Quintile

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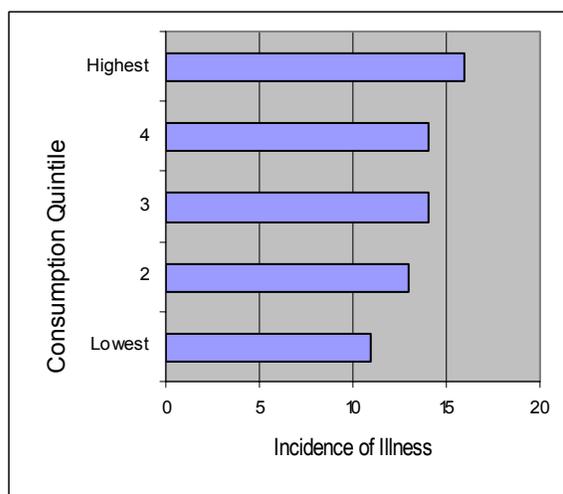
[23] This difference increases to 7 percentage points if a sub-sample of individuals reporting illness in the four weeks preceding the survey is taken.

Another way of examining the impact of poverty on incidence of illness is by looking at the duration of illness. Although the CWIQ does not collect this information directly, it does inform on the length of time taken off work/school due to illness. Results show that ill individuals from households in the bottom consumption quintile take significantly more time of work than ill individuals from households in the top consumption quintile; while in the four weeks preceding the survey 15 percent of individuals from the lowest consumption quintile who had been ill were absent from school/work due to illness for over a week, this was the case for only 6 percent of the ill individuals from the highest consumption quintile (Figure 11). It is reasonable to expect poorer individuals to take less or the same time off school/work due to illness given the cost of such action. The results, therefore, suggest that illness among the poor is more severe than among the non-poor. This result is further supported by significantly higher incidence of chronic illness among the poor. The proportion of individuals suffering from chronic illness among ill individuals from the lowest consumption quintile was more than twice as high as that among ill individuals from the highest consumption quintile at 16 and 7 percent of the respective ill populations.

Figure 11: Alternative Indicators of Health Status by Consumption Quintile
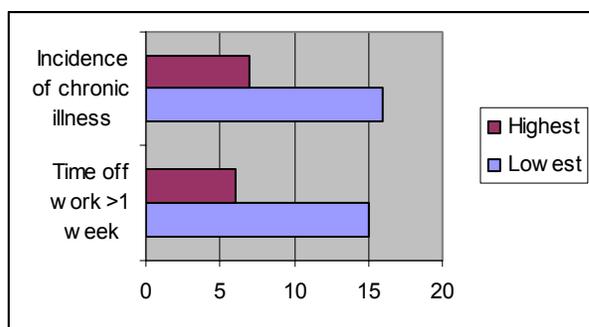
5.7.4   Use – Is Poverty an Obstacle to Use of Health Services

It appears that individuals from poor households use health facilities only slightly less often than individuals from non-poor households; the proportion of poor individuals who had used a health facility in the four weeks preceding the survey is only 2 percentage points lower than that of non-poor individuals. This result would suggest that poverty is not a deterrent to use of health services. However, closer examination leads to the opposite conclusion.

Analysis of the ill population, reveals that the poorer the household is the less likely an individual is to consult a health provider in time of illness. In fact, the proportion of individuals consulting a health provider when ill in the top consumption quintile is 15 percentage points higher than that of individuals in the bottom consumption quintile (Figure 12). This result is statistically significant at 5 percent level.

Figure 12: Use of Formal Health Provider when Ill by Consumption Quintile
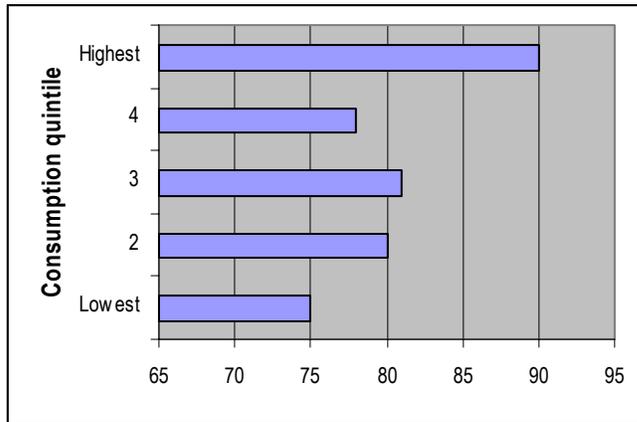
Further, if data on incidence of illness contains self-reporting bias, so does usage data.[24] Consequently an unbiased measurement of need is necessary to observe the impact of poverty on rate of use. Type of facilities used by women when giving birth is one such measurement. A woman giving birth is in need of professional medical help whatever the poverty status of her household; child-birth is, hence, an objective indicator of need. As shown in Figure 13, women from households in the bottom consumption quintile are much less likely to use health facilities in childbirth than women from households in the top consumption quintile; the proportion of women in the former group delivering at home is more than twice as high as that in the latter group.

Figure 13: Facilities Used in Child Delivery by Household Consumption Quintile
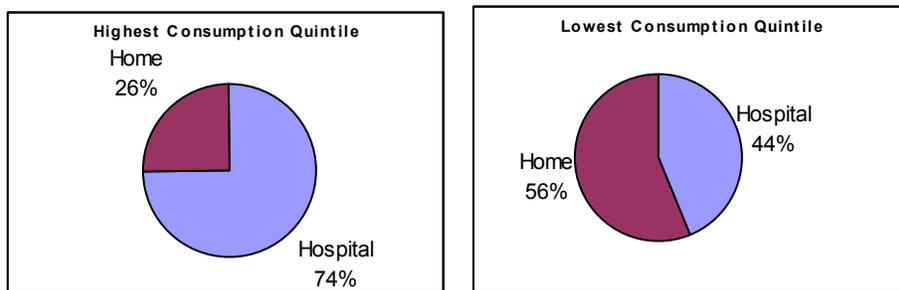
Further, the proportion of women giving birth in the presence of a doctor or nurse is positively correlated with the level of household consumption: the lower the proportion

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[24] Poorer individuals tend to consider themselves ill when they experience more severe symptoms than those experienced by non-poor people who identify themselves as ill. Consequently, it is likely that poorer people would not be able to afford to consult a health provider for the same severity of symptoms as non-poor people.

the lower the consumption quintile.[25]   Results presented in Table 30   show that while nearly 60 percent of women from households in the highest consumption quintile give birth in the presence of a medically trained person, the proportion of women from households in the bottom consumption quintile doing the same is nearly 20 percentage points lower at 43 percent. .

Table 30: Use of Health Facilities and Assistance in Child Delivery

| | *Consumption Quintile* | | | | |
	Lowest	2	3	4	Highest
Facility Used					
Hospital	43.6	46.8	44.1	57.2	74.1
Home	56.4	52.5	55.8	42.8	25
Other	0.0	0.7	0.2	0.0	1.0
Assistance Used					
Doctor	4.5	4.1	2.1	5.8	6.5
Nurse	38	39.9	39.5	52.4	65.5
Midwife	8.3	10.9	12.7	8.4	10.7
TBA	35.9	31.5	32.5	23.4	9.3
Self/Other	13.4	13.6	13.2	10	8.1

5.8   Traditional Healers

Nearly one in ten individuals (8 percent) in Rural Shinyanga, out of all those who had been ill in the four weeks preceding the survey, chose to consult a traditional healer. In rural areas this proportion is more than three times greater than that in peri-urban areas at 9 and 2 percent of the respective ill populations. In contrast, the proportion of residents of peri-urban areas who had consulted a formal health care provider in time of illness exceeds that of rural residents by 10 percentage points.   Incorporation of users of traditional healers into the general health facility use data shows that traditional healers are the fourth most popular health care provider among the sick after public hospitals, pharmacies and private hospitals (Annex C, Table C5.2). Nearly as high a proportion of individuals use private hospitals in rural areas as traditional healers, at 11 and 10 percent respectively.

Health facility users are most likely to seek help from a traditional healer in Meatu, Maswa and Bariadi districts. Here consultation rates range from 12 to 16 percent of those who had been ill in the four weeks preceding the survey. These are also the districts where some of the lowest rates of formal health facility use are found. In contrast, in Kahama and Bukombe around 90 percent of those who had been ill had consulted a formal health care provider, while less than 5 percent went to a traditional healer. The

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[25] The proportion of births conducted in the presence of a medically trained person is also commonly used as an indicator of maternal mortality. Based on these results one would therefore expect maternal mortality rate to be higher among women from poor households. (REPOA,:2004)

rate of informal health care use in Shinyanga Rural and Kishapu is roughly equal to the rural regional average at 8 percent (Table 31).

Although the proportions of men choosing to consult a formal or informal health care provider when ill exceed those of women by 1 percentage point, these differences are not statistically significant.

Table 31: Use of Traditional Healers in Rural Shinyanga

	Proportion of Ill Individuals Consulting a Traditional Healer	Proportion of Ill Individuals Consulting a Formal Health Care Provider
Rural Shinyanga		
Region	7.6	82.1
Rural	9.3	79.8
Peri-urban	2.3	89.2
District		
Kishapu	8.2	76.9
Shinyanga Rural	7.6	81.9
Maswa	11.2	78.8
Meatu	13.5	73.5
Bariadi	11.4	75.2
Bukombe	4.2	87.8
Kahama	3.5	90.2
Gender		
Male	8.0	82.8
Female	7.1	81.6

A very significant difference is noticeable when data on use of traditional healers is disaggregated by poverty status; the proportion of ill individuals from poor households who had consulted a traditional healer is nearly twice as high as that of non-poor individuals, at 11 and 6 percent respectively (Table 32). Disaggregation by poverty quintile further confirms this trend. In fact, the proportion of the reference population who had consulted a traditional healer was four times as high in the lowest consumption quintile as in the highest. This difference was tested for statistical significance using a method that incorporated the error in prediction of poverty status[26] and was found to be very significant. The inverse trend was found in use of formal health cares by ill individuals from different consumption quintiles. The proportion of ill individuals consulting a formal health care provider from the highest consumption quintile is 15 percentage points higher than that of ill individuals from the lowest consumption quintile.

Traditional healers are providers of private health care, and patients are required to pay fees. While it is unclear that the fees charged by traditional healers are lower than fees charged by formal health care providers, the trend in the data shows a definite negative correlation between income and use of traditional healers. This trend may be explained

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[26] See Annex 2

by the difference in the in payment systems between formal and informal health care. A study conducted in 2000 estimated that 70 percent of hospital patients and 40 percent of dispensary patients find it difficult to make the payments required (as quoted in REPOA, 2004). While formal health care institutions allow lump-sum cash payment only, traditional practitioners also accept payment in kind and payment in instalments. As pointed out in a recent study conducted on behalf of REPOA "people's ability to pay is not only determined by treatment costs but also depends on inflexible payment modalities" (REPOA, 2004).

Table 32: Use of Traditional Healers by Poverty Status

	Proportion of Ill Individuals Consulting a Traditional Healer	Proportion of Ill Individuals Consulting a Formal Health Care Provider
Rural Shinyanga Region	7.6	82.1
Poverty Status		
Non-poor	5.7	84.8
Poor	10.9	77.6
Consumption Quintile		
Lowest	11.7	75.4
2	10.3	80.0
3	6.6	80.6
4	8.3	77.9
Highest	3.7	90.4

As can be seen from Table 33, the dissatisfaction rate among patients of traditional healers is 37 percent which is slightly higher than the rural regional average dissatisfaction rate among patients of formal health care providers. Table 28 shows that this is also the second highest dissatisfaction rate after users of private hospitals, 44 percent of whom made a complaint. The dissatisfied patients of traditional healers expressed a noticeably different set of complaints compared to users of formal health facilities. Among users of formal health facilities cost and availability of medication were the most commonly cited complaints (Table 33). For clients of traditional practitioners cost remains a prominent issue, cited by 42 percent of the users. However, the majority of dissatisfied patients of traditional healers complained about the low success rate of the treatment received. In fact, the proportion of dissatisfied formal health facility users complaining about unsuccessful treatment was half that among dissatisfied users of traditional healers at 24 and 55 percent respectively. While among formal health facility users there is a relatively equal distribution of complaints across the categories, users of traditional healers are mainly dissatisfied due to cost and unsuccessful treatment; all other issues were cited by no more than 10 percent of dissatisfied users.

Table 33: Reasons for Dissatisfaction with Service Received from Traditional Practitioners

	Dissatisfaction Rate Among Patients of Traditional Healers	Dissatisfaction Rate Among Patients of Formal Health Care Providers
Dissatisfaction Rate	36.7	31.4
Reasons for Dissatisfaction		
Hygiene	10.3	30.7
Long wait	6.0	33.5
Shortage of trained professionals	5.7	35.9
Cost	41.9	44.6
No drugs available	4.2	42.3
Unsuccessful treatment	55.3	24.0
Lack of supplies	9.0	31.2

The most commonly experienced illnesses across the region are fever/malaria, diarrhoea and ear, nose and throat (ENT) infections (Table 26). Although fever/malaria, diarrhoea and ENT are common ailments among patients of traditional healers, also widespread are patients suffering from chronic conditions (Table 34). While less than one out of ten patients of formal health care providers suffers from chronic conditions, more than one in four patients of traditional healers (28 percent) are thus afflicted. This result suggests that use of traditional healers is widespread among those suffering from recurrent illness. This trend is supported by the findings of a survey of 317 traditional healers conducted in the Kagera Region in 1993 as part of the Kagera Health Development Survey. Results of this survey shows that 86 percent of the interviewed traditional practitioners had treated patients who had already obtained treatment in a formal health facility; a further 91 percent of these individuals considered unsuccessful treatment to be the main reason why people turned from modern to traditional medicine. The results of the Rural Shinyanga CWIQ, therefore, suggest that individuals with chronic conditions are likely to turn to traditional medicine after consulting formal health providers and receiving no cure. This pattern also explains why the proportion of individuals citing unsuccessful treatment as a reason for dissatisfaction among patients of traditional healers is so much higher than the rural regional average.

Table 34: Distribution of Illnesses Reported by Patients of Traditional Healers

	Distribution of Patients of Traditional Healers by Illness	Distribution of Patients of Formal Health Care Providers by Illness
Fever/Malaria	43.1	70.9
Diarrhoea	15.5	19.2
Accident	1.5	1.7
Teeth	0.7	1.0
Skin condition	12.4	3.5
Eye problems	3.4	2.0
Ear, Nose, Throat (ENT)	12.5	13.9
Chronic condition	27.8	8.2

The majority of patients of traditional healers are of working age; 61 percent of those who had consulted a traditional healer in the month preceding the survey were between the ages of 15 and 64. Although, these individuals make up nearly 50 percent of the population in Rural Shinyanga (Ch 3), they only make up a quarter of all those who had consulted a health provider in the four weeks preceding the survey (Table 35). In contrast, while children under the age of five make up just over a tenth of the patients of traditional healers, they constitute nearly 60 percent of all health facility users.

Table 35: Use of Traditional Healers by Age

Age	Distribution of Patients of Traditional Healers by Age	Distribution of All Individuals Who had Consulted a Health Provider (formal or informal) by Age
0 to 4	10.6	57.9
5 to 9	8.8	9.0
10 to 14	7.8	5.9
15 to 29	24.2	10.0
30 to 49	23.2	10.9
50 to 64	13.2	3.8
65+	12.2	2.5

Increasing interest has been shown for enabling cooperation between formal health services and traditional practitioners. Throughout East Africa efforts are expanded towards capacity building among traditional healers. In Shinyanga Region, such work is being carried out by, among others, the Evangelical Lutheran Church of Tanzania as part of the Kagera Zonal AIDS Control Programme. Here traditional healers and traditional birth attendants are being trained to correctly handle, educate and treat HIV/AIDS infected patients. Despite the low levels of basic medical knowledge, as well as severe lack of basic medical equipment found among traditional practitioners of Kagera region in 1993, trends in use of traditional healers show that they often have access to those least catered for by the formal health system: poorer groups in the population, residents of rural areas that have low levels of access to formal health facilities, and those in need of repetitive treatment.

Map 7

**Percentage of Households that are
Located within 30 Minutes of Travel
from the Nearest Health Facility:**

Bariadi
24 %

Maswa
31 %

Meatu
20 %

Bukombe
48 %

Shinyanga R
22 %

Kishapu
31 %

Kahama
28 %

Percent
20 - 24
25 - 29
30 - 34
35 - 39
40 - 44
45 - 49
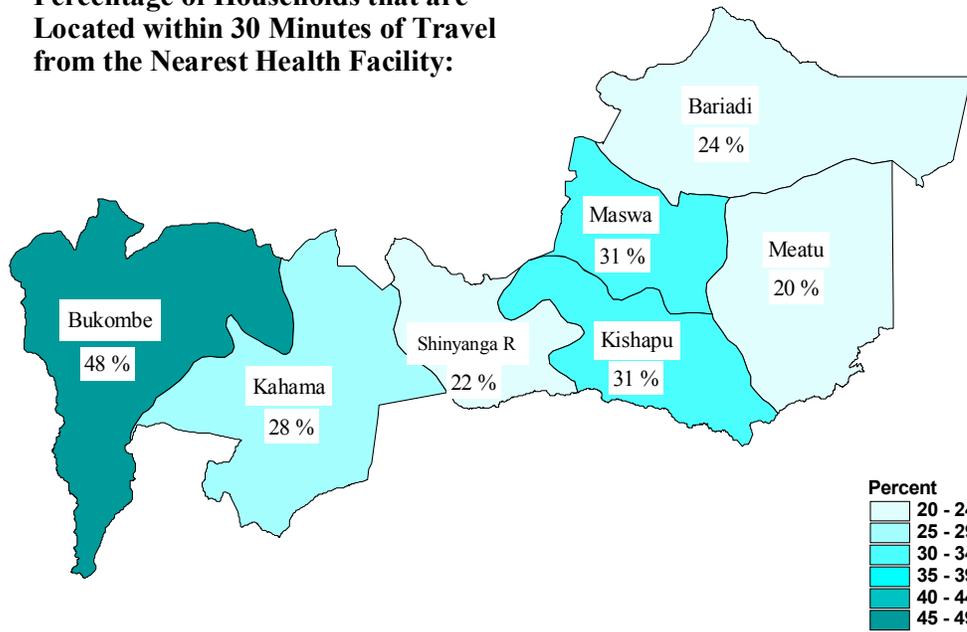
6   CHILD DELIVERY AND NUTRITION

6.1   Introduction

Several related topics are examined in this chapter. In the first part, women who had given birth in the year preceding the survey are focused on; birth rates in different age groups, as well as rates of prenatal care use are analysed by selected household characteristics. The focus is then shifted onto type of facilities used in child delivery. The second part of the chapter concerns the nutritional status of children under the age of five; various potentially related household and individual characteristics of these children are examined in relation to their nutritional status.

6.2   Reproductive Health

The majority of women in Rural Shinyanga give birth between the ages of 20 and 34; in the year preceding the survey 80 percent of all live-births were reported by women in this age group (Table 36). Nearly a third of all new mothers (32 percent) were between the ages of 25 and 29. Teenage mothers were as widespread as mothers in the 35 to 40 age group, making up 8 percent of new mothers in the region. Almost all the women who had had a live-birth in the year preceding the survey had received pre-natal care (98 percent).

While the age distribution of new mothers in rural areas is similar to that of the whole surveyed area, a different trend was found in peri-urban areas. Here live-births were less common among the older women; only a fifth of the new mothers in peri-urban areas were over the age of 30, compared to 36 percent in rural areas. It appears that this difference is reflecting the tendency of women in peri-urban areas to have fewer children than women in rural areas, and hence to stop having children at a younger age. This is especially likely to be the explanation of the difference between age distributions of new mothers in peri-urban and rural areas as households in peri-urban areas have, on average, 1.4 fewer members than households in rural areas (Table 9, Chapter 3). All new mothers in peri-urban areas and 97 percent of new mothers in rural areas had received pre-natal care.

Teenage mothers were found to be most widespread in Shinyanga Rural, Meatu and Kahama districts; roughly one in ten live infants in these districts were delivered by women under the age of 20. In contrast, this was the case for only 3 percent of live-births in Bukombe. Meatu is also the district where nearly one in four new mothers was over the age 35 compared to under 10 percent in Maswa and Kahama and the 12 percent rural regional average. In all the districts, with the exception of Meatu, at least three out of five new mothers were in their 20's. In Meatu, on the other hand, where households tend to be substantially larger than in the other six surveyed districts (Table 9, Chapter 3), the

age distribution of new mothers was most equal. This trend indicates that women here tend to start having children at an earlier age than average and continue until a later age than average. Lowest rates of pre-natal care (97 percent) were found in Kahama, Meatu, Bariadi and Kahama districts.

Women from poor households were found to have a more even age distribution of new mothers than women from non-poor households. Again this is in line with expectations as poor households tend to be substantially larger than non-poor households. Hence, while nearly two out of three (64 percent) new mothers from non-poor households were in their 20's, this was the case for 54 percent of women from poor households. In contrast, the proportion of new mothers in their late 30's was twice as high among new mothers from poor households as that from non-poor households. 98 percent of live-births in both poor and non-poor households were preceded by pre-natal care.

The majority of women who had given birth in the year preceding the survey had been between the ages of 20 and 29 with the exception of new mothers from households headed by employees of the public/parastatal and private formal sectors. In fact, nearly 30 percent of new mothers from the public/parastatal group and 20 percent from the private formal group were under the age of 20, compared to only 2 percent of new mothers from the non-agricultural self-employed group. However, because the sample size of women in public/parastatal and private formal groups is small, the differences between the age distributions of new mothers in these and other groups are not statistically significant.[27] In the rest of the groups the lowest proportion of new mothers over the age of 35 was found among new mothers from households headed by the self-employed in non-agricultural sector at 2 percent compared to 23 percent among new mothers from the private informal group. In contrast, over half (57 percent) of new mothers in the former group were in their early 20's compared to only a quarter in the latter group. The age distribution of new mothers from the self employed agricultural group is similar to the rural regional trend. In the majority of socio-economic groups all the women who had a live-birth in the year preceding the survey had received pre-natal care.

Table 36: 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 34	35 to 39	40+	Pre-natal care
Rural Shinyanga Region	5,717	21,604	24,586	16,131	6,360	3,128	75,845
	7.4	27.9	31.7	20.8	8.2	4.0	97.8
Rural	4,574	17,096	18,670	14,364	5,682	2,569	61,274
	7.3	27.2	29.7	22.8	9.0	4.1	97.3
Peri-urban	1,144	4,508	5,916	1,767	678	559	14,571
	7.8	30.9	40.6	12.1	4.6	3.8	100.0

[27] The standard errors are 19 and 15 percent respectively rendering the results not robust.

	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40+	Pre-natal care
District							
Kishapu	709	4,085	3,652	2,613	1,464	172	12,504
	5.6	32.2	28.8	20.6	11.5	1.4	98.5
Shinyanga Rural	937	1,771	2,718	1,467	611	237	7,544
	12.1	22.9	35.1	18.9	7.9	3.1	97.5
Maswa	581	2,282	3,693	1,944	252	458	9,130
	6.3	24.8	40.1	21.1	2.7	5.0	99.1
Meatu	722	1,055	2,022	1,770	1,396	346	7,109
	9.9	14.4	27.7	24.2	19.1	4.7	97.2
Bariadi	776	3,277	4,748	2,517	1,481	942	13,364
	5.6	23.8	34.6	18.3	10.8	6.9	97.3
Bukombe	339	3,937	3,971	2,169	488	870	11,566
	2.9	33.4	33.7	18.4	4.1	7.4	98.2
Kahama	1,654	5,197	3,783	3,652	668	104	14,629
	11.0	34.5	25.1	24.3	4.4	0.7	97.2
Poverty							
Non-poor	3,440	13,816	14,863	8,841	2,541	1,422	44,041
	7.7	30.8	33.1	19.7	5.7	3.2	98.0
Poor	2,277	7,788	9,723	7,289	3,819	1,706	31,804
	7.0	23.9	29a8	22.4	11.7	5.2	97.6
Socio-economic group							
Public/Parastatal	614	134	759	267	319	0	2,093
	29.4	6.4	36.3	12.7	15.2	0.0	100.0
Private Formal	717	895	669	918	257	145	3,599
	19.9	24.9	18.6	25.5	7.1	4.0	100.0
Private Informal	631	2,015	2,186	1,215	788	877	7,495
	8.2	26.1	28.3	15.8	10.2	11.4	97.2
Self-other	127	2,964	819	1,201	123	0	5,235
	2.4	56.6	15.7	22.9	2.4	0.0	100.0
Self-agriculture	2,926	13,970	18,885	11,978	4,420	1,964	52,678
	5.4	25.8	34.9	22.1	8.2	3.6	97.3
Unemployed	701	1,627	1,269	552	454	143	4,745
	14.8	34.3	26.7	11.6	9.6	3.0	100.0

6.3   Child Delivery

6.4   Facilities Used to Give Birth

Results of the survey show that the majority of women in Rural Shinyanga Region give birth in a health facility (Table 37). While across the region 54 percent of children born

in the five years preceding the survey were delivered in a hospital or maternity ward, this was not the trend found in rural areas, where over half (52 percent) of births took place at home. The proportion of home births in rural areas in nearly twice as high as that in peri-urban areas, where less than a quarter (22 percent) of children born in the last five years were delivered at home.

Home births are least common in Kishapu, Shinyanga Rural and Maswa districts; 80, 71 and 60 percent of children under the age of five were born in hospitals/maternity wards in these districts respectively. In contrast, in Meatu, Bukombe and Bariadi the proportions of children born at home exceeded the rural regional average by up to 16 percentage points at about 60 percent.

Use of health facilities in child birth is significantly more widespread in non-poor households compared to poor ones; less than half (46 percent) of children born in poor households in the last five years were delivered in a health facility compared to three out of five children in non-poor households.

Women from female headed households appear to be slightly more likely to give birth in a health facility than women from male headed households; in the last five years 60 percent of births in female headed households were conducted in a hospital/maternity ward compared to 53 percent in male headed households.

Less than a fifth of babies born in households headed by self-employed individuals in non-agricultural sectors, and those headed by employees of the public/parastatal sector were delivered at home, compared to 42 percent of mothers from households headed by employees of the informal private sector and 51 percent in the self-employed agriculture sector.

Table 37: Type of Facilities Used in Child Birth

	Hospital/Maternity ward	Home	Other	Share of population
Rural Shinyanga Region	212,791	180,111	1,851	394,753
	53.9	45.6	0.5	100.0
Rural	149,866	162,076	983	312,924
	47.9	51.8	0.3	79.3
Peri-urban	62,925	18,036	868	81,828
	76.9	22.0	1.1	20.7
District				
Kishapu	41,685	10,333	0	52,018
	80.1	19.9	0.0	13.2
Shinyanga Rural	30,096	12,144	0	42,240
	71.3	28.7	0.0	10.7
Maswa	27,966	18,503	0	46,469
	60.2	39.8	0.0	11.8
Meatu	13,669	22,311	60	36,040
	37.9	61.9	0.2	9.1

	Hospital/Maternity ward	Home	Other	Share of population
Bariadi	32,273	44,814	124	77,210
	41.8	58.0	0.2	19.6
Bukombe	25,017	37,378	916	63,312
	39.5	59.0	1.4	16.0
Kahama	42,085	34,628	751	77,464
	54.3	44.7	1.0	19.6
Poverty				
Non poor	133,828	86,477	1,356	221,660
	60.4	39.0	0.6	56.2
Poor	78,963	93,634	495	173,092
	45.6	54.1	0.3	43.8
Gender of household head				
Male	180,332	158,962	1,574	340,868
	52.9	46.6	0.5	86.3
Female	32,458	21,150	277	53,884
	60.2	39.2	0.5	13.7
Socio-economic group				
Public/Parastatal	12,979	2,379	0	15,358
	84.5	15.5	0.0	3.9
Private Formal	8,424	5,941	0	14,365
	58.6	41.4	0.0	3.6
Private Informal	18,912	13,900	175	32,987
	57.3	42.1	0.5	8.4
Self-other	26,392	5,888	868	33,148
	79.6	17.8	2.6	8.4
Self-agriculture	133,543	141,741	294	275,578
	48.5	51.4	0.1	69.8
Unemployed	12,541	10,263	514	23,318
	53.8	44.0	2.2	5.9

Delivery Assistance

In the last five years, the majority of women in Rural Shinyanga Region gave birth with the assistance of a nurse or a doctor. Nearly half of all the births (48 percent) in the specified time-period were conducted in the presence of a nurse. The second largest proportion of deliveries was supervised by traditional birth assistants (TBA's). TBA's were present at over a quarter (26 percent) of all births conducted in Rural Shinyanga in the last five years.

Traditional birth assistants are significantly more involved in child delivery in rural than peri-urban areas. While 30 percent of babies in rural areas were born with the help of a traditional birth assistant in the last five years, this was the case for only 9 percent in peri-urban areas. Further, the proportion of mothers in rural areas giving birth with other

assistance or by themselves was almost twice that in peri-urban areas at 13 and 7 percent respectively. On the other hand, the proportion of births conducted with the assistance of a nurse in peri-urban areas exceeds that in rural areas by 28 percentage points. Proportions of women assisted in giving birth by doctors or midwives did not vary much between rural and peri-urban areas.

Professional assistance in giving birth is most commonly sought in Kishapu and Shinyanga Rural districts; nearly three quarters (74 percent) of births in Kishapu and over two thirds (69 percent) of births in Shinyanga Rural were assisted by a doctor or nurse. These are also the districts where unassisted birth is least common; only 2 and 7 percent of women who had given birth in these two districts respectively in the last five years had done so unassisted or with an alternative source of help. In contrast, 18 percent of births in Bukombe and Bariadi were conducted in this way in the specified time period. Bukombe and Bariadi, alongside Meatu, are also the districts where medically trained professionals were consulted least often; in all these districts traditional birth assistants, midwives, alternative sources of help, and no assistance were used in the majority of births.

The proportions of mothers seeking the assistance of a doctor or nurse during child birth are higher among non-poor than poor households. Traditional birth assistants, on the other hand, are more widely used among women from poor households, who are also more likely to deliver children unassisted or with an alternative source of help than non-poor women. While nearly three out of five non-poor women who had given birth in the five years preceding the survey had sought the assistance of a doctor or a nurse, this is only true for just over two out of five women from poor households. In contrast, the proportion of births assisted by traditional birth assistants, alternative source of help, or unassisted among women from poor households is nearly 20 percentage points higher than that among women from non-poor households.

The assistance of a doctor is sought most by women from households headed by public/parastatal employees; 11 percent of women from this socio-economic group delivered under the supervision of a doctor in the last five years, compared to the rural regional average of 5 percent. Women from agricultural households tend to consult traditional birth assistants more often than women from other socio-economic groups. In the five years preceding the survey, 31 percent of women from households headed by individuals who are self-employed in agriculture had delivered with the assistance of a TBA; this is 5 percentage points higher than the rural regional average. The proportion of women giving birth with other assistance or by themselves is highest among women from households headed by individuals in the private informal sector or the unemployed, the rates in this group are more than twice the rural regional average at over 23 percent. Unassisted births and alternative assistance are also common among women from households headed by employees of the private formal sector; the proportion of unassisted/alternative assistance births in this category is 21 percent.

Table 38: 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
Rural Shinyanga Region	18,787	187,978	39,228	102,268	46,491	394,753
	4.8	47.6	9.9	25.9	11.8	100.0
Rural	13,790	131,215	32,518	94,803	40,598	312,924
	4.4	41.9	10.4	30.3	13.0	79.3
Peri-urban	4,998	56,764	6,710	7,464	5,893	81,828
	6.1	69.4	8.2	9.1	7.2	20.7
District						
Kishapu	3,473	35,026	3,974	8,592	954	52,018
	6.7	67.3	7.6	16.5	1.8	13.2
Shinyanga Rural	4,393	24,922	1,877	8,089	2,959	42,240
	10.4	59.0	4.4	19.2	7.0	10.7
Maswa	1,706	26,014	3,880	10,184	4,686	46,469
	3.7	56.0	8.3	21.9	10.1	11.8
Meatu	1,362	12,983	5,446	11,739	4,510	36,040
	3.8	36.0	15.1	32.6	12.5	9.1
Bariadi	1,483	28,337	7,343	26,250	13,798	77,210
	1.9	36.7	9.5	34.0	17.9	19.6
Bukombe	2,538	23,082	8,820	17,198	11,675	63,312
	4.0	36.5	13.9	27.2	18.4	16.0
Kahama	3,834	37,615	7,888	20,217	7,911	77,464
	4.9	48.6	10.2	26.1	10.2	19.6
Poverty						
Non poor	11,366	119,769	22,947	44,655	22,923	221,660
	5.1	54.0	10.4	20.1	10.3	56.2
Poor	7,421	68,209	16,281	57,613	23,569	173,092
	4.3	39.4	9.4	33.3	13.6	43.8
Gender of head of household						
Male	16,662	159,186	32,800	91,565	40,655	340,868
	4.9	46.7	9.6	26.9	11.9	86.3
Female	2,125	28,792	6,428	10,703	5,837	53,884
	3.9	53.4	11.9	19.9	10.8	13.7
Socio-economic group						
Public/Parastatal	1,709	10,247	1,437	1,630	335	15,358
	11.1	66.7	9.4	10.6	2.2	3.9
Private Formal	912	7,445	460	2,565	2,983	14,365
	6.3	51.8	3.2	17.9	20.8	3.6

	Doctor	Nurse	Midwife	T.B.A.	Other/Self	Share of population
Private Informal	1,933	14,999	1,640	6,476	7,939	32,987
	5.9	45.5	5.0	19.6	24.1	8.4
Self-other	1,214	25,186	3,745	1,794	1,209	33,148
	3.7	76.0	11.3	5.4	3.6	8.4
Self-agriculture	12,219	119,464	29,998	85,284	28,615	275,578
	4.4	43.4	10.9	30.9	10.4	69.8
Unemployed	801	10,638	1,949	4,519	5,411	23,318
	3.4	45.6	8.4	19.4	23.2	5.9

6.5 Child Nutrition

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

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

The level of malnutrition in a population is determined by comparing the weight and height measurements within the population of interest to those of a well nourished population. Children are considered malnourished if their weight and/or height measurements fall outside the distribution of weight and height measurements of the well nourished population. The reference population used, as recommended by the World Health Organisation (WHO), is that of the United States National Centre for Health Statistics (NCHS).[28]

Height-for-age is a measure of linear growth. A child who is below minus two standard deviations from the median of the reference population is considered to be too short for his/her age – stunted. A child is considered to be severely stunted if 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 is commonly associated with poor economic conditions and chronic or repeated infections.

Weight-for-height is a measure of body mass in relation to body height and is an indicator of immediate nutritional status. A child who is below minus two standard deviations from the median of the reference population is classed as too thin for his/her height – a condition called wasting. Wasting is an immediate indicator of acute malnutrition, 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

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[28] More specifically, the anthropometric calculations were conducted using 1978 CDC/WHO growth curves which are a normalised version of the 1977 NCHS reference curves.

amount expected according to the child's height. Wasting occurs as a result of inadequate intake of nutrients immediately preceding the survey. Therefore, wasting is not necessarily the result of insufficient food intake, but could also be, for instance, the result of recent severe illness. Occurrence of wasting is subject to seasonal variations.

Another measurement commonly used is weight-for-age. A child who is below minus two standard deviations from the median of the reference population is considered to be 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.

6.5.1   Malnutrition in Rural Shinyanga Region

The Rural Shinyanga CWIQ estimates the total population of children under five years old to be about 380,000. Table 39 shows that at the time of the survey 117,000 of these chirldren (31 percent) were stunted. 13 percent of all under fives in the region were found to be severely stunted. The rate of wasting was found to be lower at 6 percent or 21,000 children. At the time of the survey severe wasting was affecting 2,700 children (1 percent).

There were only small differences in stunting rates between rural and peri-urban areas. Long-term malnutrition is most widespread in Meatu where 35 percent of children are too short for their age. Short-time malnutrition is also more prevalent here than in most other districts with the exception of Bariadi, where nearly one in ten children (9 percent) is wasted. While severe stunting is more prevalent in Bukombe than any other district, wasting is least common here. Rates of malnutrition in Kahama, both short-term and long-term, are consistently below the rural regional average. Malnutrition levels in Maswa and Shinyanga Rural, on the other hand, do not differ substantially from the average.

Results of the survey further show that long-term malnutrition is more common among boys than among girls; 33 percent of male children under the age of five were found to be stunted, compared to 28 percent of females in the same age group. Similarly, while 12 percent of boys were severely stunted in the region, this was the case for 10 percent of girls. In contrast, at the time of the survey, a slightly higher proportion of girls than boys were wasted at 6 and 5 percent respectively. Severe wasting, however, was significantly more widespread among boys at 1.2 percent, which is four times as high as the rate of severe wasting among girls.

Stunting is a measure of long-term malnutrition, hence it is least prevalent among the youngest children in the population. While roughly 20 percent of 0 to 1 year old boys in the region were stunted at the time of the survey, this was the case for nearly twice as high a proportion of 1 to 2 and 3 to 4 year old boys. Among girls, highest rates of stunting were noted in the 1 to 2 year old and 3 to 4 year old groups. For both girls and boys these are also the ages at which severe stunting is most prevalent.

Unlike stunting, wasting appears to be more widespread among the younger children. One possible explanation for this trend is the higher vulnerability of infants to illness compared to toddlers. As wasting is a sign of acute short-term malnutrition, illness and other short-term factors such as temporary food shortage in the household may increase the rate of wasting to an especially noticeable degree among those most sensitive to these factors. Hence, at the time of the survey 12 percent of the 0 to 1 year old girls in the region were classed as wasted and only 2 percent of girls in the oldest age group. Among boys highest rates of wasting were observed at the slightly older age of 1 to 2 years, and the lowest, as in the instance of girls, in the highest age group.

Table 39: Stunting and Wasting Rates Among Children Under the Age of Five

	Stunted (-2 SD)	Severely stunted (-3 SD)	Wasted (-2 SD)	Severely wasted (-3 SD)	Share of population
Rural Shinyanga Region	116,622	41,532	21,446	2,753	379,161
	30.8	11.0	5.7	0.7	100.0
Rural	93,774	31,893	15,073	2,000	298,531
	31.4	10.7	5.0	0.7	78.7
Peri-urban	22,848	9,639	6,373	754	80,630
	28.3	12.0	7.9	0.9	21.3
District					
Kishapu	13,196	3,943	2,844	915	47,574
	27.7	8.3	6.0	1.9	12.5
Shinyanga R	13,027	4,668	2,236	81	40,263
	32.4	11.6	5.6	0.2	10.6
Maswa	14,134	5,266	2,576	198	45,114
	31.3	11.7	5.7	0.4	11.9
Meatu	12,097	3,689	2,219	370	34,449
	35.1	10.7	6.4	1.1	9.1
Bariadi	22,103	7,414	7,013	266	75,913
	29.1	9.8	9.2	0.4	20.0
Bukombe	19,389	8,596	1,849	649	61,773
	31.4	13.9	3.0	1.1	16.3
Kahama	22,676	7,956	2,709	274	74,074
	30.6	10.7	3.7	0.4	19.5
Gender and age in completed years					
Male					
Total	64,873	23,739	9,837	2,251	194,018
	33.4	12.2	5.1	1.2	100.0
0	7,847	1,970	2,161	751	36,819
	21.3	5.4	5.9	2.0	19.0
1	16,287	6,047	4,935	921	39,691
	41.0	15.2	12.4	2.3	20.5

	Stunted (-2 SD)	Severely stunted (-3 SD)	Wasted (-2 SD)	Severely wasted (-3 SD)	Share of population
2	15,385	6,624	1,791	462	40,907
	37.6	16.2	4.4	1.1	21.1
3	17,447	7,070	639	117	46,061
	37.9	15.3	1.4	0.3	23.7
4	7,906	2,028	310	0	30,285
	26.1	6.7	1.0	0.0	15.6
Female					
Total	51,749	17,793	11,609	502	185,143
	28.0	9.6	6.3	0.3	100.0
0	3,473	784	4,405	218	38,244
	9.1	2.0	11.5	0.6	20.7
1	14,855	6,078	4,190	215	38,873
	38.2	15.6	10.8	0.6	21.0
2	11,167	3,642	1,290	68	37,078
	30.1	9.8	3.5	0.2	20.0
3	11,799	4,444	843	0	37,058
	31.8	12.0	2.3	0.0	20.0
4	10,187	2,770	689	0	33,212
	30.7	8.3	2.1	0.0	17.9

6.5.2   Nutritional Status of Children by Selected Characteristics of Mothers

The decisions made concerning the welfare of a child are a crucial determinant of the health and nutritional status of the child. Such decisions are likely to be influenced by factors such as education and age of the decision maker. In most cases this decision maker is the child's mother; it is, hence, important to look at selected characteristics of mothers of malnourished children.

Analysis of the results of the survey shows that whether a child is living with her/his mother has no significant impact on his/her nutritional status. Table 40 shows that proportions of stunted, severely stunted and severely wasted children are higher among children who are not living with their mothers. The proportion of wasted children is strangely lower in motherless households. None of these difference are, however, statistically significant; therefore, these trends are likely to reflect the specific characteristics of the sample. This is different from the trends found in the Kagera region, where long-term malnutrition was significantly more widespread among children living without their mothers than those living in the same households as their mothers (Rural Kagera CWIQ, 2004). This may be the reflection of the fact that households in Kagera bear a higher orphan burden than those in Shinyanga.[29]

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[29] Kagera is a region with high HIV/AIDS prevalence. Consequently orphans are more widespread here than in other parts of the country. It is hence likely that the community here is less able to look after its orphans.

Education of mothers appears to have some impact on the nutritional status of children. Rates of malnourishment among children of educated mothers tend to be lower than those of children whose mothers have no formal education. For instance, while 29 percent of children from the former group were stunted, this was the case for 33 percent of in the latter group. Again these differences are not statistically significant indicating that the relationship between education of the mother and nutritional status of the child may be characteristic of the sample only rather than the whole population.

No such trend is observable in the instance of children suffering from short-term malnutrition, however. In fact, rates of wasting and severe wasting among children of mothers with some formal education slightly exceed those of mothers with no formal education. The difference are very slight, however, and not statistically significant.

Results of the survey further suggest that malnutrition is slightly more common among children of younger mothers; roughly one in three children of women in their twenties was found to be stunted, compared to one in four children of women in their forties. These results must be treated with caution, however, as the differences between the groups were not found to be significant. The sample size of wasted children is too small for this level of data disaggregation, hence only the stunting rates are included.

Table 40: 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
Rural Shinyanga Region	105,261	38,301	20,523	2,498	346,417
	30.4	11.1	5.9	0.7	100.0
Presence of Mother					
Present	103,470	36,918	19,894	2,444	342,368
	30.2	10.8	5.8	0.7	90.5
Absent	12,883	4,538	1,360	309	35,859
	35.9	12.7	3.8	0.9	9.5
Formal Education					
Some	65,144	23,312	14,322	2,067	223,601
	29.1	10.4	6.4	0.9	64.5
None	40,116	14,989	6,202	431	122,817
	32.7	12.2	5.0	0.3	35.5
Age of mother					
Teen-age	5,291	1,763	-	-	17,282
	30.2	10.1	-	-	5.1
20 - 29	58,348	23,248	-	-	182,216
	31.7	12.6	-	-	53.3
30 - 39	34,379	10,952	-	-	113,414
	29.9	9.5	-	-	33.2
40+	7,243	2,337	-	-	29,186
	24.3	7.8	-	-	8.5

6.5.3 Nutritional Status of Children by Selected Household Characteristics

Results of the survey further suggest that the nutritional status of children is also affected by some household characteristics. Stunting rates vary most substantially by household socio-economic group and slightly by household poverty status; gender of the household head was not found to have any substantial impact.

As can be seen from Table 41, poverty status of the household has some impact on rates of long-term but not short-term malnutrition. The proportion of stunted children under the age of five is 5 percentage points higher in poor households than in non-poor at 34 and 29 percent respectively. Severely stunted children also appear to be slightly more widespread in poor compared to non-poor households. Rates of wasting, on the other

hand, do not differ by more than 1 percentage point between poor and non-poor households,

Although a slightly higher proportion of children under the age of five were stunted in female than male headed households, this difference is not observable in rates of severe stunting or wasting; it is also not statistically significant.

Disaggregation of child nutrition rates by soci-economic group of the household reveals the most substantial differences. For instance, rates of stunting are more than twice as high in households headed by employees of the private formal sector than those from the public/parastatal group at 45 and 22 percent respectively; stunting rates in the former group are also higher than those in the rest of the socio-economic groups, while in the latter they are lowest. In the rest of the groups stunted children made up roughly 30 percent of all children in the 0 to 5 age group. Overall, long-term malnutrition was significantly less common in households headed by public/parastatal employees than in households from the other socio-economic groups.

Severe stunting was least common among children from households headed by unemployed individuals and those employed in the public/parastatal sector at 6 and 9 percent of the 0 to 5 year olds in the respective groups. In contrast, nearly one in five children (18 percent) from the private formal group were suffering from sever long-term malnutrition.

Table 41: 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
Rural Shinyanga Region	116,622	41,532	21,446	2,753	379,161
	30.8	11.0	5.7	0.7	100.0
Poverty					
Non-poor	61,936	22,229	13,344	1,675	215,993
	28.7	10.3	6.2	0.8	57.0
Poor	54,685	19,303	8,102	1,078	163,167
	33.5	11.8	5.0	0.7	43.0
Gender of head of household					
Male	99,788	36,146	18,274	2,480	327,446
	30.5	11.0	5.6	0.8	86.4
Female	16,833	5,386	3,172	274	51,715
	32.6	10.4	6.1	0.5	13.6
Socio-economic group					
Public/Parastatal	3,268	1,292	-	-	15,006
	21.8	8.6	-	-	4.0
Private Formal	6,381	2,572	-	-	14,255

	Stunted (-2 SD)	Severely stunted (-3 SD)	Wasted (-2 SD)	Severely wasted (-3 SD)	Share of population
	44.8	18.0	-	-	3.8
Private Informal	9,469	3,410	-	-	30,938
	30.6	11.0	-	-	8.2
Self-other	9,528	4,250	-	-	32,443
	29.4	13.1	-	-	8.6
Self-agriculture	81,645	28,740	-	-	264,869
	30.8	10.9	-	-	69.9
Unemployed	6,332	1,269	-	-	21,650
	29.2	5.9	-	-	5.7

6.6 Characteristics of Malnourished Children

To conclude, the relationship between the nutritional status of children and some additional, potentially related household and individual characteristics is briefly examined.

Food Need

The first one of such characteristics is the incidence of food need in households with children under the age of five. As can be seen from Table 42, stunting is significantly more widespread among children from households where food need is always a problem compared to children from households where this is never or rarely an issue; stunting rates in these two groups are 62 and 26 percent respectively. In fact, the stunting rate among households with no food security is twice the rural regional average. Incidence of severe stunting and wasting is also higher among children from households where food shortages occur often than those from households that experience no difficulty with food supply; these differences, however, were not found to be statistically significant.

Meat Consumption

As part of the survey, households were asked how often meat was consumed per week. In order to analyse the effects of meat consumption on the nutritional status of children, households were split into two categories: households where meat was consumed less than twice a week, and those where it was consumed at least twice a week.

Results show that meat consumption has a significant positive impact on the nutritional status of children in the long term. The rate of stunting among children from households where meat is consumed at least twice a week is 5 percentage points lower than among children from households where meat is rarely consumed at 27 and 32 percent of the respective populations of 0 to 5 year olds. No statistically significant relationship was found between rate of meat consumption and severe stunting or wasting rates. As stunting is indicative of long-term insufficiency of nutrient intake, it is not surprising that meat consumption has a significant impact on this variable.

Access to Health Facilities

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

Results of the survey show that access to health services does not have a noticeable impact on long-term nutritional status of the child. In the short-term, however, a significantly higher proportion of children are wasted in households that have no access to health facilities at 6 percent, compared to 4 percent among children from households that are located in close vicinity of a health facility[30].

Health Status

As expected recent illness has no impact on rates of long-term malnutrition, but is a significant factor in incidence of shorter-term malnutrition. Among children who had suffered from recent illness, 9 percent were wasted and 2 percent were severely wasted at the time of the survey. While these rates exceed the rural regional average by 3 and 1 percentage points respectively, comparison of the same rates to children who had not been ill in the four weeks preceding the survey shows more substantial and significant differences. The proportion of wasted children in this group is just over half that among the recently ill at 5 percent; severe wasting here affects four times as small a proportion of children at 0.4 percent.

Although a slight upward bias is noticeable in stunting rates among children with a history of recent illness, and especially in rates of severe stunting, the differences between this group and those who had not been ill are not statistically significant.

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[30] This result is significant at a 10 percent level

Table 42: 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
Rural Shinyanga Region	116,622	41,532	21,446	2,753	379,161
	30.8	11.0	5.7	0.7	100.0
Food need					
Always	4,499	2,314	407	0	7,299
	61.6	31.7	5.6	0.0	1.9
Often	62,852	20,905	10,048	1,259	196,718
	32.0	10.6	5.1	0.6	51.9
Sometimes	4,267	821	1,818	351	15,695
	27.2	5.2	11.6	2.2	4.1
Seldom	36,034	14,794	8,174	1,143	125,018
	28.8	11.8	6.5	0.9	33.0
Never	8,970	2,698	999	0	34,431
	26.1	7.8	2.9	0.0	9.1
Consumption of meat per week					
None	93,563	31,414	13,354	1,721	292,704
	32.0	10.7	4.6	0.6	77.4
Some	22,790	10,042	7,900	1,032	85,523
	26.6	11.7	9.2	1.2	22.6
Access to health facilities					
Yes	85,128	29,667	4.314	2,232	272,036
	31.3	10.9	4.0	0.8	71.7
No	31,493	11,865	17,132	521	107,124
	29.4	11.1	6.3	0.5	28.3
Recent illness					
Yes	31,169	13,818	8,615	1,585	100,616
	31.0	13.7	8.6	1.6	26.5
No	85,452	27,714	12,831	1,168	278,545
	30.7	9.9	4.6	0.4	73.5

Map 8

**Percentage of Women Giving Birth
in a Hospital/Maternity Ward:**

Bariadi
42 %

Maswa
60 %

Meatu
38 %

Bukombe
40 %

Shinyanga R
71 %

Kishapu
80 %

Kahama
54 %

Percent

	30 - 39
	40 - 49
	50 - 59
	60 - 69
	70 - 79
	80 - 89
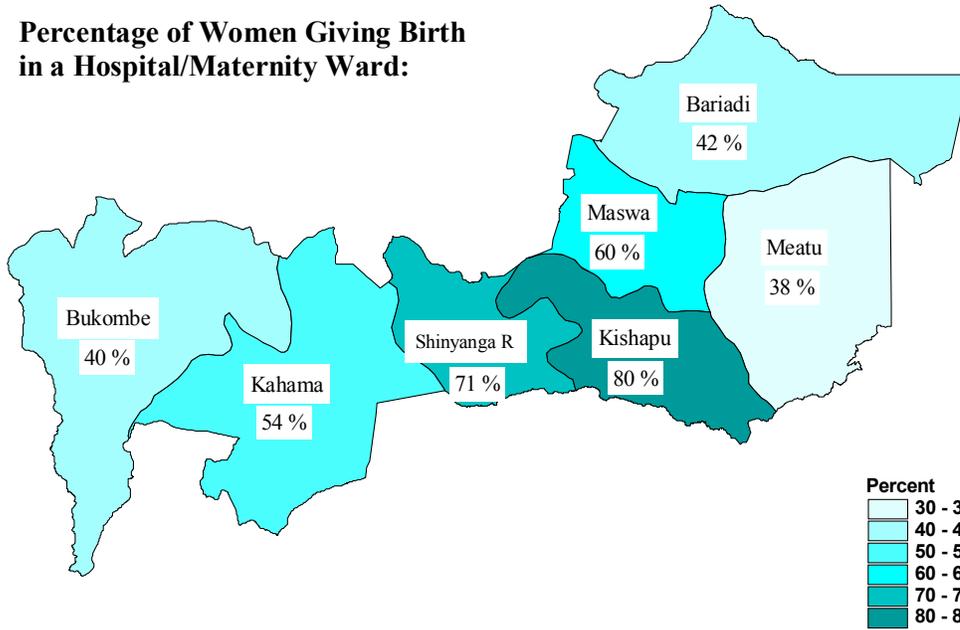
7 EMPLOYMENT

7.1 Introduction

The first part of this chapter focuses on the employment status of the whole population over the age of 14. Throughout this chapter they will simply be referred to as the *adult* population. The next part of the chapter looks at the type of employment, employment sector and occupation of the working adults; the economically inactive subgroup of the adult population is examined in the concluding section.

7.2 Employment status

The adult population of Rural Shinyanga is categorised into two main groups: working and non-working. The working population includes all adults who had engaged in any type of work in the week preceding the survey. Within the working population, a distinction is made between those employed to capacity and those who are underemployed. The underemployed are those individuals who were looking for additional work in the week preceding the survey and/or who were ready to take on additional work in the four week period after the survey. Those employed to capacity, on the other hand, had expressed no interest in additional work prior to, or at the time of the survey.

The non-working population consists of individuals who had not engaged in any type of work in the week preceding the survey. This group is further subdivided into those whose are unemployed and those who are economically inactive. While the unemployed are individuals who had not engaged in any work in the four weeks preceding the survey, but had been looking for work, the economically inactive not only had not engaged in any work in the week preceding the survey, but also had not been looking for work in the four weeks preceding the survey.

7.2.1 Working Population

At the time of the survey, 84 percent of adults in Rural Shinyanga were working (Table 43). The proportion of rural population engaged in some type of work exceeded that in peri-urban areas by 5 percentage points, at 85 and 80 percent respectively. Although this is not a large difference, it is statistically significant; this trend is, therefore, characteristic of the population rather than just the given sample. Such a pattern may be explained by the fact that individuals in peri-urban areas are more dependent on the job-market for employment than those in rural areas, where agricultural activity provides a secure employment option.

Little variation is noticeable in employment rates across districts. At the time of the survey, employment rate was highest in Shinyanga Rural district; 88 percent of adults were working here at the time of the survey. The lowest employment rate was recorded in Kishapu, where 82 percent of adults were working at the time of the survey. In the other five districts employment rates varied between 83 and 85 percent. Interestingly, even though variation in employment rates across the districts does not exceed 6 percentage points, the difference between the employment rate in Shinyanga Rural district and the rest of the districts is statistically significant[31]; in other words, the rate of employment in Shinyanga Rural is significantly higher than those in the rest of the surveyed districts.

A slightly lower proportion of individuals from poor households were employed at the time of the survey compared to non-poor. The same difference was also found between employment rates of men and women. Among women and individuals from poor households 83 percent were working at the time of the survey, compared to 85 percent of men and individuals from non-poor households.

Disaggregation of the data by age and gender shows that employment rate among men peaks between the ages of 30 and 49; nearly everyone (98 percent) in this age group was employed at the time of the survey. Employment rate among women also peaks in this age group; the proportion of working women between the ages of 30 and 49 is, however, slightly lower at 93 percent. Women appear to commence employment at an earlier age than men; 82 percent of the females are employed in the 15 to 29 age group, compared to only 74 percent of the males. In contrast, men tend to work until a more advanced age than women; while only 39 percent of elderly females (65+) were working, this was the case for the majority (59 percent) of men in the age group.

Nearly one out of five adults in Rural Shinyanga was underemployed at the time of the survey in both rural and peri-urban areas. The highest proportion of individuals seeking additional work was found in Kahama, Bukombe and Shinyanga Rural districts at 21 percent; in Bariadi this was the case for only 15 percent of the adults.

Not only does the employment rate among individuals from non-poor households exceed that for members of poor households, the proportion of adults seeking additional employment in the former group is also higher than in the latter.

Underemployment is noticeably more widespread among men compared to women. While one in four men was seeking additional work at the time of the survey, this was only the case for just over one in ten (13 percent) women in the region. In the instance of both men and women underemployment peaked in the 30 to 49 age group; the lowest proportion of working men and women seeking additional employment was found among the oldest group in the population (65+).

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[31] At a 10 percent level

Overall, roughly two out of three adults (65 percent) in Rural Shinyanga are employed to capacity. In peri-urban areas this proportion is slightly smaller at 61 percent. The level of variation in rates of employment to capacity across the surveyed districts did not exceed 10 percentage points. The lowest proportion of fully employed adults was found in Bukombe and the highest in Meatu. Proportions of fully employed adults in poor and non-poor households were almost equal. Full employment was most common among women in the 30 to 49 age group and men in the 50 to 64 age groups.

7.2.2   Non-Working Population

At the time of the survey, non-working adults constituted 16 percent of the adult population (Table 43). The majority of individuals in this group were economically inactive; only 0.4 percent of the population were not working but looking for work - the rest were not employed and not looking for work. Both economic inactivity and unemployment were slightly more widespread among residents of peri-urban areas than those in rural areas.

The highest proportion of unemployed individuals was found in Kishapu district, where nearly 2 percent of the adult population was looking for work. Alongside Bukombe, this is also the district where the highest rate of economic inactivity was found (17 percent). The non-working populations of Maswa, Meatu, Bariadi and Bukombe consisted entirely of economically inactive individuals. Overall, the largest share of non-working adults was found in Kahama (22 percent) and the lowest in Meatu (9 percent).

17 percent of adults in poor households were economically inactive, compared to 15 percent in non-poor households.

One in four men between the ages of 15 and 29 was found to be economically inactive and two fifths of men in the 65+ group. Men between the ages of 15 and 29 constituted the only group in which some of the non-working individuals were looking for work. Among women economic inactivity was also highest in the 65+ age group; the second biggest proportion of economically inactive women, however, consisted of 50 to 64 year-olds. Rates of unemployment among women were negligible with an average of 0.3 percent.

Table 43: Distribution of the Population by Employment Status

	Working			Not working			
	Employed to capacity	Under-employed	Total	Economi-cally inactive	Unemployed	Total	Share of population
Rural Shinyanga Region	829,054	239,831	1,068,884	199,018	4,597	203,615	1,272,499
	65.2	18.8	84.0	15.6	0.4	16.0	100.0
Rural	620,920	175,071	795,991	135,010	1,135	136,145	932,136
	66.6	18.8	85.4	14.5	0.1	14.6	73.3
Peri-urban	208,134	64,760	272,893	64,008	3,462	67,470	340,363
	61.2	19.0	80.2	18.8	1.0	19.8	26.7
District							
Kishapu	105,914	30,495	136,410	28,063	2,619	30,682	167,092
	63.4	18.3	81.7	16.8	1.6	18.4	13.1
Shinyanga Rural	98,478	31,546	130,024	18,163	385	18,548	148,572
	66.3	21.2	87.5	12.2	0.3	12.5	11.7
Maswa	93,105	29,097	122,202	24,111	0	24,111	146,313
	63.6	19.9	83.5	16.5	0.0	16.5	11.5
Meatu	79,196	19,267	98,462	17,884	0	17,884	116,346
	68.1	16.6	84.7	15.4	0.0	15.4	9.1
Bariadi	168,292	36,213	204,505	38,762	0	38,762	243,267
	69.2	14.9	84.1	15.9	0.0	15.9	19.1
Bukombe	107,273	36,418	143,691	30,341	0	30,341	174,032
	61.6	20.9	82.5	17.4	0.0	17.4	13.7
Kahama	176,796	56,794	233,590	41,694	1,593	43,287	276,877
	63.9	20.5	84.4	15.1	0.6	15.7	21.8
Poverty							
Non-poor	499,852	157,104	656,956	114,939	3,483	118,421	775,377
	64.5	20.3	84.8	14.8	0.4	15.2	60.9
Poor	329,202	82,726	411,929	84,079	1,114	85,194	497,123
	66.2	16.6	82.8	16.9	0.2	17.1	39.1
Gender and Age **Male**							
Total	372,199	155,348	527,546	92,328	2,845	95,173	622,719
	59.8	24.9	84.7	14.8	0.5	15.3	100.0
15 to 29	144,151	57,328	201,479	67,598	2,845	70,443	271,922
	53.0	21.1	74.1	24.9	1.0	25.9	43.7
30 to 49	155,316	78,617	233,933	4,973	0	4,973	238,905
	65.0	32.9	97.9	2.1	0.0	2.1	38.4
50 to 64	54,247	16,478	70,726	4,971	0	4,971	75,696
	71.7	21.8	93.5	6.6	0.0	6.6	12.2

	Working			Not working			
	Employed to capacity	Under-employed	Total	Economi-cally inactive	Unemployed	Total	Share of population
65+	18,485	2,925	21,409	14,786	0	14,786	36,196
	51.1	8.1	59.2	40.9	0.0	40.9	5.8
Female							
Total	456,855	84,483	541,338	106,690	1,752	108,442	649,781
	70.3	13.0	83.3	16.4	0.3	16.7	100.0
15 to 29	226,806	40,274	267,079	58,427	1,547	59,974	327,054
	69.3	12.3	81.6	17.9	0.5	18.4	50.3
30 to 49	170,574	38,961	209,535	15,728	0	15,728	225,263
	75.7	17.3	93.0	7.0	0.0	7.0	34.7
50 to 64	47,870	4,609	52,479	13,171	0	13,171	65,650
	72.9	7.0	79.9	20.1	0.0	20.1	10.1
65+	11,605	639	12,245	19,365	205	19,569	31,814
	36.5	2.0	38.5	60.9	0.6	61.5	4.9

7.3 Type of Employment

Employed individuals in Rural Shinyanga tend to be paid for their work in one of the following ways: *wage/salary, hourly/daily payments, unpaid (contributing worker)* and *self (self-employed)*. Depending on the specific mode of payment individuals in the working population are respectively classed as *regular employee, casual employee, unpaid worker* and *self-employed.*

Results of the survey show that the great majority of working adults are self-employed; only 10 percent of employed individuals are not in this category (Table 44). As the surveyed areas are predominantly rural, most individuals are occupied in the industry of agriculture which mainly consists of self-employed participants. The results further show that the majority of those who are not self-employed are casual employees. Regular employees comprise the rest of the employed population.[32]

Self-employment is slightly more widespread in rural areas at 91 percent of the working population, compared to 86 percent in peri-urban areas. Rural areas are also characterised by nearly twice as high a proportion of casual employees as peri-urban areas at 7 and 4 percent respectively. To a large extent this is due to the tendency for seasonal farm helpers to be paid on an hourly/daily basis. In contrast, the proportion of regular employees in peri-urban areas is 7 times as high as that in rural areas.

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[32] Unpaid workers make up a negligible proportion (0.3 percent) of the working population

The prevalence of self-employment is consistent throughout the surveyed districts. While Maswa has the lowest proportion of self-employed individuals, they still make up 86 percent of the working population. Regular employment is most common in Kishapu, Maswa, and Kahama districts; between 5 and 6 percent of the working population are regular employees in these three districts. The working population of Maswa district, alongside Shinyanga Rural and Meatu, is also characterised by an above average proportion of casual employees. Unpaid workers make up no more than 1 percent of the working populations of all the districts.

Rates of self-employment do not appear to be correlated with household poverty status. However, a noticeable difference does exist between proportions of regular employees among individuals from poor and non-poor households; regular employment is much more common among individuals in the latter group than in the former. Casual employment, on the other hand, is more widespread in poorer groups.

The proportion of self-employed women was slightly higher than that of men across all age groups, with the exception of the oldest group (where these proportions are equal). On the other hand, regular employment was much less common among women than men; in fact the proportion of regular employees among working women is slightly over half that among men. Men also appear to be more likely to undertake casual employment than women.

Table 44: Distribution of the Employed Population by Type of Employment

	Regular employee	Casual employee	Unpaid worker	Self-employed	Share of population
Rural Shinyanga Region	40,224	63,458	3,713	961,389	1,068,783
	3.8	5.9	0.3	90.0	100.0
Rural	12,109	53,968	2,257	727,556	795,890
	1.5	6.8	0.3	91.4	74.5
Peri-urban	28,115	9,490	1,456	233,833	272,893
	10.3	3.5	0.5	85.7	25.5
District					
Kishapu	6,483	7,448	1,915	120,463	136,309
	4.8	5.5	1.4	88.4	12.8
Shinyanga R	2,535	10,797	94	116,598	130,024
	1.9	8.3	0.1	89.7	12.2
Maswa	6,442	10,359	234	105,168	122,202
	5.3	8.5	0.2	86.1	11.4
Meatu	1,144	8,444	47	88,828	98,462
	1.2	8.6	0.0	90.2	9.2
Bariadi	4,195	12,480	496	187,334	204,505
	2.1	6.1	0.2	91.6	19.1
Bukombe	4,378	3,052	651	135,609	143,691
	3.0	2.1	0.5	94.4	13.4

	Regular employee	Casual employee	Unpaid worker	Self-employed	Share of population
Kahama	15,046	10,879	276	207,389	233,590
	6.4	4.7	0.1	88.8	21.9
Poverty					
Non-poor	36,278	32,634	2,888	585,155	656,956
	5.5	5.0	0.4	89.1	61.5
Poor	3,945	30,824	824	376,235	411,828
	1.0	7.5	0.2	91.4	38.5
Gender and age					
Male					
Total	25,500	35,870	1,895	464,180	527,445
	4.8	6.8	0.4	88.0	100.0
15 to 29	4,843	15,962	425	180,248	201,479
	2.4	7.9	0.2	89.5	38.2
30 to 49	16,203	15,758	1,470	200,401	233,832
	6.9	6.7	0.6	85.7	44.3
50 to 64	4,454	3,364	0	62,907	70,726
	6.3	4.8	0.0	88.9	13.4
65+	0	786	0	20,624	21,409
	0	3.7	0	96.3	4.1
Female					
Total	14,723	27,589	1,818	497,209	541,338
	2.7	5.1	0.3	91.8	100.0
15 to 29	6,712	15,455	1,503	243,409	267,080
	2.5	5.8	0.6	91.1	49.3
30 to 49	6,102	9,660	127	193,645	209,535
	2.9	4.6	0.1	92.4	38.7
50 to 64	1,909	2,055	113	48,403	52,479
	3.6	3.9	0.2	92.2	9.7
65+	0	418	75	11,752	12,245
	0.0	3.4	0.6	96.0	2.3

7.4 Employment Sector

The distinction between sectors of employment is usually limited to private and public. However, in the Rural Shinyanga CWIQ five relevant sectors were identified: *Government, Parastatal, Private Business, Private Person/Household,* and *Self-Employed.*

In consistency with the employment patterns described in the preceding sections, the self-employed constitute the biggest employment sector in Rural Shinyanga (Table 45). In rural areas this sector is substantially larger than in peri-urban ones; while in rural areas

only 14 percent of individuals are not in the self-employed sector, in peri-urban areas this is the case for roughly twice as high a proportion of the working population at 30 percent. The second largest employment sector is made up of private person/household employees. Employees of this sector make up 11 percent of the working population; in peri-urban areas this proportion is slightly lower at 9 percent. Employment in the rest of the specified sectors (government, parastatal and private business) is more widespread in peri-urban areas than rural ones. For instance, the proportion of individuals working in the private business sector is almost fifteen times higher in peri-urban than in rural areas.

The self-employed sector contains a larger proportion of the working population of Bukombe (89 percent) than is the case in any other district. The reverse is true in Kishapu, where individuals from this category make up 78 percent of the working population. The great majority of government and parastatal workers live is Kahama and Maswa districts. Proportions of workers employed in these sectors in the other five districts do not exceed 2 percent. Private businesses employ roughly 8 percent of the working population in Bariadi and 6 percent in Kahama; these are the highest figures in Rural Shinyanga Region. Large inter-district differences were found between employment rates in the private person/household sector. Employment in this sector is most widespread in Kishapu where it accounts for the jobs of 17 percent of the working population, and least common in Bukombe where this proportion is only 4 percent.

Employment in government and private businesses appears to be more accessible to individuals from non-poor households. The proportions of non-poor individuals working in these sectors are, respectively, twelve and eight times as high as those of individuals from poor households. In contrast, employment by a private business/household and self-employment are more common among working individuals from poor households.

Overall, more men are employed in the government and parastatal sectors than women. On the other hand, women are more likely to be self-employed than men across all age groups, with the exception of the oldest group in the population. In this category, the proportion of self-employed males is higher than that of females. The rate of self-employment tends to increases with age among both men and women; although results do show a slight dip in the proportion of self-employed women in the 65+ age group.

Table 45: Distribution of the Working Population by Employment Sector

	Government	Parastatal	Private business	Private person/ household	Self-employed	Share of population
Rural Shinyanga Region	23,583	4,391	50,466	112,037	878,409	1,068,884
	2.2	0.4	4.7	10.5	82.2	100.0
Rural	9,286	1,817	9,067	88,074	687,747	795,991
	1.2	0.2	1.1	11.1	86.4	74.5
Peri-urban	14,296	2,573	41,399	23,963	190,662	272,893
	5.2	0.9	15.2	8.8	69.9	25.5
District						
Kishapu	1,811	604	5,433	22,736	105,826	136,410
	1.3	0.4	4.0	16.7	77.6	12.8
Shinyanga R	1,940	351	1,828	20,405	105,500	130,024
	1.5	0.3	1.4	15.7	81.1	12.2
Maswa	4,733	1,746	3,492	12,305	99,927	122,202
	3.9	1.4	2.9	10.1	81.8	11.4
Meatu	703	0.0	2,528	11,674	83,557	98,462
	0.7	0.0	2.6	11.9	84.9	9.2
Bariadi	1,244	118	15,298	20,698	167,148	204,505
	0.6	0.1	7.5	10.1	81.7	19.1
Bukombe	3,191	0.0	7,178	5,964	127,358	143,691
	2.2	0.0	5.0	4.2	88.6	13.4
Kahama	9,961	1,572	14,709	18,255	189,093	233,590
	4.3	0.7	6.3	7.8	81.0	21.9
Poverty						
Non-poor	22,619	3,607	46,844	60,174	523,711	656,956
	3.4	0.5	7.1	9.2	79.7	61.5
Poor	964	783	3,621	51,863	354,698	411,929
	0.2	0.2	0.9	12.6	86.1	38.5
Gender and age						
Male						
Total	14,439	2,989	23,995	61,546	424,577	527,546
	2.7	0.6	4.5	11.7	80.5	100.0
15 to 29	1,371	753	11,923	29,252	158,180	201,479
	0.7	0.4	5.9	14.5	78.5	38.2
30 to 49	9,813	1,980	8,730	24,242	189,168	233,933
	4.2	0.8	3.7	10.4	80.9	44.3
50 to 64	3,256	256	3,151	6,378	57,684	70,726
	4.6	0.4	4.5	9.0	81.6	13.4

	Government	Parastatal	Private business	Private person/ household	Self-employed	Share of population
65+	0.0	0.0	191	1,673	19,545	21,409
	0.0	0.0	0.9	7.8	91.3	4.1
Female						
Total	9,143	1,402	26,471	50,491	453,832	541,338
	1.7	0.3	4.9	9.3	83.8	100.0
15 to 29	2,077	1,327	13,682	30,306	219,688	267,080
	0.8	0.5	5.1	11.3	82.3	49.3
30 to 49	5,355	0	11,871	14,399	177,909	209,535
	2.6	0.0	5.7	6.9	84.9	38.7
50 to 64	1,637	0	407	4,323	46,113	52,479
	3.1	0.0	0.8	8.2	87.9	9.7
65+	75	75	511	1,463	10,122	12,245
	0.6	0.6	4.2	11.9	82.7	2.3

7.5 *Occupation*

Agriculture is, of course, by far the most common occupation in Rural Shinyanga; 81 percent of the working population is employed in this industry (Table 46). In contrast, administrative jobs occupy less than 1 percent of the working population. Mining, construction and transport industries also account for the employment of a very small proportion (3 percent) of workers, followed by manufacturing, services and education/health, which, in total, employ 5 percent of the working population. The second most common occupation in the region is trade; one in ten employed adults works in this area.

Distribution of the occupations of the working population varies substantially by geographic location. While in rural areas non-agricultural industries employ only 6 percent of the working population, in peri-urban areas this proportion is nearly ten times bigger at 56 percent. Trade especially is a significantly larger sector in peri-urban areas, employing a third of the working population compared to only 3 percent in rural areas. Proportions of individuals employed in all the other industries are between five and ten times higher in peri-urban than in rural areas.

Variation by district is also substantial. For instance, while in Shinyanga Rural 95 percent of the working population is employed in agriculture, this is true for only 69 percent in Kahama. In contrast, employment in manufacturing and trade is more widespread here than in any other district. While mining is most widespread in Kishapu, the highest rate of employment in construction is found in Maswa.

Only 3 percent of employed individuals from poor households were not working in agriculture at the time of the survey; this proportion is 15 percentage points higher than

that for individuals from non-poor households. The results further show that involvement of individuals from poor households in trade is minimal; only 1 percent of workers from poor households were involved in trade-related activities at the time of the survey compared to nearly a fifth (16 percent) of non-poor workers.

In consistency with the trend of higher self-employment rates among women than men, noted in the previous section, the proportion of women employed in agriculture exceeds that of men by 6 percentage points. Hence, engagement in non-agricultural activities is more common among men; especially men between the ages of 30 and 49. The highest proportion of women takes on non-agricultural employment at an earlier age (15 to 29). For both sexes trade is the most common alternative occupation.

Table 46: Distribution of the Working Population by Occupation

	Agricul-ture	Mining	Manufac-turing	Construc-tion	Transport	Trade	Services	Education/Health	Adminis-tration	Not Specified	Share of population
Rural Shinyanga Region	868,682	10,809	18,799	10,885	9,980	111,481	17,049	17,057	3,969	174	1,068,884
	81.3	1.0	1.8	1.0	0.9	10.4	1.6	1.6	0.4	0.0	100.0
Rural	748,484	2,727	5,623	4,074	2,057	20,910	5,583	4,894	1,465	174	795,991
	94.0	0.3	0.7	0.5	0.3	2.6	0.7	0.6	0.2	0.0	74.5
Peri-urban	120,198	8,082	13,176	6,811	7,923	90,571	11,466	12,163	2,504	0	272,893
	44.0	3.0	4.8	2.5	2.9	33.2	4.2	4..5	0.9	0.0	25.5
District											
Kishapu	115,137	5,528	2,323	334	111	7,733	3,457	1,380	406	0	136,410
	84.4	4.1	1.7	0.2	0.1	5.7	2..5	1.0	0..3	0.0	12.8
Shinyanga Rural	122,918	155	316	1,262	211	3,030	733	1,019	207	174	130,024
	94.5	0.1	0.2	1.0	0..2	2..3	0.6	0.8	0.2	0.1	12.2
Maswa	101,340	395	1,635	2,999	790	8,732	2,666	2,309	1,335	0	122,202
	82.9	0.3	1.3	2.5	0.6	7.1	2.2	1.9	1.1	0.0	11.4
Meatu	92,537	0	53	760	423	3,784	342	475	89	0	98,462
	94	0.0	0.1	0.8	0.4	3.8	0.3	0.5	0.1	0.0	9.2
Bariadi	162,013	0	956	118	4,045	33,254	2,523	1,087	511	0	204,505
	79.2	0.0	0.5	0.1	2.0	16.3	1.2	0.5	0.2	0.0	19.1
Bukombe	114,417	2,540	2,537	2,395	199	15,871	3,538	2,058	136	0	143,691
	79.6	1.8	1.8	1.7	0.1	11	2.5	1.4	0.1	0.0	13.4
Kahama	160,320	2,191	10,981	3,016	4,201	39,077	3,790	8,729	1,285	0	233,590
	68.6	0.9	4.7	1.3	1.8	16.7	1.6	3.7	0.6	0.0	21.9
Poverty											
Non poor	469,517	9,775	17,828	7,354	9,920	106,427	15,626	16,472	3,865	174	56,956
	71.5	1.5	2.7	1.1	1.5	16.2	2.4	2.5	0.6	0.0	61.5
Poor	399,165	1,035	972	3,531	60	5,055	1,423	585	104	0	11,929
	96.9	0.3	0.2	0.9	0.0	1.2	0.3	0.1	0.0	0.0	38.5

	Agricul-ture	Mining	Manufac-turing	Construc-tion	Transport	Trade	Services	Education/Health	Adminis-tration	Not Specified	Share of population
Gender and Age											
Male											
Total	412,794	9,091	13,846	9,923	8,880	52,282	7,919	10,051	2,672	87	27,546
	78.2	1.7	2.6	1.9	1.7	9.9	1.5	1.9	0.5	0.0	100.0
15-29	159,432	3,370	5,109	4,447	2,398	23,595	1,082	1,910	136	0	1,479
	79.1	1.7	2.5	2.2	1.2	11.7	0.5	0.9	0.1	0.0	38.2
30-49	175,236	4,359	7,868	5,476	5,691	22,578	5,350	5,667	1,708	0	33,933
	74.9	1.9	3.4	2.3	2.4	9.7	2.3	2.4	0.7	0.0	44.3
50-64	57,886	1,250	523	0	791	5,512	1,374	2,475	828	87	70,726
	81.8	1.8	0.7	0.0	1.1	7.8	1.9	3.5	1.2	0.1	13.4
65+	20,240	113	346	0	0	598	113	0	0	0	21,409
	94.5	0.5	1.6	0.0	0.0	2.8	0.5	0.0	0.0	0.0	4.1
Female											
Total	455,887	1,718	4,953	962	1,100	59,199	9,130	7,006	1,296	87	541,338
	84.2	0.3	0.9	0.2	0.2	10.9	1.7	1.3	0.2	0.0	100.0
15-29	218,338	273	4,546	512	814	33,333	6,301	2,751	211	0	267,080
	81.8	0.1	1.7	0.2	0.3	12.5	2.4	1.0	0.1	0.0	49.3
30-49	177,061	1,445	407	450	181	23,830	2,521	3,054	500	87	209,535
	84.5	0.7	0.2	0.2	0.1	11.4	1.2	1.5	0.2	0.0	38.7
50-64	49,007	0	0	0	105	1,421	234	1,200	511	0	52,479
	93.4	0.0	0.0	0.0	0.2	2.7	0.4	2.3	1.0	0.0	9.7
65+	11,481	0	0	0	0	614	75	0	75	0	12,245
	93.8	0.0	0.0	0.0	0.0	5.0	0.6	0.0	0.6	0.0	2.3

7.6 Economic Inactivity

Economically inactive individuals make up roughly 16 percent of the adult population in Rural Shinyanga. The proportion of men in this group is slightly smaller than the proportion of women at 46 and 54 percent respectively. Economic inactivity is also more widespread in peri-urban than rural areas (Table 43). The most common reason for economic inactivity is education; students constitute nearly half (44 percent) of the economically inactive group. Infirmity, household and family duties, and age are the next most commonly cited reasons; in total, 53 percent of individuals in the economically inactive group identified these as obstacles to work. Very few people in Rural Shinyanga are economically inactive due to lack of work (Table 27).

In both rural and peri-urban areas education explains the economic inactivity of over 40 percent of the economically inactive group. In peri-urban areas, household and family duties and lack of work appear to be stronger deterrents to work than in rural areas. For instance, the proportion of individuals in peri-urban areas not working because of household duties is more than twice as high as that in rural areas, at 28 and 13 percent respectively. Infirmity and age, on the other hand, deter higher proportions of

economically inactive individuals from work in rural than in peri-urban areas. Infirmity especially was cited by nearly three times as high a proportion of the economically inactive in rural than in peri-urban areas, at 23 and 8 percent respectively.

Although rates of economic inactivity are similar across the districts, there are inter-district differences in the reasons for which individuals are inactive. For instance, while close to 52 percent of the economically inactive population in Maswa are students, this is the case for only 34 percent in Kishapu. Household and family duties constitute a deterrent to work for around 30 percent of the economically inactive populations of Kahama and Bukombe, compared to only 8 percent in Shinyanga Rural and Meatu districts. While more than one in four economically inactive individuals in Bariadi (27 percent) are not working because of their age, this is the case for only 8 percent of the same population in Bukombe. Finally, in Kishapu infirmity deters nearly one out of three economically inactive individuals from working, only 11 percent cited the same reason in Bukombe.

Education and household/family duties are the two most commonly cited explanations among economically inactive individuals from non-poor households. In addition to education, economically inactive individuals from poor households cite age and infirmity more often than household/family duties. In total, age and infirmity deter two out of every five poor economically inactive individuals from working (42 percent), compared to 31 percent of those in the non-poor group.

As expected, household and family duties are more of a hindrance to work for women than men. In fact, over a quarter of economically inactive women (28 percent) are unable to work due to domestic duties, compared to only 6 percent of men. Age and infirmity also account for higher proportions of the female economically inactive population than the male one, at 41 and 29 percent respectively. On the other hand, twice as high a proportion of men are deterred from work by education than women, at 60 and 30 percent of the respective economically inactive populations.

Students constitute the majority of economically inactive men and women between the ages of 15 and 29, at 81 percent of economically inactive men and 54 percent of economically inactive women. Economic inactivity is least common among individuals between the ages of 30 and 49; only 2 percent of men and 7 percent of women are economically inactive in this age group (Table 43). Men of this age are most often deterred from work by infirmity; for women household duties are the biggest obstacle followed by infirmity. In the older age-groups (50 to 64 and 65+) infirmity and age become by far the most significant deterrents to work among economically inactive men and women.

Table 47: 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
Rural Shinyanga Region	3,547	553	86,642	34,886	34,926	35,451	3,014	199,018
	1.8	0.3	43.5	17.5	17.5	17.8	1.5	100.0
Rural	1,111	553	57,360	17,224	26,411	30,245	2,108	135,010
	0.8	0.4	42.5	12.8	19.6	22.4	1.6	67.8
Peri-urban	2,437	0	29,283	17,662	8,515	5,206	906	64,008
	3.8	0.0	45.7	27.6	13.3	8.1	1.4	32.2
District								
Kishapu	407	0	9,632	4,385	5,199	8,353	88	28,063
	1.4	0.0	34.3	15.6	18.5	29.8	0.3	14.1
Shinyanga Rural	0	0	8,648	1,414	4,846	3,144	110	18,163
	0.0	0.0	47.6	7.8	26.7	17.3	0.6	9.1
Maswa	81	116	12,414	2,821	4,000	4,363	316	24,111
	0.3	0.5	51.5	11.7	16.6	18.1	1.3	12.1
Meatu	295	159	7,993	1,407	3,419	4,354	258	17,884
	1.6	0.9	44.7	7.9	19.1	24.3	1.4	9.0
Bariadi	280	278	16,826	3,873	10,603	6,406	498	38,762
	0.7	0.7	43.4	10.0	27.4	16.5	1.3	19.5
Bukombe	2,135	0	13,558	7,769	2,415	3,196	1,268	30,341
	7.0	0.0	44.7	25.6	8.0	10.5	4.2	15.2
Kahama	349	0	17,571	13,217	4,444	5,636	476	41,694
	0.8	0.0	42.1	31.7	10.7	13.5	1.1	20.9
Poverty								
Non-poor	2,802	275	48,474	26,023	18,006	17,467	1,892	114,939
	2.4	0.2	42.2	22.6	15.7	15.2	1.6	57.8
Poor	745	278	38,168	8,863	16,920	17,984	1,122	84,079
	0.9	0.3	45.4	10.5	20.1	21.4	1.3	42.2
Gender and Age **Male**								
Total	3,136	256	55,070	5,557	11,688	14,766	1,855	92,328
	3.4	0.3	59.6	6.0	12.7	16.0	2.0	100.0
15 to 29	2,644	0	54,411	4,971	79	4,406	1,088	67,598
	3.9	0.0	80.5	7.4	0.1	6.5	1.6	73.2
30 to 49	269	256	551	451	0	2,870	576	4,973
	5.4	5.1	11.1	9.1	0.0	57.7	11.6	5.4
50 to 64	0	0	108	0	605	4,139	119	4,971
	0.0	0.0	2.2	0.0	12.2	83.3	2.4	5.4

	No work available	Seasonal inactivity	Student	Household/ Family duties	Age	Infirmity	Other	Share of population
65+	223	0	0	136	11,004	3,352	72	14,786
	1.5	0.0	0.0	0.9	74.4	22.7	0.5	16.0
Female								
Total	411	297	31,573	29,328	23,238	20,685	1,159	106,690
	0.4	0.3	29.6	27.5	21.8	19.4	1.1	100.0
15 to 29	262	159	31,407	20,243	339	5,241	776	58,427
	0.4	0.3	53.8	34.6	0.6	9.0	1.3	54.8
30 to 49	149	138	76	7,554	233	7,284	295	15,728
	0.9	0.9	0.5	48.0	1.5	46.3	1.9	14.7
50 to 64	0	0	0	1,050	7,538	4,495	88	13,171
	0.0	0.0	0.0	8.0	57.2	34.1	0.7	12.3
65+	0	0	90	482	15,128	3,665	0	19,365
	0.0	0.0	0.5	2.5	78.1	18.9	0.0	18.2

8   OTHER WELFARE INDICATORS

This chapter discusses welfare indicators that have not been discussed in previous chapters. It starts by presenting data on how respondents perceived overall economic change in their communities and households in the year preceding the survey. It goes on to discuss self-reported changes in land holdings. Other welfare indicators discussed are self-reported food shortages, water sources, type of toilet used and access to public transport.

8.1   Perception of Change in Overall Economic Situation

As part of the survey, one individual per household was asked to comment on the changes in the economic situation in his/her community and household in the year preceding the survey; respondents were asked to comment on whether the situation has changed for the better/worse or remained the same. Results of this exercise are reported in Table 48 and Table 49.

Overall, similar proportions of households assessed the situation as better/worse on community and household level. Results show that the majority in Rural Shinyanga perceive a negative change in the economic situation in the household and community. Roughly three out of five households in the region cited a deterioration in the community and household economic situation. One in five households identified no change in the situation on community level, while 16 percent found that the situation had improved. On household level improvement was slightly more widespread; 21 percent of households viewed their economic situation as better or much better compared to the previous year.

Negative change was felt more acutely in rural areas, where the proportion of households citing a deterioration in the economic situation of the community was 21 percentage points higher than in peri-urban areas at 69 and 48 percent respectively. On household level the difference was slightly smaller; negative change in the household was felt by 64 percent of households in rural areas compared to 51 percent of peri-urban households.

The most positive view of the change in economic situation on household and community level was found in Bariadi; 36 percent of households in this district expressed the view that the economic situation in the household and the community had improved. In Kishapu, on the other hand, deterioration was cited by the great majority; 81 percent had a negative view of the change in the community economic situation, and 74 percent in that of the household. Similarly, in Shinyanga Rural 72 percent expressed this view regarding the situation in the household and the community. It is interesting to note that while the proportions of households experiencing deterioration in the economic situation of the community tend to be bigger than those experiencing economic deterioration in the

household, the reverse is true in proportions of households experiencing improvement in the economic situation of the community/household.

Individuals from poor households were less optimistic about the change in economic situation than those from non-poor households. While around 70 percent of poor households cited deterioration in the economic situation of their community and household, less than 60 percent of non-poor households were of the same opinion.

Overall, larger households were found to hold the most negative views of the trend of economic change in the community and the household. Only 13 and 17 percent of large households (7+ members) felt that the economic situations of, respectively, the community and the household had improved in the past year, compared to respectively a fifth and a quarter of small households (1 to 2 members).

A positive correlation appears to exist between land ownership and perceived economic change. For instance, only 7 percent of small scale land owners with less than one acre felt that in the year preceding the survey improvement in the economic situation of the community had taken place, compared to a fifth of households with a property of between 4 and 6 acres. In contrast, deterioration in the economic situation of the household occurred in three out of every four households with small property (less than 1 acre) and only 56 percent of households owning over 6 acres of land.

The landless households are the most optimistic about the economic situation; roughly one in four households with no land cited improvement in the economic situation of the community and the household. Landless households tend to be headed by people working in sectors other than agriculture. Levels of poverty in these sectors tend to be lower than those among households in the agricultural and unemployed socio-economic groups (Chapter 2). This may explain the disparity in outlook on the economic situation between landless households and small scale land-owners.

No differences were apparent between male and female headed households. However, disaggregation of the data by the education status of the household head revealed that the more educated the head of household the more positive the reported economic change (Table 48 and Table 49).

Table 48: Perceptions of Economic Situation in the Community Compared to the Year Preceding the Survey.

	Much worse	Worse	Same	Better	Much better	Don't know	Share of population
Rural Shinyanga Region	35.6	27.0	20.0	15.8	0.4	1.2	100.0
Rural	41.9	27.1	18.6	11.3	0.1	0.9	70.2
Peri-urban	20.7	26.9	23.1	26.4	1.2	1.7	29.8
District							
Kishapu	41.8	39.5	14.1	4.4	0.0	0.2	11.8
Shinyanga Rural	48.2	24.2	16.1	11	0.0	0.4	10.6
Maswa	44.3	30.5	14.3	8.7	0.7	1.6	11.4
Meatu	43.8	25.1	20.4	9.9	0.2	0.6	8.2
Bariadi	27.5	22.3	13.9	35.5	0.0	0.9	20.0
Bukombe	26.1	27.1	26.8	15.2	1.6	3.2	14.3
Kahama	32.4	24.9	28.2	12.9	0.5	1.0	23.6
Poverty							
Non-poor	31.0	28.0	21.1	18.1	0.6	1.3	70.0
Poor	46.3	24.9	17.4	10.6	0.1	0.8	30.0
Household size							
1-2	31.7	27.2	20.6	19.8	0.0	0.8	12.5
3-4	35.0	25.3	20.8	18.6	0.1	0.2	23.9
5-6	33.0	29.1	19.2	15.1	1.2	2.5	30.1
7+	39.9	26.3	19.8	13.1	0.2	0.7	33.5
Area of land owned by the household							
None	32.3	21.0	20.1	23.5	0.8	2.3	26.0
< 1 acre	46.4	31.3	15.3	7.1	0.0	0.0	1.2
1-1.99 acres	41.3	31.1	18.6	7.9	0.0	1.1	9.7
2-3.99 acres	36.0	33.1	19.6	10	0.7	0.7	23.1
4-5.99 acres	36.1	25.7	17.1	20.3	0.0	0.8	13.6
6+ acres	35.6	26.7	22.3	14.4	0.3	0.7	26.5
Gender of the head of household							
Male	35.5	27.6	19.8	15.3	0.6	1.3	79.7
Female	36.1	24.8	20.5	18.0	0.0	0.6	20.3
Education level of household head							
None/Some Primary	39.7	28.7	17.7	12.6	0.0	1.3	45.4
Complete/Post Primary	32.2	25.6	21.9	18.5	0.8	1.0	54.6

Table 49: Perception of Economic Situation of the Household Compared to the Year Preceding the Survey.

	Much worse	Worse	Same	Better	Much better	Share of population
Rural Shinyanga Region	31.1	29.1	18.3	19.9	1.5	0.1
Rural	37.2	26.9	17.6	17.1	0.9	0.2
Peri-urban	16.8	34.0	19.9	26.4	2.9	0.0
District						
Kishapu	40.1	34.2	14.5	11.0	0.2	0.0
Shinyanga Rural	45.0	27.2	12.4	14.6	0.8	0.0
Maswa	38.1	30.9	18.3	12.4	0.2	0.2
Meatu	37.5	28.2	19.6	13.7	0.5	0.4
Bariadi	24.9	24.2	14.6	35.9	0.0	0.5
Bukombe	22.9	34.1	22.2	16.6	4.2	0.0
Kahama	24.9	27.7	23.1	21	3.2	0.0
Poverty						
Non-poor	26.2	30.2	19	22.5	2.0	0.1
Poor	42.5	26.3	16.7	13.9	0.3	0.3
Household size						
1-2	28.3	28	18.3	24.2	1.2	0.0
3-4	30.4	25.3	18.5	23.5	2.3	0.0
5-6	29.2	32	17.5	18.8	2.2	0.3
7+	34.4	29.5	18.9	16.7	0.5	0.2
Area of land owned by household						
None	28	22.8	21.5	24.8	2.6	0.1
< 1 acre	47.4	28.7	15.8	8.1	0.0	0.0
1-1.99 acres	36.1	35.7	18.6	8.3	1.0	0.3
2-3.99 acres	33.2	36.2	17.9	11.9	0.9	0.0
4-5.99 acres	31.3	28.2	15	24.5	0.7	0.2
6+ acres	29.7	26.9	17.1	24.5	1.7	0.2
Gender of household head						
Male	30.8	29.6	18.2	19.6	1.6	0.1
Female	32.3	26.7	18.7	21	1.1	0.2
Education level of household head						
None/Some Primary	37.6	28.8	17.5	15.3	0.5	45.4
Complete/Post Primary	25.7	29.2	19	23.8	2.3	54.6

8.2 Self-reported Changes in Landholdings

Households were asked whether the area of land they possessed at the time of the survey was greater, smaller or the same as the year before. Both in rural and peri-urban areas, land holdings were relatively stable in the year preceding the survey. The area of land possessed by 59 percent of the households in the region remained the same, 9 percent had less land and 6 percent had more; 26 percent of households in the region were landless. In rural areas a higher proportion of households had less land compared to the previous year. In peri-urban areas the proportion of households with increased and decreased land-holdings was almost equal at roughly 4 percent.

Highest rates of decrease in land holding were found in Kishapu and Meatu districts ,where 16 and 14 percent of households respectively lost land. Least change occurred in Bariadi, Bukombe and Kahama where changes in land-holding only occurred in roughly one in ten households. The smallest proportion of households with no land was found in Shinyanga Rural district; 75 percent of households here experienced no change in the size of their land-holding compared to the rural regional average of 59 percent.

Loss of land was more common among poor households compared to non-poor. The proportion of poor households with decreased land-holding was nearly twice as high as that of non-poor households, at 13 and 7 percent respectively. In contrast, the rate of land-gain was equal for poor and non-poor households.

Changes in land ownership, both loss and acquisition, were more common among large households (7+ members); the land-holding of 10 percent of these decreased in the year preceding the survey, while that of 8 percent increased. These figures exceed the rural regional average by 2 and 3 percentage points respectively. Land possession was most stable among small households (1 to 2 members), where only 8 percent experienced change in area of land owned.

Disaggregation of change in land holding by amount of land possessed by a household, shows that highest rate of land loss was experienced by households that own between 2 and 6 acres of land; roughly 14 percent of households in this category owned less land at the time of the survey than the year before. The rate of land gain, on the other hand, was highest among households already in possession of large areas of land (6 or more acres); 13 percent of large-scale land owners acquired more land in the year preceding the survey compared to a rural regional average of 6 percent.

No substantial difference was found between rates of land loss for male and female headed households. Land acquisition, however, was more widespread among male headed households at 7 percent compared to 4 percent among female headed households.

A larger proportion of households headed by individuals with no or incomplete primary education lost land over the year preceding the survey than households headed by individuals with at least complete primary education; in fact, the former proportion is

twice as high as the latter at 12 and 6 percent respectively. Rate of land gain, on the other hand, is roughly the same in the two groups.

Overall, the trend across the categories reveals that the proportions of households losing land are larger than the proportions of households gaining land. It is therefore likely that land is increasingly concentrated in the possession of fewer households.

Table 50: Distribution of Households by Change in Land Holding over the Year Preceding the Survey

	No holding	Less	Same	More	Don't know	Share of the population
Rural Shinyanga Region	26	8.8	59.3	5.9	0.1	100.0
Rural	13.4	11.1	68.7	6.7	0.1	70.2
Peri-urban	55.6	3.4	37	4.0	0.0	29.8
District						
Kishapu	21.3	15.9	57.5	5.4	0.0	11.8
Shinyanga Rural	8.6	12.4	74.8	3.8	0.4	10.6
Maswa	25.9	10.3	57.1	6.7	0.0	11.4
Meatu	23.3	14.4	57.6	4.6	0.0	8.2
Bariadi	23.2	5.4	66.3	4.9	0.1	20
Bukombe	30.9	4.9	56.1	8.1	0.0	14.3
Kahama	36.4	6.1	50.7	6.8	0.0	23.6
Poverty						
Non-poor	32.3	7.1	54.5	6.0	0.0	70
Poor	11.1	12.6	70.3	5.8	0.2	30
Household size						
1 to 2	46.2	6.3	46	1.6	0.0	12.5
3 to 4	34.5	7.6	52.9	5.0	0.0	23.9
5 to 6	24	9.0	60.8	6.1	0.1	30.1
7+	14.1	10.3	67.4	8.1	0.2	33.5
Area of land owned by household						
None	100	0.0	0.0	0.0	0.0	26
< 1 acre	0.0	9.8	87.9	0	2.4	1.2
1-1.99 acres	0.0	9.7	87.4	2.7	0.2	9.7
2-3.99 acres	0.0	14.4	80.8	4.8	0.0	23.1
4-5.99 acres	0.0	12.9	78.8	8.2	0.0	13.6
6+ acres	0.0	10	76.9	13	0.1	26.5

	No holding	Less	Same	More	Don't know	Share of the population
Gender of household head						
Male	23	9.0	61.5	6.5	0.1	79.7
Female	37.7	7.9	50.6	3.8	0.0	20.3
Education level of household head						
None/Some Primary	16.1	11.9	66.4	5.5	0.1	45.4
Some/Complete Primary	34.2	6.2	53.3	6.3	0.1	54.6

8.3 Self-reported Food Need

The Rural Shinyanga CWIQ further informs on how often households in the region experience food need. Overall, almost equal proportions of households never/seldom experience food shortages as those for whom this is a normal occurrence (sometimes/often/always) at 48 and 52 percent respectively.

Food need in peri-urban areas is less acute than in rural areas. Food supply in over half of rural households (57 percent) is often or always insufficient; this is the case in less than a third (30 percent) of households located in peri-urban areas. In fact, one in five peri-urban households never experiences difficulty supplying food, compared to only roughly one in fourteen rural households (7 percent).

Self-reported food shortage is most severe in Meatu district where 67 percent of households are often or always unable to satisfy their food requirement; this rate of food need is 18 percentage points higher than the rural regional average. Similar trends were found in Maswa and Shinyanga Rural districts, where 63 and 62 percent of households respectively often or always experience food shortages. In contrast, in Kishapu, Bariadi, Bukombe and Kahama districts less than half of the households reported difficulty in providing the food necessary; in fact in Kahama food shortages only affected just over one in three households.

While less than one in three poor households are food secure (i.e. seldom/never experience food need), this is the case for the majority of non-poor households. Similarly in small households satisfaction of food need is less of a problem than in larger households. For instance, while food shortages never affect one in five households consisting of one to two members, less than one in ten households with more than six members are in the same position. There appears to be some positive correlation between size of land holding and food security. While roughly half of the households with no

land[33] or those with over 6 acres of land never/seldom suffer from food shortages, only 41 percent of small scale land owners (less than 1 acre) are in this position.

While food shortages appear to be almost equally widespread in male and female headed households, households headed by individuals with no or incomplete primary education are noticeably less food secure than those headed by individuals with at least complete primary education. Over half (56 percent) of the households in the latter group almost always have sufficient food supply, compared to only 38 percent of households in the former group.

Table 51: Distribution of Households by Difficulty Experienced in Satisfying Food Needs During the Year Preceding the Survey

	Never	Seldom	Sometimes	Often	Always	Share of population
Rural Shinyanga Region	11.2	36.4	3.7	47.1	1.6	100.0
Rural	7.2	32.8	3.3	55.1	1.6	70.2
Peri-urban	20.8	44.7	4.8	28.1	1.8	29.8
District						
Kishapu	10.9	38	5.8	45.1	0.2	11.8
Shinyanga Rural	5.0	30.6	2.4	62.0	0.0	10.6
Maswa	6.2	29.6	1.4	60.5	2.3	11.4
Meatu	3.4	26.8	2.8	65.8	1.2	8.2
Bariadi	8.1	44.2	2.6	43.1	2.1	20
Bukombe	19.1	34.4	1.5	41.0	4.0	14.3
Kahama	17.1	39.3	7.1	35.4	1.1	23.6
Poverty						
Non-poor	14.2	40.5	4.1	39.9	1.4	70.0
Poor	4.2	26.7	3.0	63.9	2.2	30.0
Household size						
1 to 2	19.9	32.2	4.0	42.8	1.1	12.5
3 to 4	12.8	38	5.2	42.5	1.5	23.9
5 to 6	8.7	40.6	2.9	45.2	2.6	30.1
7+	9.1	32.9	3.3	53.7	1.0	33.5
Area of land owned by household						
None	17.1	33.9	5.2	42.2	1.5	26.0
< 1 acres	7.3	31.7	2.5	55.6	2.9	1.2
1-1.99 acres	7.9	36.2	2.2	51.2	2.6	9.7
2-3.99 acres	6.7	36.8	3.5	51.1	2.0	23.1
4-5.99 acres	6.5	42.0	2.3	48.2	1.0	13.6
6+ acres	13.1	35.8	3.9	45.9	1.3	26.5

[33] As noted previously households with no land are usually in a non-agricultural socio-economic group and appear to be characterised by a standard of living similar to that of large scale land owners.

	Never	Seldom	Sometimes	Often	Always	Share of population
Gender of household head						
Male	11.8	36.5	3.6	46.8	1.4	79.7
Female	9.0	35.8	4.4	48.1	2.7	20.3
Education level of household head						
None/Some Primary	5.9	32.2	2.8	56.4	2.6	45.4
Complete/Post Primary	15.6	39.8	4.5	39.3	0.8	54.6

8.4   Water

A household is classed as having access to water if it is located within 30 minutes of travel from the nearest water source.

Results of the survey show that two out of three households in Rural Shinyanga have access to water with half of the households located even closer (within 15 minutes of travel). Individuals from roughly one in eight households have to travel more than an hour to reach the nearest source of water. As is the case with access to other necessities, a much higher proportion of peri-urban households have access to water than rural, at 83 and 60 percent respectively.

The best water access rates were found in Bariadi, Kahama and Bukombe districts, where just over three quarters of households are located within 30 minutes of travel from the nearest source. In contrast, in Kishapu less than half (42 percent) of the households are in the same position and nearly a third (31 percent) have to travel for over an hour to reach the nearest water supply.

Water appears to be less accessible to individuals from poor households; members of roughly one in two poor households can reach the nearest source of water in less than 30 minutes, compared to members of nearly three in four non-poor households. Similarly the proportion of poor households located more than an hour away from the nearest source of a water source is nearly twice as high as that of non-poor households.

The patterns of access to water are very similar for male and female headed households.

Table 52: Distribution of Households by Distance to the Nearest Source of Water

	< 15	15 to 29	30 to 59	60 +	Share of Population
Rural Shinyanga Region	49.0	17.9	20.9	12.2	100.0
Rural	40.6	19.6	26.1	13.8	70.2
Peri-urban	68.8	14.1	8.8	8.3	29.8
District					
Kishapu	26.9	14.9	27.4	30.8	11.8
Shinyanga Rural	35.1	19.1	28.1	17.7	10.6
Maswa	44.7	18.7	21.9	14.7	11.4
Meatu	33.6	23.8	30.9	11.8	8.2
Bariadi	58.9	18.8	15.8	6.5	20.0
Bukombe	51.7	22.2	17.5	8.6	14.3
Kahama	63.7	13.2	16.9	6.2	23.6
Poverty					
Non-poor	55.4	17.4	17.4	9.8	70.0
Poor	33.8	19.3	29.3	17.7	30.0
Gender of household head					
Male	48.2	18.6	20.6	12.6	79.7
Female	51.9	15.3	22.2	10.6	20.3

Although the majority of households in Rural Shinyanga have access to water, nearly half of the households in the region use unprotected water sources such as a river or rain water. Protected wells are also widely used; they constitute the main source of water for 42 percent of the households in the surveyed area. Only 4 percent of households have piped water either in the household or in the neighbouring household. This proportion is even smaller than that of households reliant on vendors, trucks or other sources of water for their supply.

Unprotected sources of water are significantly more widespread in rural than peri-urban areas. While in rural areas three fifths of the households use water from unprotected wells, lakes, and rivers, this is only the case for a fifth of peri-urban households. Nearly one in two peri-urban households, on the other hand, use water from protected wells, and 14 percent have piped water, which is very rare in rural households.

Highest proportions of households with piped water are found in Maswa and Bariadi at 14 and 11 percent respectively. In contrast, in Bukombe, none of the surveyed households had piped water. Protected wells are most widespread in Bariadi and Bukombe where over half of the households use water from this source. In Kishapu and Shinyanga Rural, on the other hand, the great majority of households use water from

unprotected sources, at 76 and 64 percent respectively. Finally, in Kahama and Bukombe districts alternative sources of water, such as water distributed by a vendor are used by higher proportions of households than in the other surveyed districts, at 15 and 11 percent respectively.

Although the proportion of non-poor households with piped water is noticeably higher than that of poor households, this difference is not statistically significant. While protected wells are used by similar proportions of both poor and non-poor households, unprotected sources of water are used by a significantly higher proportion of the former than the latter groups. However, this result must be treated with caution as source of water is also one of the poverty predictors (Chapter 2, Table 3).

Although female headed households appear to use protected sources of water more often and unprotected sources of water less often than male headed households, the differences are not, in fact, statistically significant. Rates of use of piped water, as well as alternative sources of water are almost equal in male and female headed households.

Table 53 Distribution of Households by Water Source Used

	Piped	Protected	Unprotected	Other	Share of Population
Water type					
Rural Shinyanga Region	4.4	41.8	48.4	5.4	100.0
Rural	0.2	39.5	60.2	0.2	70.2
Peri-urban	14.2	47.4	20.6	17.8	29.8
District					
Kishapu	3.8	18.2	76.0	2.0	11.8
Shinyanga Rural	0.4	35.2	64.3	0.2	10.6
Maswa	14.1	42.7	42.5	0.8	11.4
Meatu	0.3	43.3	56.4	0.0	8.2
Bariadi	10.5	60.9	28.5	0.1	20.0
Bukombe	0.0	50.2	38.5	11.3	14.3
Kahama	0.6	34.5	50.3	14.6	23.6
Poverty					
Non-poor	5.9	42.9	43.5	7.7	70.0
Poor	0.7	39.5	59.9	0.0	30.0
Gender of household head					
Male	4.2	40.9	49.6	5.3	79.7
Female	4.9	45.6	43.5	6.0	20.3

8.5 Type of toilet

The great majority of households in Rural Shinyanga use covered pit latrines; four out of five households in the surveyed area had this type of toilet. The second largest proportion of households used an uncovered pit latrine (12 percent). Households with flush toilets were found to be less widespread than households with no toilets at all, at 2 and 6 percent respectively.

Households without toilets are more widespread in rural areas, while flush toilets are much more common in peri-urban households. In both rural and peri-urban areas the covered pit latrine remains the most widely used type of toilet. The proportion of households using covered pit latrines in peri-urban areas is slightly larger than that in rural areas, at 86 and 78 percent respectively; this difference is not, however, statistically significant. In contrast, the proportion of households using uncovered pit latrines is significantly larger in rural than peri-urban areas.

Table 54 Distribution of Households by Type of Toilet Used

	None	Flush Toilet	Covered Pit Latrine	Uncovered Pit Latrine	Share of Population
Rural Shinyanga Region	5.6	2.4	80.0	11.9	100.0
Rural	7.2	0.2	77.7	14.9	70.2
Peri-urban	1.7	7.7	85.7	5.0	29.8
District					
Kishapu	7.3	5.7	61.2	25.7	11.8
Shinyanga Rural	5.8	0.5	73.8	19.9	10.6
Maswa	5.5	0.1	85.3	9.0	11.4
Meatu	1.5	0.2	88.8	9.5	8.2
Bariadi	8.6	0.1	83.8	7.5	20.0
Bukombe	4.7	2.4	85.9	7.1	14.3
Kahama	4.1	5.5	80.0	10.4	23.6
Poverty					
Non-poor	3.1	3.5	82.7	10.8	70.0
Poor	11.4	0.0	73.9	14.7	30.0
Gender of household head					
Male	5.3	2.9	79.5	12.4	79.7
Female	6.9	0.7	82.3	10.1	20.3

While only 2 percent of households in Meatu have no toilet, this is the case for nearly one in ten households in Bariadi. Bariadi is also the district where only 0.1 percent of households have a flush toilet. Flush toilets were also found in less than 1 percent of households in Shinyanga Rural, Maswa and Meatu districts. Over 80 percent of households in Maswa, Meatu, Bariadi, and Bukombe had covered pit latrines; less than 10 percent had uncovered pit latrines. In contrast, in Kishapu only three out of five households had a covered pit latrine; at 26 percent, a higher proportion of households here had an uncovered pit latrine than in any of the other surveyed districts. Uncovered pit latrines were also common in Shinyanga Rural, where one in five households has this type of toilet.

One in ten poor households in Rural Shinyanga has no toilet, compared to only 3 percent of non-poor households. Only non-poor households appear to have flush toilets; none of the poor households in the sample had flush toilets at the time of the survey. Covered pit latrines were also significantly more common in non-poor than poor households. In contrast, a slightly higher proportion of poor households had uncovered pit latrines than non-poor ones. These results must be treated with caution as type of toilet has been used as one of the poverty predictors (Chapter 2, Table 3).

While the differences in proportions of male and female headed households with no toilet or with an uncovered pit latrine are not statistically significant, male headed households are significantly more likely to have a flush toilet or a covered pit latrine. Flush toilets in particular are substantially more common in male headed households; the proportion of female headed households with a flush toilet is more than four times smaller than that of male headed households.

8.6   Access to Public Transport

A household is classed as having access to public transport if some type of public transport can be reached within 30 minutes of travel from the household. Across Rural Shinyanga the public transport access rate, thus defined, is 44 percent. 41 percent of households live more than an hour away from any type of public transport. Further, the majority of households that have access to public transport are in fact located less than 15 minutes of travel from it.

In peri-urban areas, public transport access rates are, of course, significantly higher than in rural areas. For instance, while in rural areas individuals from nearly three fifths of the households (57 percent) have to travel for over an hour to reach the nearest public transport, in peri-urban areas this proportion is more than 11 times smaller at 5 percent.

Highest public transport access rate was found in Bukombe district, where 62 percent of households are able to reach some type of public transport within half an hour of travel. In addition, Bukombe has the lowest proportion of households that are located more than an hour away from the nearest public transport (25 percent). In contrast, the majority of households in Meatu and Bariadi are in this position at 53 percent. Overall, access rates

in most of the districts are worse than indicated by the rural regional average; in all districts but Kahama and Bukombe access to public transport is below rural regional average rate.

A smaller proportion of poor households have access to public transport than non-poor; while over half of non-poor households can reach public transport within 30 minutes of travel, less than a quarter of the poor households are in the same position. Unsurprisingly the proportion of poor households located more than an hour away from nearest public transport is nearly twice as high as that of non-poor households at 60 and 33 percent respectively.

Finally, results of the survey show that across Rural Shinyanga a higher proportion of female headed households have access to public transport than male headed households. At 50 percent the access rate for female headed households is 7 percentage points higher than that of male headed households. In consistency with this trend, the proportion of female headed households located more than 60 minutes from public transport is slightly smaller than that of male headed households.

Table 55: Distribution of Households by Distance to the Nearest Public Transport Facility

	< 15	15 to 29	30 to 59	60 +	Share of Population
Rural Shinyanga Region	31.9	12.2	14.7	41.2	100.0
Rural	15.9	10.0	17.4	56.7	70.2
Peri-urban	69.7	17.2	8.3	4.8	29.8
District					
Kishapu	33.4	8.2	16.1	42.3	11.8
Shinyanga Rural	19.4	13.2	20.1	47.2	10.6
Maswa	26.1	14.1	16.7	43.1	11.4
Meatu	15.3	12.2	19.9	52.7	8.2
Bariadi	35.8	3.3	7.8	53.1	20.0
Bukombe	41.3	20.2	13	25.6	14.3
Kahama	36.3	15.3	15.8	32.5	23.6
Poverty					
Non-poor	39.9	13.1	13.9	33.1	70.0
Poor	13.0	10.1	16.7	60.2	30.0
Gender of household head					
Male	31.1	11.5	15.4	42.0	79.7
Female	35.1	14.6	12.1	38.2	20.3

Map 9

Percentage of Households Located within 30 Minutes of a Source of Water:

Bariadi
78 %

Maswa
63 %

Meatu
57 %

Bukombe
74 %

Kahama
77 %

Shinyanga R
54 %

Kishapu
42 %

Percent
40 - 49
50 - 59
60 - 69
70 - 79
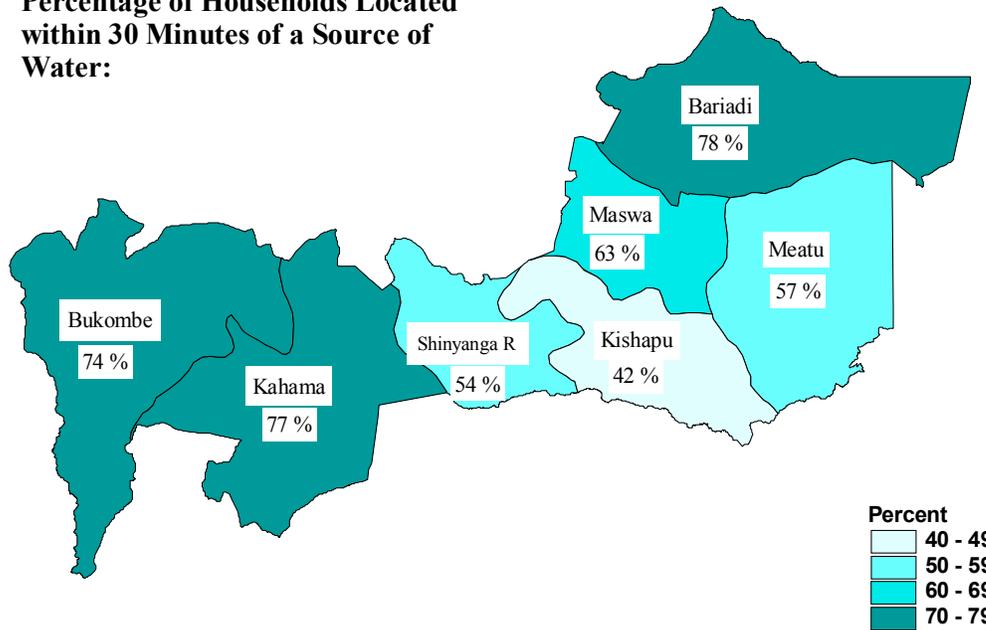
Map 10

Percentage of Households Using Protected/Piped Water:

Bariadi
72 %

Maswa
57 %

Meatu
44 %

Bukombe
50 %

Kahama
36 %

Shinyanga R
35 %

Kishapu
22 %

Percent
20 - 29
30 - 39
40 - 49
50 - 59
60 - 69
70 - 79
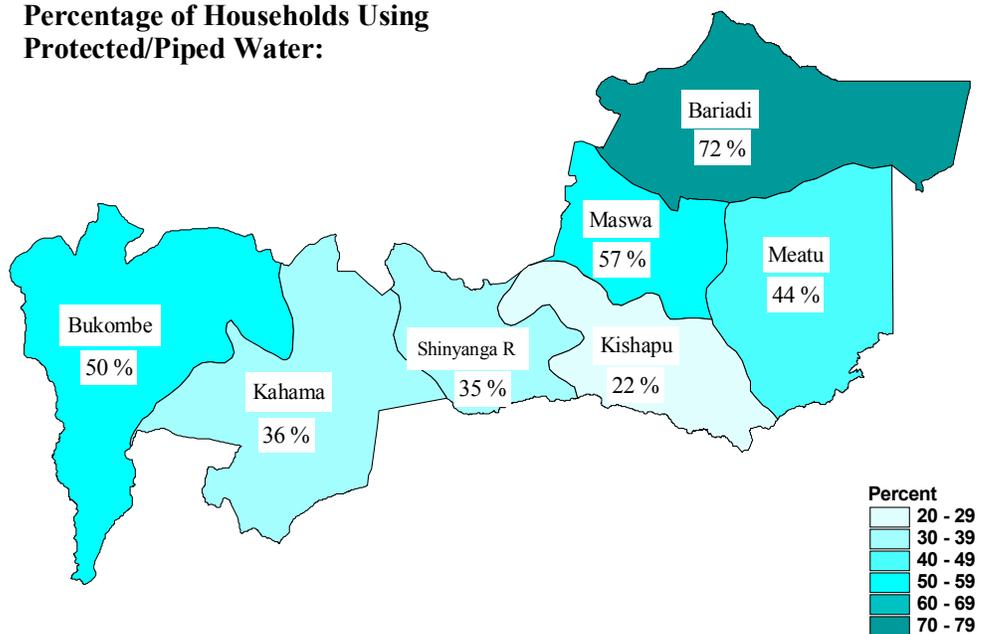
9   SPOTLIGHT ON KISHAPU

9.1   Key Findings of Rural Shinyanga CWIQ for Kishapu

1. Kishapu district contains 12 percent of all households in the Rural Shinyanga Region. Further, roughly one eighth (13 percent) of Rural Shinyanga's population live here.

2. The poverty rate in Kishapu is the second highest in the region; two out of five households here live under the basic needs poverty line. These poor households make up 16 percent of all poor households in the surveyed part of the region.

3. On average, households in Kishapu are made up of 6.1 members. Households here tend to be larger than those in the rest of the surveyed districts, with the exception of Meatu.

4. Livestock ownership in Kishapu is slightly more widespread than in the majority of the surveyed districts. The rate of large-scale land ownership is slightly higher in this district than average; proportions of households owning at least 6 acres of land are only higher in Bukombe and Meatu districts.

5. Both the literacy rate among individuals over the age of 14, and the primary and secondary school access rates are below the rural regional average in Kishapu.

6. Satisfaction levels with primary and secondary school are among the highest in the region here. Hence, overall school dissatisfaction rate is also lower in this district than in any other districts with the exception of Bariadi. Further, the majority of dissatisfied students cited lack of books/supplies and shortage of teachers as the main problems; two out of five students cited bad condition of facilities.

7. While primary school Gross Enrolment Rate (GER) in Kishapu is the lowest in the region, at secondary school level the GER is just slightly below average and equal to those in Bariadi, Bukombe and Kahama.

8. The secondary school dropout rate in Kishapu is the highest in the surveyed area after Meatu at 16 percent. The school non-attendance rate among primary school age children (7 to 13 years old) is also higher here than that in the majority of districts; at 28 percent it is only matched by the non-attendance rate in Bariadi.

9. Kishapu ranks second in access to health facilities after Bukombe; nearly one out of three (31 percent) of households in this district are located within 30 minutes of

travel from the nearest health facility. This is also the district with a higher than average rate of need; 16 percent of Kishapu's residents had been ill in the 4 weeks preceding the survey. Use of health facilities, on the other hand, is lower here than in the other districts.

10. Despite low usage rates, however, the rate of satisfaction in this district exceeds the rural regional average and that in the majority of the surveyed districts. Further, compared to other districts in Rural Shinyanga, dissatisfied health facility users in Kishapu cited fewer complaints than those in the other districts.

11. Four out of five pregnant women in Kishapu delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth exceeds the rural regional average and that in the rest of the surveyed districts.

12. Kishapu has the lowest proportion of chronically malnourished (stunted) children in the region. Acute malnourishment (wasting), on the other hand, is as widespread here as in the majority of the surveyed districts; 6 percent of children under the age of 5 were too thin for their height at the time of the survey.

13. After Bukombe, Kishapu has the lowest proportion of individuals in the 15+ age group employed to capacity (63 percent) and an above average rate of economic inactivity.

14. Food shortages were not a problem in just over a tenth (11 percent) of households in Kishapu; this was also the proportion of food secure households in Rural Shinyanga as a whole.

15. A higher proportion of households reported deterioration in economic situation on both community and household levels in Kishapu than anywhere else in Rural Shinyanga.

16. Kishapu is also the district with the worst access to water; only 42 percent of households here are located within 30 minutes of travel from the nearest source of water. This access rate compares poorly with the rural regional average of 67 percent.

9.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 14. As can be seen, Kishapu has the second highest poverty rate in the region after Meatu; 40 percent of households in Kishapu live under the basic needs poverty line. This poverty rate exceeds the rural regional average by 10 percentage points.

Figure 15 further shows that there are roughly 20,400 poor households in Kishapu. These households make up 16 percent of all poor households in Rural Shinyanga Region.

Figure 14: Basic Needs Poverty Rates in Kishapu
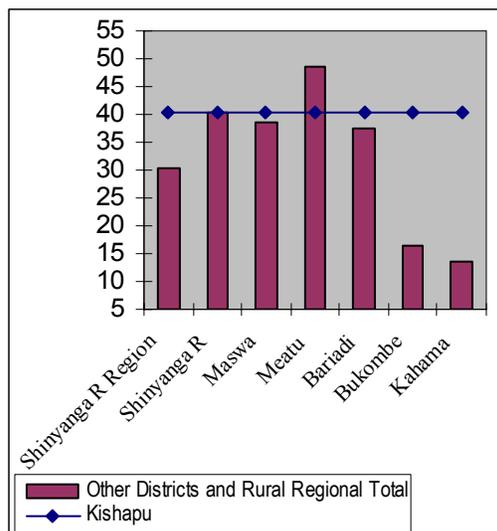
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 15: Kishapu's Share of the Poor Households in Rural Shinyanga Region
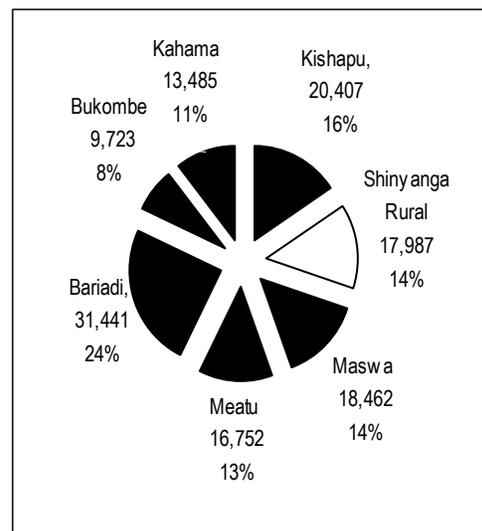
* This figure does not present a formal statistical test of difference in means

9.3 Population

On average, households in Kishapu are the same size as those in Shinyanga Rural and are among the largest in the region (Figure 16). An average household here is made up of 6.1 members; this figure exceeds the rural regional average of 5.8 persons and that in all the districts with the exception of Meatu.

The proportion of female headed households in Kishapu is 4 percentage points below the rural regional average, at 16 percent. As shown in Figure 17, this proportion is the

second lowest in the surveyed part of the region after Bukombe. In the majority of districts, female headed households make up at least a fifth of all households.

Figure 16: Average Household size (Kishapu)
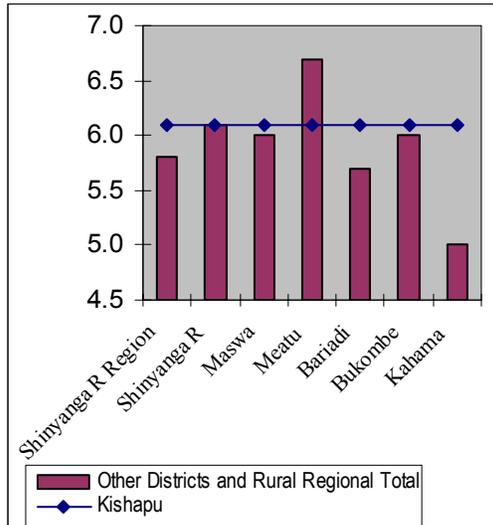
* This figure does not present a formal statistical test of difference in means
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Figure 17: Percentage of Female Household Heads in (Kishapu)
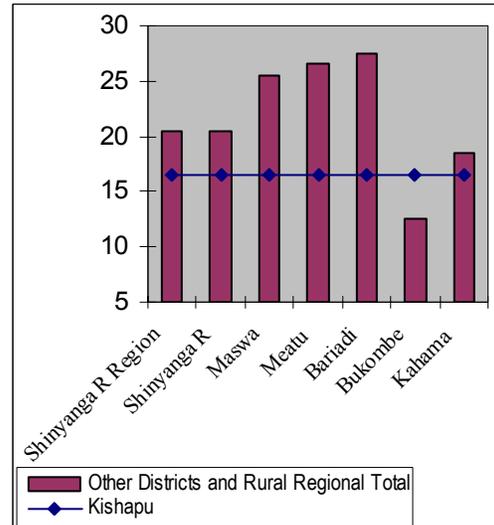
* This figure does not present a formal statistical test of difference in means
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As can be seen in Figure 18, livestock ownership is more widespread in Kishapu than in most other districts. While in Maswa, Bukombe and Kahama at least two out of three households own no livestock, this is the case for just three out of five households in Kishapu. Shinyanga Rural is the only district in the surveyed area with a lower proportion of households without livestock (46 percent). Kishapu is also the district with one of the highest proportions of households owning small livestock only; nearly one out of ten households here are in this category (9 percent), compared to the rural regional average of 7 percent (Table 56). The proportion of households holding both small and large livestock is second highest here after Meatu, at 20 percent.

Figure 18: Percentage of Households Owning no Livestock (Kishapu)
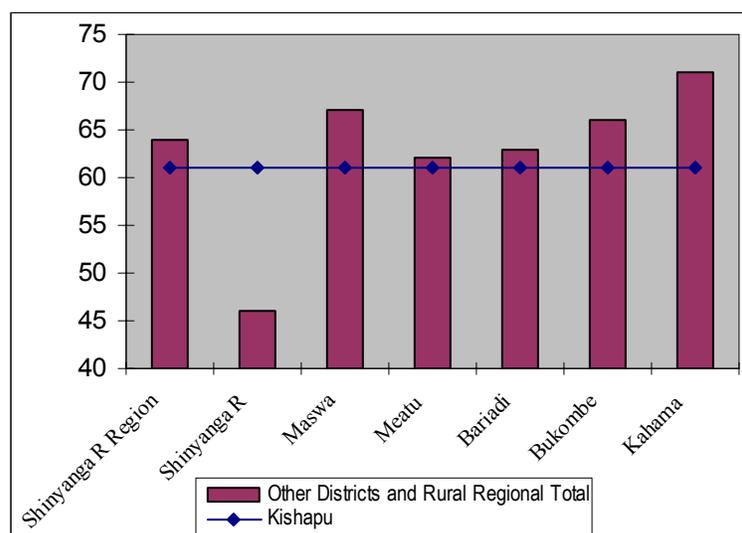
* This figure does not present a formal statistical test of differences in mean
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Table 56: Type of Livestock Owned (Kishapu)

| | *Ownership of Livestock[1]* | | | |
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga Rural	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.o	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 19 shows that large-scale possession of land is slightly more widespread in Kishapu than in the majority of the other surveyed districts. Nearly a quarter of the households here have at least six acres of land. Meatu and Bukombe are the only districts with a higher proportion of large-scale landowners.

Overall, as shown in Table 57, the pattern of land ownership observed in Kishapu is close to that observed in Rural Shinyanga Region as a whole. The majority of households here hold over 2 acres of land, while ownership of less than 1 acre is very rare. The proportion of landless households in this district is the second lowest in the surveyed part of the region after Shinyanga Rural, at 22 percent.

Figure 19: Percentage of Households Owning at Least 6 Acres of Land (Kishapu)
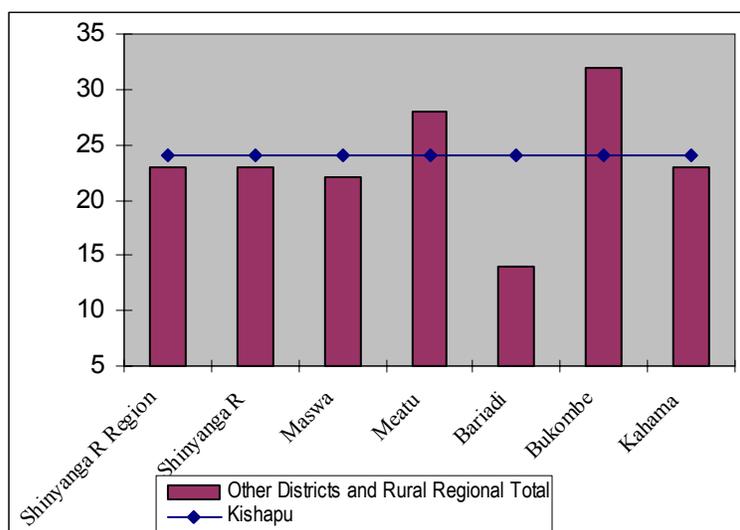
* This figure does not present a formal statistical test of differences in mean
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Table 57: Amount of Land Owned (Kishapu)

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13	24.6	14.9	23.6
Shinyanga Rural	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22.0
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

9.4   Education

Literacy rate in Kishapu is among the worst in the region; 37 percent of individuals aged 15 years and over cannot read and write here, compared to the rural regional average of 33 percent (Table 58). Lower literacy rates were found only in Shinyanga Rural and Meatu districts.

Access to primary and secondary schools is also comparatively low in Kishapu. Only 46 percent of primary school and 12 percent of secondary school students live within 30 minutes of travel from the nearest school, compared to the rural regional average of 53 and 16 percent respectively. At primary level, access rates everywhere but Maswa and Meatu exceed those in Kishapu; at secondary level only Shinyanga Rural and Meatu have lower access rates than Kishapu.

In contrast, satisfaction rates at primary and secondary levels are higher in Kishapu than most other districts. 44 percent of primary school children here report no problems with their schools; this is roughly 10 percentage points higher than the satisfaction rates in Maswa, Meatu and Bukombe. The proportion of secondary school students in Kishapu's schools reporting no problems is the highest in the surveyed part of the region. Only 38 percent of the secondary school students here were dissatisfied with their schools at the time of the survey, compared to the rural regional average of 66 percent.

Table 58: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Kishapu)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga Rural	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

The overall dissatisfaction rate in Kishapu is also one of the lowest in the surveyed part of the region, at 53 percent of all students. As is the case in all Rural Shinyanga districts, inadequate supplies of books and teaching materials, lack of teachers, and bad condition of facilities are the most common complaints regarding schools in Kishapu. The most

noticeable difference between the complaints in Kishapu and the rest of the districts is the significantly lower proportion of students citing lack of teachers as a problem; while across the surveyed part of the region three out of four dissatisfied students mentioned lack of teachers, this was the case for just over one in two dissatisfied students in Kishapu (Table 59).

Table 59: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Kishapu)

		Reasons for dissatisfaction[1]					
	Dissatisfaction	Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Shinyanga Rural Region	59	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga R	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72.0	20.6	40.3	24.3
Meatu	65.4	81.3	18.0	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

While primary school Gross Enrolment Rate (GER) in Kishapu is the lowest in the region, this district is characterised by the second highest secondary school GER. At the time of the survey, Kishapu's primary school students made up 93 percent of primary school aged children in the district; this proportion is 14 and 18 percentage points higher in Kahama and Meatu, respectively and is 7 percentage points lower than the rural regional average (Figure 20). At secondary level, the GER is equal to those found in Bariadi, Bukombe and Kahama districts; the proportion of individuals at secondary school in these districts, irrespective of age, make up 7 percent of all individuals of secondary school age in the districts (Figure 21). Maswa is the only district in Rural Shinyanga where this proportion is substantially higher at 18 percent.

Figure 20: Primary School Gross Enrolment Rate (Kishapu)
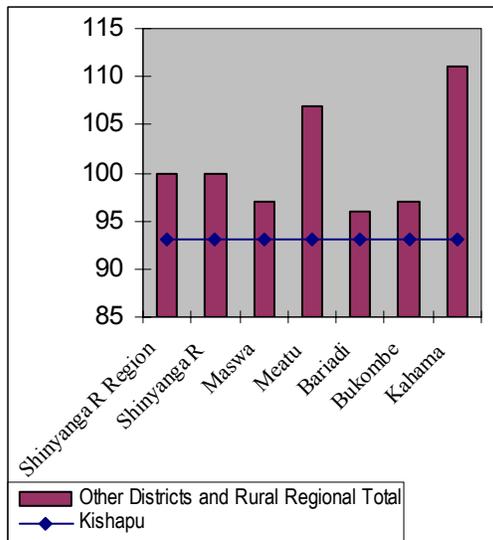
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Figure 21: Secondary School Gross Enrolment Rate (Kishapu)
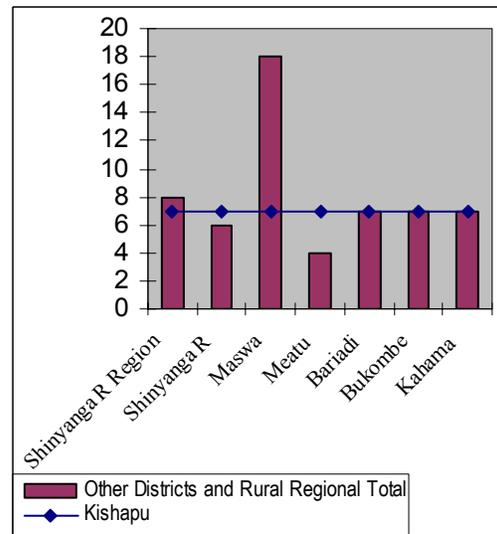
* This figure does not present a formal statistical test of difference in means

The secondary school drop out rate in Kishapu is the second highest in Rural Shinyanga, at 16 percent (Figure 22).

Figure 22: Secondary School Dropout Rate (Kishapu)
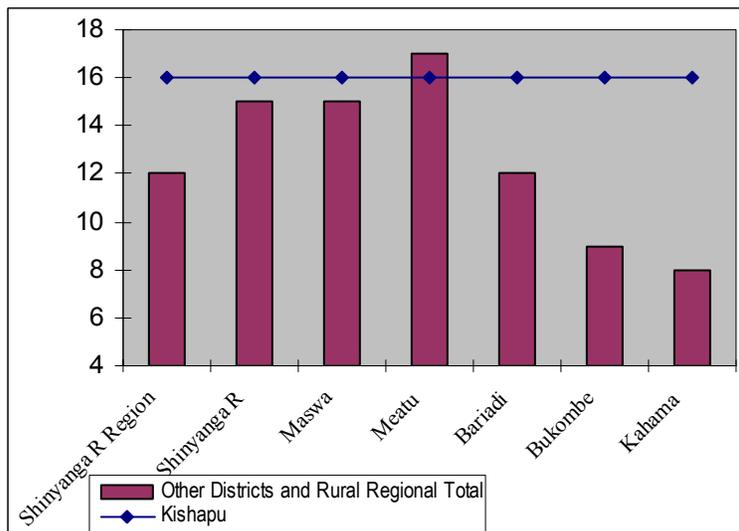
* This figure does not present a formal statistical test of differences in mean
** The y-axis does not start at 0

This is also the district that has the highest proportion of 7 to 13 year olds out of school (Figure 23). At the time of the survey, 28 percent of children in this age group were not attending school; in the majority of districts this proportion did not exceed 25 percent.

On average, school children in Kishapu are 1.9 years behind; this is almost equal to the rural regional average of 2.0 years and is exactly equal to the lag incurred in Shinyanga Rural and Meatu districts. Overall, differences in magnitude of lag incurred do not exceed five months, with the biggest lag found in Bariadi and Bukombe at 2.2 years.

Figure 23: Percentage of Children Age 7-13 who are not Attending School (Kishapu)
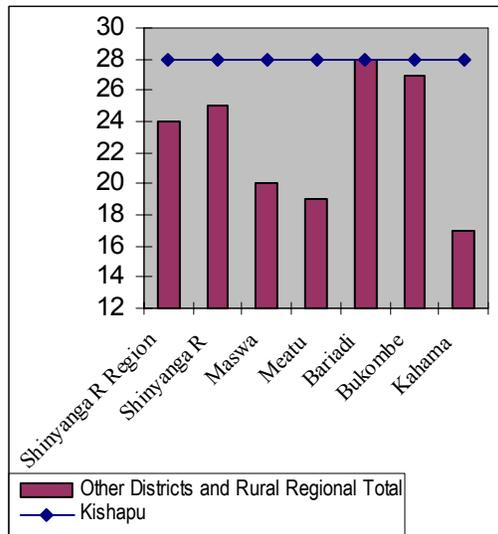
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Figure 24: Years of Lag at School by School Going Children aged 7-19 (Kishapu)
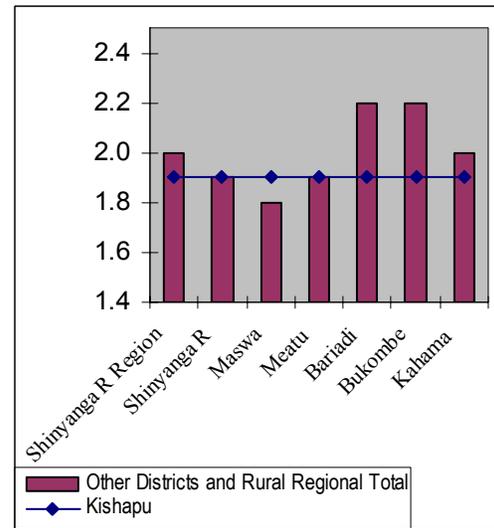
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9.5 Health

Kishapu, alongside Maswa, ranks second in access to health facilities; nearly a third (31 percent) of households here are located within 30 minutes of travel from the nearest health facility. This is roughly equal to the rural regional average rate and is only lower than the health facility access rate in Bukombe, where nearly half (48 percent) of the households have access to health facilities.

Kishapu is also the district with the second highest rate of need in the district; 16 percent of individuals in this district reported incidence of illness in the four weeks preceding the survey. Overall, variation in rates of need (incidence of illness) across the districts is not substantial; lowest rates of need were reported in Bariadi (10 percent) and highest in Bukombe (17 percent).

**Figure 25: Access to Health Facilities:
% Households Living
within 30 Minutes of Travel
(Kishapu)**
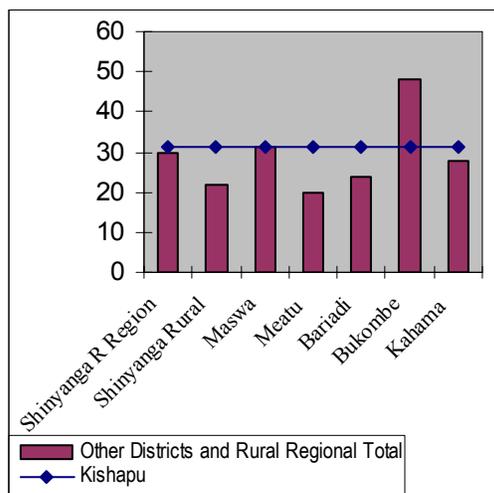
* This figure does not present a formal statistical test of
difference in means

**Figure 26: Need for Health Facilities:
% of People Reporting an
Illness in Past 4 Weeks
(Kishapu)**
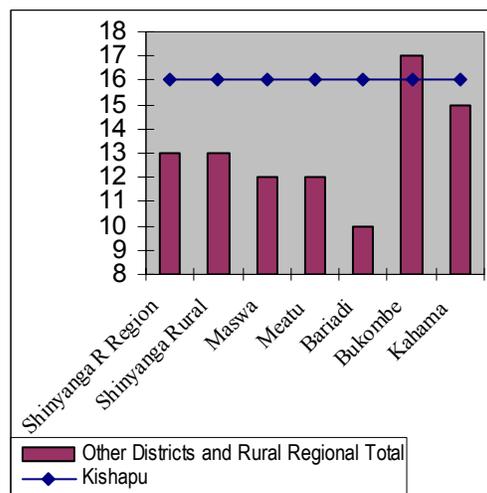
* This figure does not present a formal statistical test of
difference in means
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Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts. Nevertheless, the rate of health facility use in Kishapu was the second lowest in the region after Bariadi (Figure 27). Less than a fifth of Kishapu's residents had consulted a health provider in the four weeks preceding the survey; this is 1 percentage point below the rate of use in Shinyanga Rural, Meatu, and the overall rural regional average.

Out of those who had used a health facility in the four weeks preceding the survey, 70 percent were happy with the service received. This is one of the highest satisfaction rates in the region, although, as can be seen from Figure 28, variation in satisfaction rates did not exceed 7 percentage points. The most commonly cited reasons for dissatisfaction in Kishapu were cost, length of waiting time, unsuccessful treatment and lack of supplies; this was also the case in the majority of the surveyed districts. However, the proportion of patients citing hygiene, shortage of trained professionals and lack of medication were substantially lower here than in any other districts. In fact, in all categories, with the exception of unsuccessful treatment, proportions of dissatisfied patients in Kishapu were below the rural regional average. This means that patients here tend to make fewer complaints than is average for the region.

Figure 27: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Kishapu)
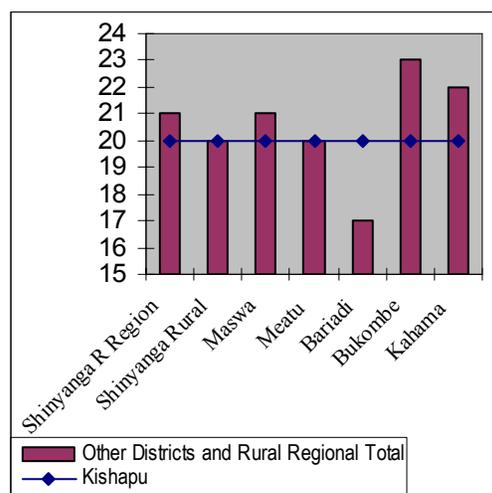
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Figure 28: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Kishapu)
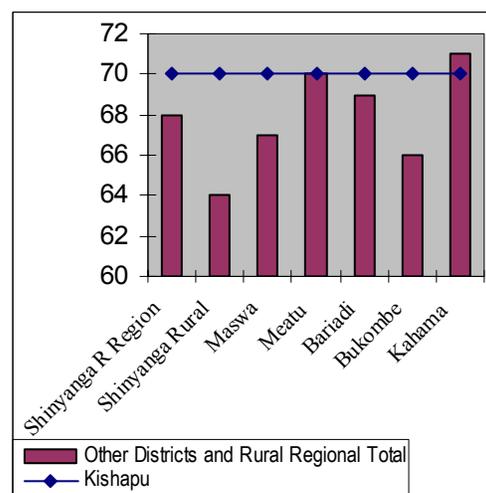
* This figure does not present a formal statistical test of difference in means
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Table 60: Reason for Dissatisfaction with Health Services (Kishapu)

| | Dissatisfaction | *Reasons for dissatisfaction[1]* | | | | | | |
		Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga Rural	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

Figure 29 is a graphical representation of the overall trend in health indicators in Kishapu compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Shinyanga Rural, Bukombe and Maswa).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further, the graphs show that levels of reported need are highest in Kishapu, and Bukombe and lowest in Bariadi.

Figure 29: Main Health Indicators
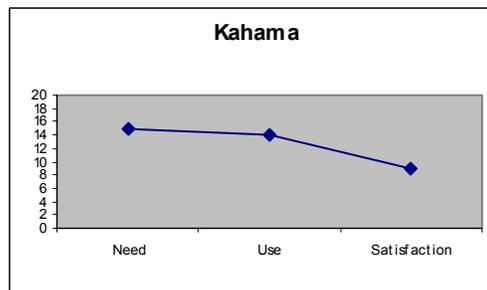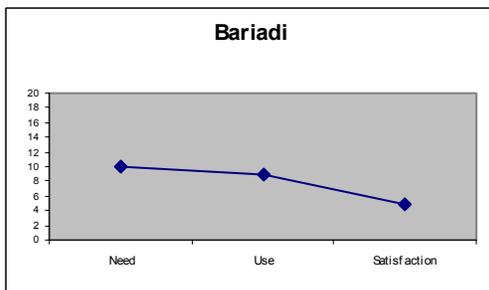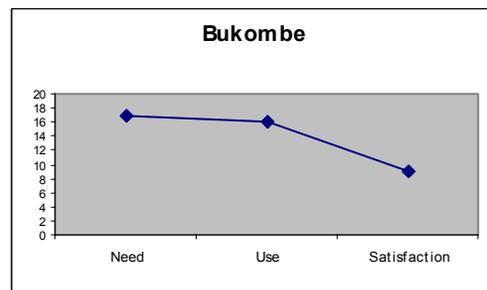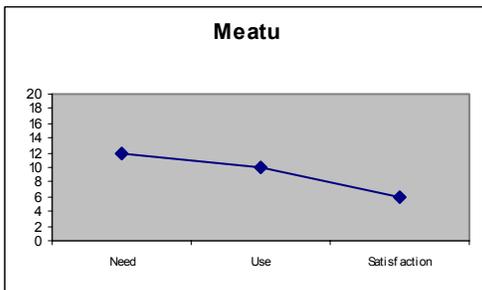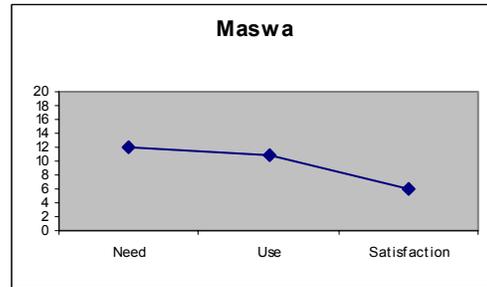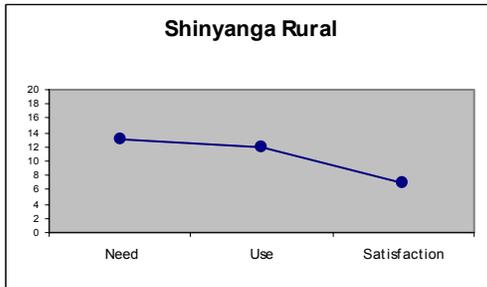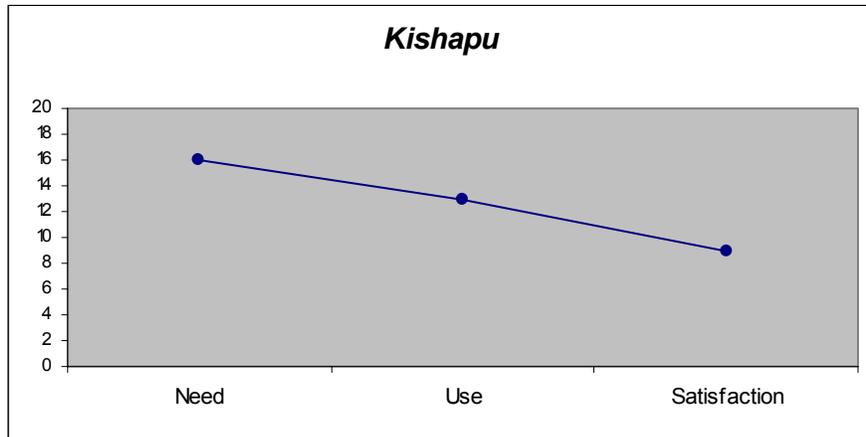
9.6   Child Delivery and Nutrition

Figure 30 shows that the rate of health facility use in child birth is higher in Kishapu than anywhere else in Rural Shinyanga; 80 percent of women who had a live-birth in the year preceding the survey had delivered in a hospital or maternity ward. This rate exceeds the rural regional average by 26 percentage points, and is nearly 10 percentage points higher than the second highest rate of health facility use in child delivery (found in Shinyanga Rural).

Figure 30: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Kishapu)
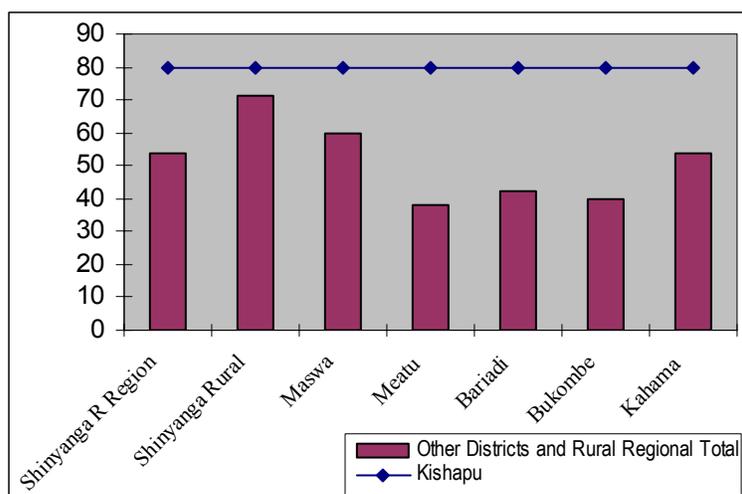
* This figure does not present a formal statistical test of differences in mean

Figure 31 and Figure 32 respectively inform on the long and short-term nutritional status of the youngest children in the population (0 to 5 year-olds). Figure 31 shows that the rate of stunting in Kishapu is lower than anywhere else in the surveyed area. Stunting affects 28 percent of the children here, compared nearly a third (31 percent) of the under 5's in Meatu.

In contrast, wasting seems to be more prevalent in Kishapu than in all the other surveyed districts with the exception of Bariadi. 6 percent of children here are acutely malnourished, compared to only 3 percent in Bukombe. It must be noted that variation in wasting rates across the districts does not exceed 6 percentage points.

Figure 31: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Kishapu)
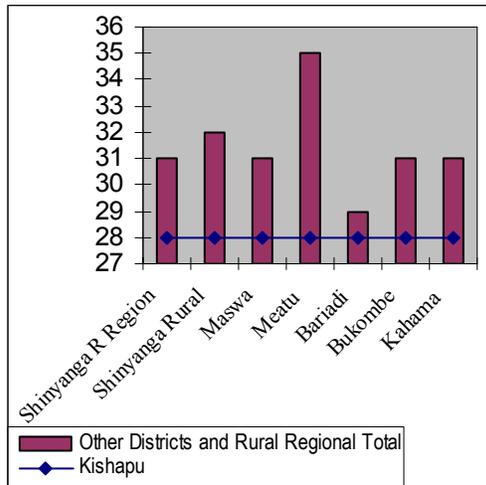
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 32: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Kishapu)
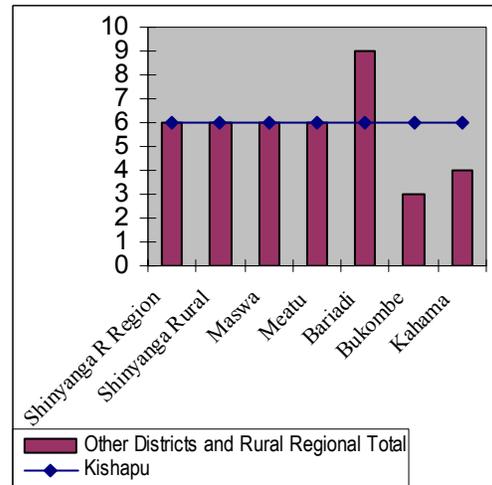
* This figure does not present a formal statistical test of difference in means

9.7 Employment

Unemployment and underemployment are more widespread in Kishapu than anywhere else in Rural Shinyanga, with the exception of Bukombe district. 63 percent of individuals over the age of 14 are employed to capacity here, compared to the rural regional average of 65 percent, and nearly 70 percent in Meatu and Bariadi.

Figure 33: Percentage of Population Employed to Full Capacity (Kishapu)[1]
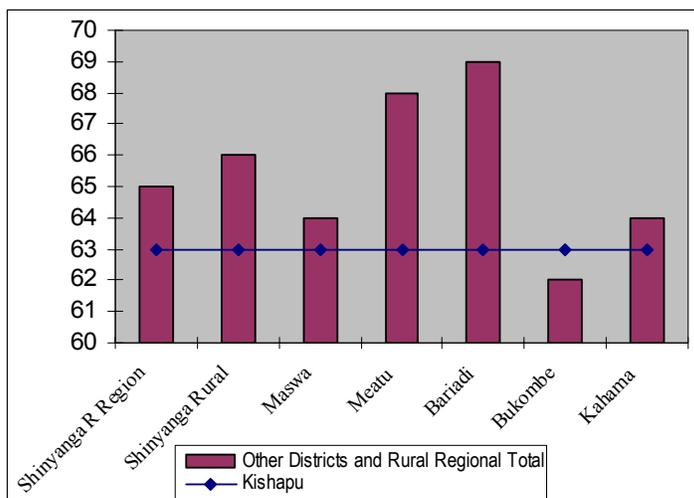
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1. Population includes over the age of 14

9.8   Other Welfare Indicators

Just over one in ten households in Kishapu (11 percent) reported that food shortages had not been a problem in the year preceding the survey. This proportion is equal to the rural regional average; only Bukombe and Kahama districts had higher proportions of fully food secure households at the time of the survey (Figure 34).

In contrast, the rate of access to water in Kishapu is the lowest in the region. As shown in Figure 35, only 42 percent of households here are located within 30 minutes of travel from a source of water. This proportion is more than one and a half times smaller than the rural regional average of 67 percent, and is nearly half the access rate in Bariadi, where the great majority of households are located within 30 minutes of travel from the nearest source of water.

Figure 34: Percentage of Households Reporting Never to Face Food Shortages (Kishapu)
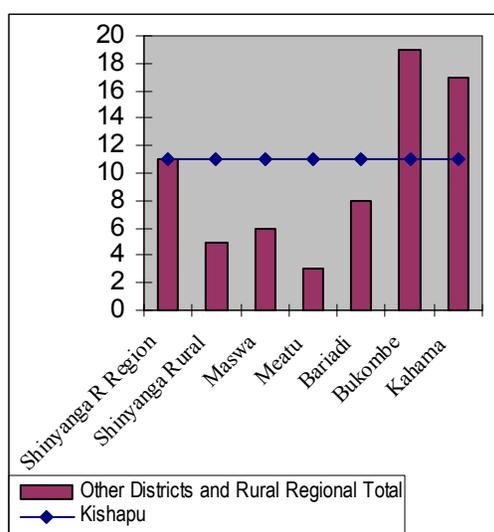
* This figure does not present a formal statistical test of difference in means

Figure 35: Percentage of Households with Access to Water Facilities (Kishapu)
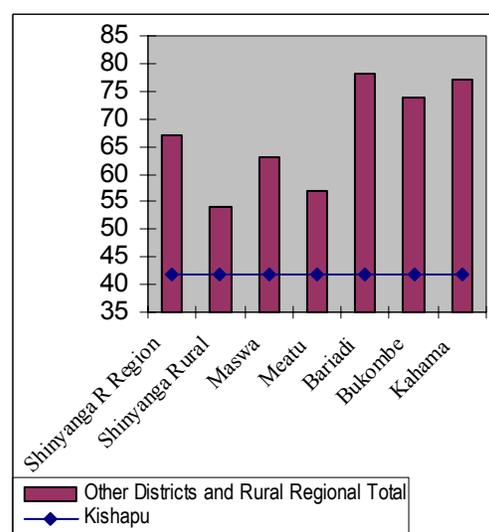
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 36 and Figure 37 , the great majority in Kishapu perceive a negative change in the household and community situation; negative change appears to have been felt more acutely here than in the rest of Rural Shinyanga. 81 percent of households reported deterioration in the economic situation in their community and 74 percent in their households. Both of these proportions exceed the rural regional average by 14 and 18 percentage points respectively and are higher than those anywhere else in the surveyed area.

Figure 36: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Kishapu)
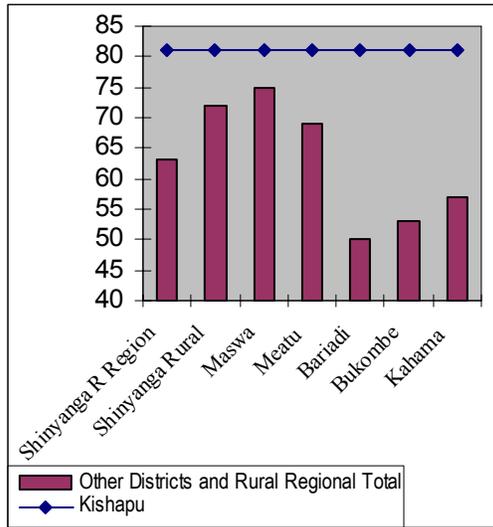
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 37: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Kishapu)
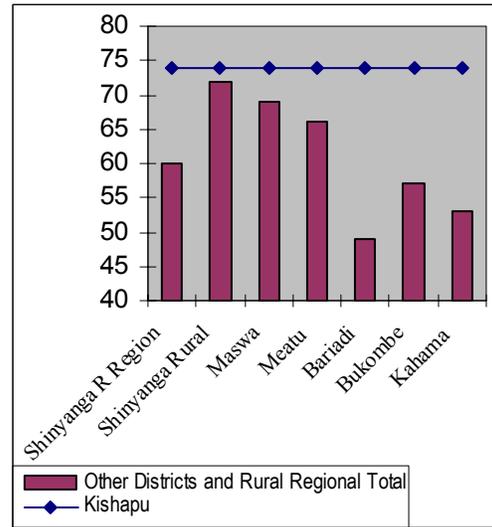
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

10 SPOTLIGHT ON SHINYANGA RURAL

10.1 Key Findings of Rural Shinyanga CWIQ for Shinyanga Rural

1. Shinyanga Rural district contains 11 percent of all households in the Rural Shinyanga Region. Further, this is the second least populated district in the surveyed area; only 11 percent of the whole population of Rural Shinyanga Region live here.

2. The poverty rate in Shinyanga Rural is the second highest in the rural part of the region; two out of five households here live under the basic needs poverty line. These poor households make up 14 percent of all poor households in the surveyed part of the region.

3. On average, households in Shinyanga Rural are made up of 6.1 members. Households here tend to be larger than those in the rest of the surveyed districts, with the exception of Meatu.

4. Livestock ownership is more widespread in Shinyanga Rural than in the rest of the surveyed districts. The rate of large-scale land ownership is equal to that in Kahama and the rural regional average; proportions of households owning at least 6 acres of land are only lower in Maswa and Bariadi districts.

5. Both the literacy rate and the secondary school access rate are lower in Shinyanga Rural than anywhere else in the surveyed part of the region. Although the primary school access rate is higher than that in Maswa and Meatu districts, it is still 7 percentage points lower than the rural regional average.

6. Satisfaction levels with primary and secondary school are among the highest in the region here. Hence, overall school dissatisfaction rate is also lower in this district than in the majority of the other districts with the exception of Kishapu and Bariadi. Further, the majority of dissatisfied students cited lack of books/supplies and shortage of teachers as the main problems.

7. While primary school Gross Enrolment Rate (GER) in Shinyanga Rural is equal to the rural regional average, at secondary school level the GER is the second lowest in the surveyed part of the region after Meatu.

8. The secondary school drop out rate in Shinyanga Rural is higher than that in the majority of districts; at 15 percent it is equal to the dropout rate in Maswa and lower than that in Kishapu and Meatu districts. The school non-attendance rate among primary school age children (7 to 13 years old) is slightly higher here than

the rural regional average; one in four children in the age group were not attending school at the time of the survey.

9. Access to health facilities in Shinyanga Rural is worse than that in all districts with the exception of Meatu. The rate of need in this district is equal to the rural regional average; 13 percent of individuals here had been ill in the four weeks preceding the survey. Use of health facilities here is also equal to the rural regional average and to that in Kishapu and Meatu districts; one out of five residents of Shinyanga Rural had consulted a health provider in the four weeks preceding the survey.

10. The rate of dissatisfaction here was higher than in the rest of the districts. The main reasons for dissatisfaction were the cost of health services and lack of medication; unsuccessful treatment was also a common complaint.

11. Over 70 percent of pregnant women in Shinyanga Rural delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth exceeds the rural regional average and that in the rest of the surveyed districts with the exception of Kishapu.

12. The rates of both chronic malnourishment (stunting) and acute malnourishment (wasting) in Shinyanga Rural district were roughly equal to the rural regional average.

13. After Meatu and Bariadi, Shinyanga Rural has the highest proportion of individuals in the 15+ age group employed to capacity; two out of three people in this district were fully employed at the time of the survey.

14. Food shortages were more widespread in Shinyanga Rural than in the majority of the surveyed districts with the exception of Meatu. 95 percent of households in this district had experienced some degree of food need in the year preceding the survey.

15. A higher proportion of households reported deterioration in economic situation on both community and household levels in Shinyanga Rural than in the majority of the surveyed districts with the exception Kishapu and Maswa.

16. Only just over half (54 percent) of households in Shinyanga Rural have access to a source of water; this is the second lowest access rate in the surveyed area after Kishapu.

10.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 38. As can be seen, 40 percent of households in Shinyanga Rural live under the basic needs poverty line; the poverty rate thus defined is exceeds the rural regional average by 10 percentage points.

Figure 39 further shows that nearly 18,000 households in Shinyanga Rural live below the basic needs poverty line. These households constitute 14 percent of all poor households in the surveyed area.

Figure 38: Basic Needs Poverty Rates in Shinyanga Rural
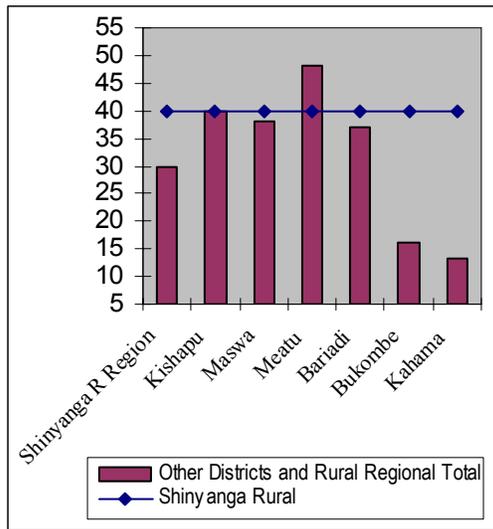
Figure 39: Shinyanga Rural's Share of the Poor Households in Rural Shinyanga Region

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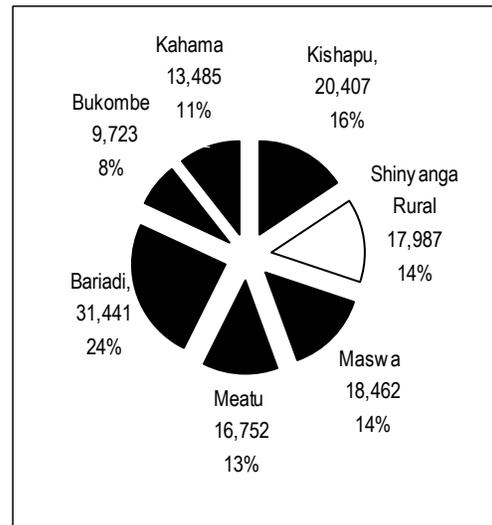
* This figure does not present a formal statistical test of difference in means

10.3 Population

Households in Shinyanga Rural are among the largest in the region (Figure 40). On average, households here are made up of 6.1 members; this figure exceeds the rural regional average (5.8 persons) and the majority of the districts with the exception of Kishapu (6.1 persons) and Meatu (6.7 persons).

The proportion of female headed households in Shinyanga Rural is equal to the rural regional average, at 20 percent. District level results are presented in Figure 41.

Figure 40: Average Household size (Shinyanga Rural)
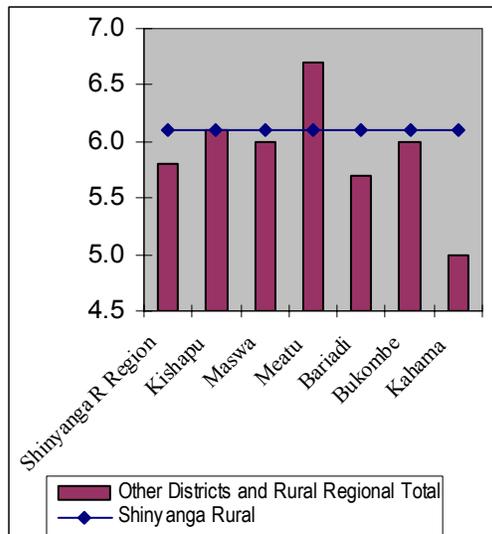
Figure 41: Percentage of Female Household Heads in (Shinyanga Rural)
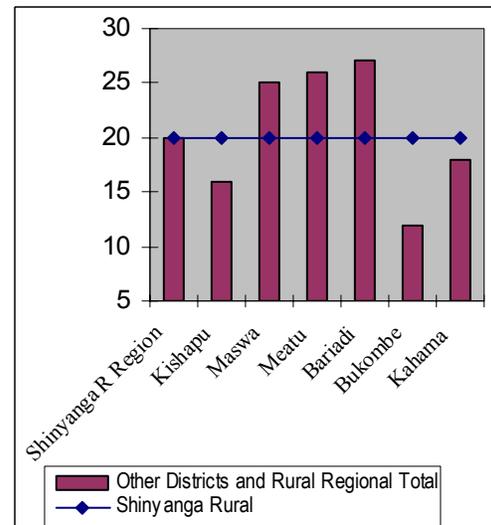
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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

As can be seen in Figure 42, livestock ownership is more widespread in Shinyanga Rural than in any other surveyed districts. While on average nearly two out of three households in the surveyed area own no livestock, this is the case in less than half (46 percent) of the households in Shinyanga Rural. Table 61 shows district level trends in livestock ownership in more detail. As can be seen, ownership of both small and large livestock is more widespread in Shinyanga Rural than in any other district; nearly a third of households in this district hold both small and large livestock compared to the rural regional average of 17 percent. In addition, small livestock ownership is also slightly more common here than in the rest of the surveyed districts.

Figure 42: Percentage of Households Owning no Livestock (Shinyanga Rural)
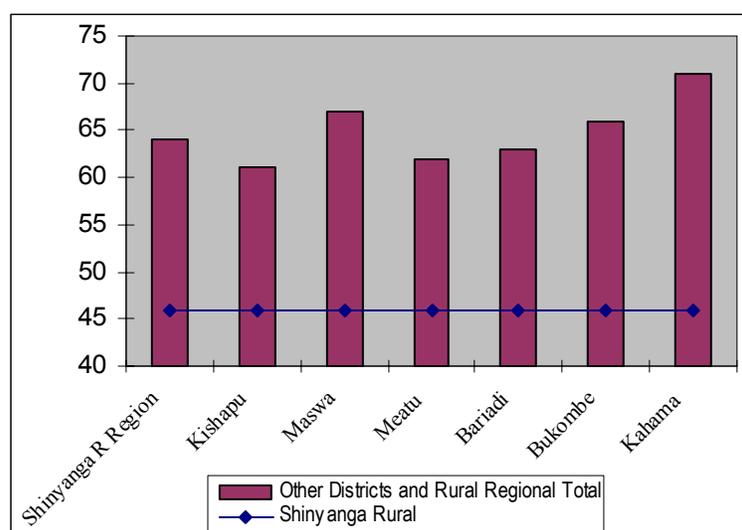
* This figure does not present a formal statistical test of differences in mean
** The y-axis does not start at 0

Table 61: Type of Livestock Owned (Shinyanga Rural)

	Ownership of Livestock[1]			
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga Rural	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 43 shows that the rate of large-scale land ownership (6+ acres of land) in Shinyanga Rural is equal to the rural regional average. Just fewer than one in four households in this district own at least 6 acres of land. Out of the surveyed districts, Meatu and Bukombe are the only areas where large-scale land ownership is more widespread.

Table 62 presents a more detailed overview of district level trends in land ownership. As can be seen, while landless households make up over a quarter of all households in the surveyed area, in Shinyanga Rural less than a tenth of all households are in this position. 91 percent of households here own some land; the majority (75 percent) own at least 2 acres.

Figure 43: Percentage of Households Owning at Least 6 Acres of Land (Shinyanga Rural)
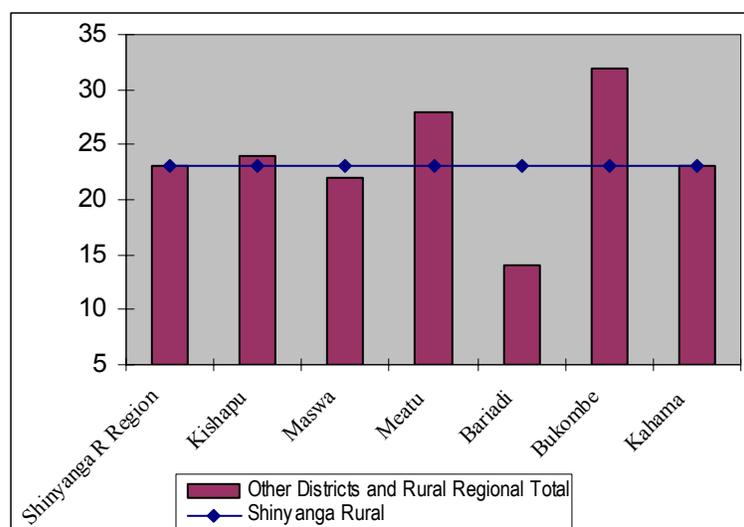
* This figure does not present a formal statistical test of differences in mean
** The y-axis does not start at 0

Table 62: Amount of Land Owned (Shinyanga Rural)

	Acres of land owned by the household					
	None	< 1	1 – 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13.0	24.6	14.9	23.6
Shinyanga Rural	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

10.4 Education

Shinyanga Rural district has the lowest literacy rate in the surveyed area; 59 percent of individuals over the age of 14 years can read and write here (Table 63). Meatu is the only other district in the surveyed area where the literacy rate is almost as low, at 60 percent.

Access rates to primary and secondary schools are lower in Shinyanga Rural than in most of the surveyed districts. Only 47 percent of primary school pupils live within 30 minutes of travel from the nearest primary school in this district. This access rate is 6

percentage points lower than the rural regional average, and compares especially poorly to that in Bukombe district (68 percent). At secondary level, only 4 percent of children of secondary school age live within 30 minutes of travel from the nearest secondary school. This access rate is worse than that in the rest of the surveyed districts; it is four times lower than the rural regional average and seven times lower than the secondary school access rate in Bukombe.

Primary and secondary school satisfaction rates in Shinyanga Rural district are above average. 45 percent of primary school pupils cited no problems with their schools; this is the second highest rate after that in Bariadi, where over half (53 percent) of students were satisfied at the time of the survey. At secondary level, 44 percent of students expressed no complaints regarding their schools; this satisfaction rate exceeds the rural regional average by 10 percentage points. Although noticeably above the rural regional average, the satisfaction rate in secondary schools in Shinyanga Rural is almost 20 percentage points lower than that in Kishapu (where the highest satisfaction rate is found).

Table 63: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Shinyanga Rural)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga Rural	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Overall, school dissatisfaction rate in Shinyanga Rural is slightly lower than average at 55 percent (Table 64). This is the third lowest dissatisfaction rate in the surveyed part of the region after Bariadi and Kishapu. There are few differences between the ranges of reasons given for dissatisfaction in the surveyed districts. In all districts, inadequate supplies of books/teaching materials, as well as lack of teachers were mentioned by the great majority of dissatisfied pupils; bad condition of facilities was also a commonly cited problem.

Table 64: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Shinyanga Rural)

	Dissatisfaction	Reasons for dissatisfaction[1]					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59.0	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga R.	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72	20.6	40.3	24.3
Meatu	65.4	81.3	18	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

Primary school Gross Enrolment Rate (GER) is relatively high in Shinyanga Rural. Pupils attending primary schools here, irrespective of age, constitute 100 percent of primary school age children in the district (Figure 44). This GER is equal to the rural regional average and is higher than that in all the other surveyed districts with the exception of Meatu and Kahama.

The reverse trend was found in secondary school enrolment. The secondary school GER in Shinyanga Rural is second lowest in the surveyed area after that in Meatu. Secondary school pupils here, irrespective of age, make up 6 percent of the secondary school age population.

Figure 44: Primary School Gross Enrolment Rate (Shinyanga Rural)
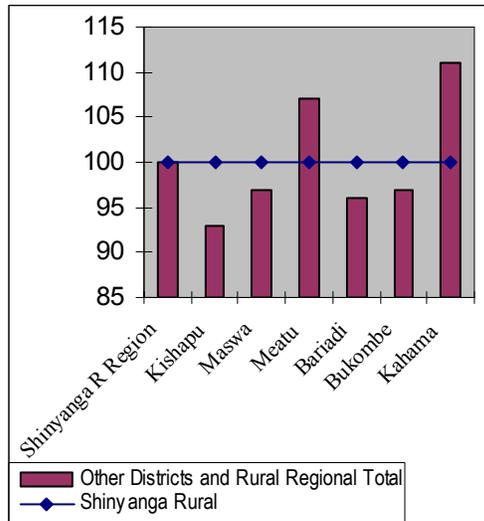
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 45: Secondary School Gross Enrolment Rate (Shinyanga Rural)
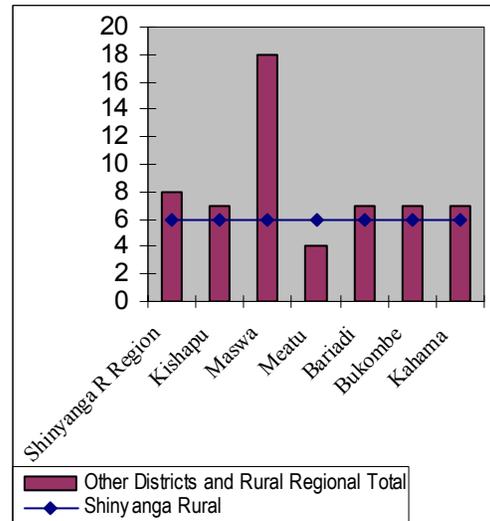
* This figure does not present a formal statistical test of difference in means

As shown in Figure 46, Shinyanga Rural has one of the highest dropout rates in the surveyed area at 15 percent. Higher rates were found only in Kishapu and Meatu, at 16 and 17 percent respectively.

Figure 46: Secondary School Dropout Rate (Shinyanga Rural)
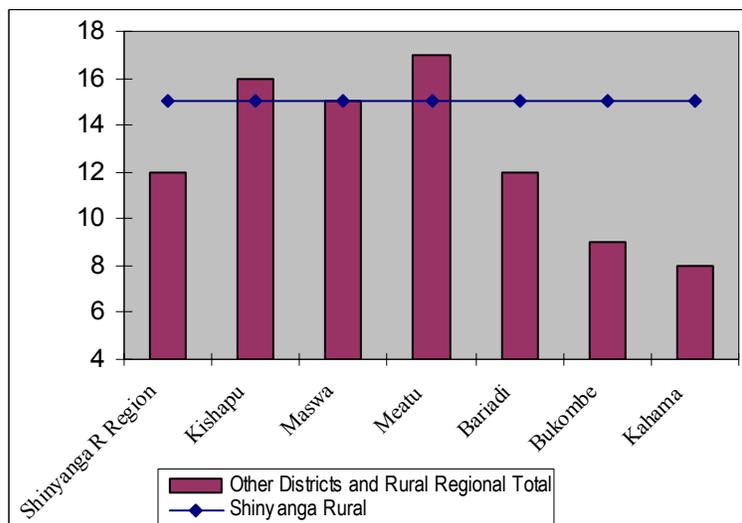
* This figure does not present a formal statistical test of differences in mean
** The y-axis does not start at 0

Results of the survey further show that a quarter of primary school age children (7 to 13 years) in Shinyanga Rural were out of school at the time of the survey (Figure 47). This

non-attendance rate is almost equal to the rural regional average and is only 3 percentage points lower than the highest non-attendance rates found in Kishapu and Bariadi districts.

On average, school children in Shinyanga Rural are roughly 1.9 years behind; this is almost equal to the rural regional average of 2.0 years and is exactly equal to the lag incurred in Kishapu and Meatu districts. Overall, differences in magnitude of lag incurred do not exceed five months, with the biggest lag found in Bariadi and Bukombe districts at 2.2 years (Figure 48).

Figure 47: Percentage of Children Age 7-13 who are not Attending School (Shinyanga Rural)
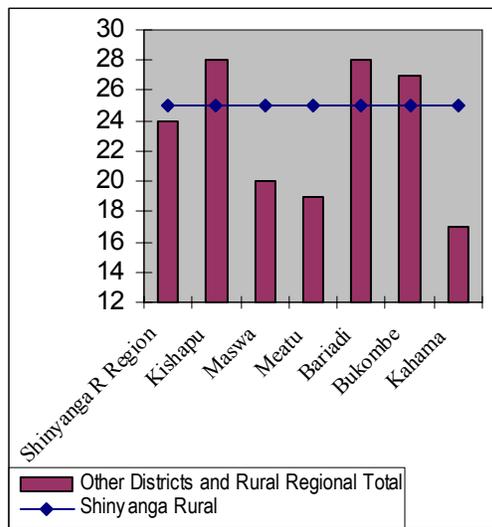
* This figure does not present a formal statistical test of difference in means

Figure 48: Years of Lag at School by School Going Children aged 7-19 (Shinyanga Rural)
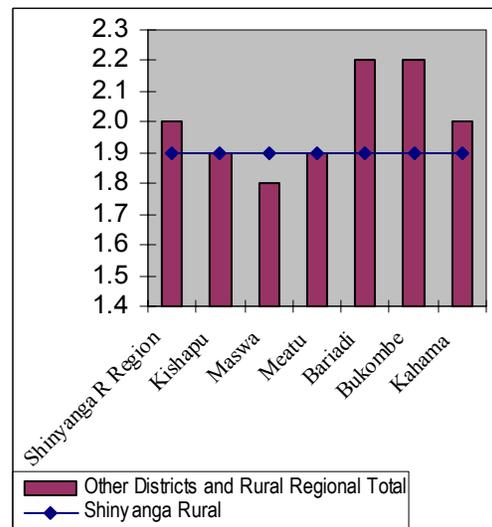
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

10.5 Health

The level of access to health services in Shinyanga Rural is among the lowest in the region; while in the majority of the surveyed districts at least a quarter of the households are located within 30 minutes of travel from the nearest health facility, in Shinyanga Rural this is the case for just over a fifth (22 percent) of households. Meatu is the only district where access to health facilities is worse than in Shinyanga Rural.

The rate of need for health services in Shinyanga Rural is equal to the rural regional average; 13 percent of individuals in the district had been ill in the four weeks preceding the survey. Lower rates of need were found in Bariadi, Maswa and Meatu districts. Overall, variation in rates of need (incidence of illness) across the districts is not substantial; lowest rates of need were reported in Bariadi (10 percent) and highest in Bukombe (17 percent).

Figure 49: Access to Health Facilities:
% Households Living
within 30 Minutes of Travel
(Shinyanga Rural)
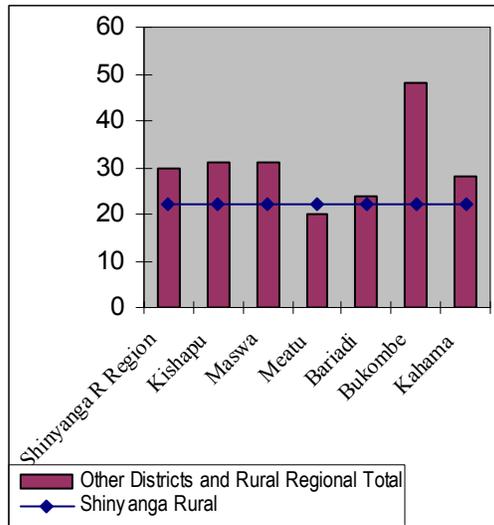
* This figure does not present a formal statistical test of difference in means

Figure 50: Need for Health Facilities:
% of People Reporting an
Illness in Past 4 Weeks
(Shinyanga Rural)
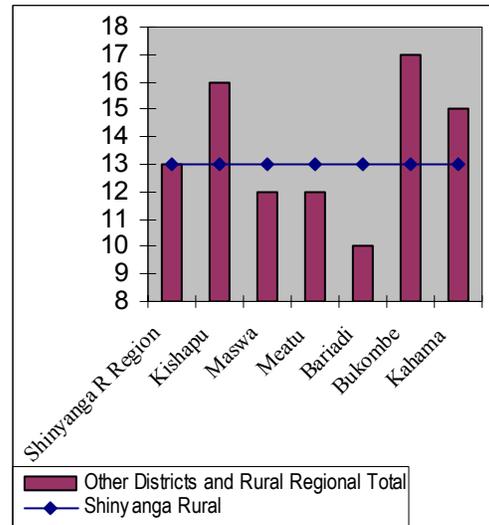
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts. The rate of use of health services in Shinyanga Rural is roughly equal to the rural regional average, as well as that in Kishapu and Meatu; approximately one in five people in these districts had consulted a health provider in the four weeks preceding the survey (Figure 51).

Quality of health service provision is lower in Shinyanga Rural than in any other district, judging by the level of satisfaction among the users. As shown in Figure 52, only 64 percent of health service users in the district expressed satisfaction with the services received. This rate is 4 percentage points lower than the rural regional average and 7 percentage points lower than that in Kahama (the district with the highest level of satisfaction). The main reasons for dissatisfaction with health services in Shinyanga Rural were high cost and lack of medication, cited by 51 percent and 49 percent of dissatisfied health users respectively (Table 65). Further, while the proportion of health facility users complaining about shortage of trained professionals was lower here than the rural regional average, unsuccessful treatment appears to be more of an issue than in Rural Shinyanga Region as a whole.

Figure 51: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Shinyanga Rural)
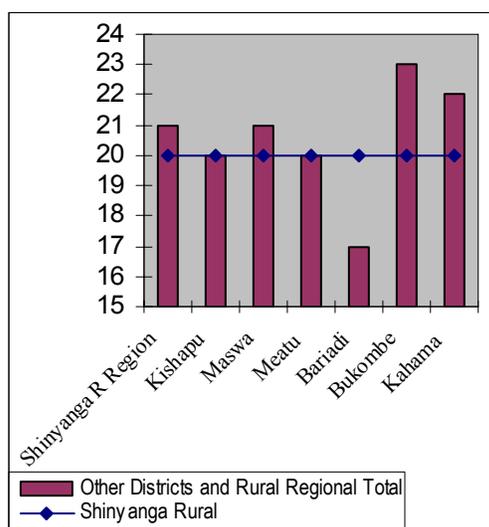
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 52: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Shinyanga Rural)
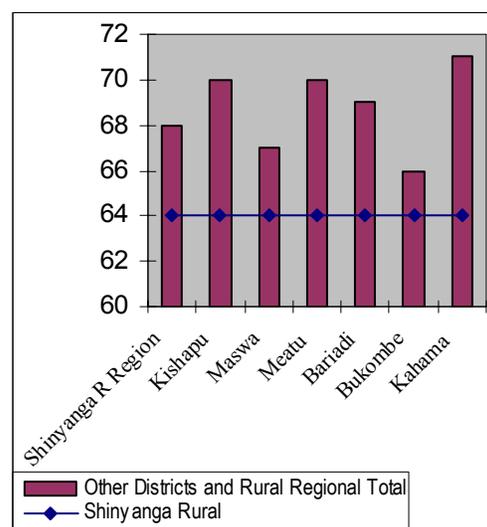
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 65: Reason for Dissatisfaction with Health Services (Shinyanga Rural))

		Reasons for dissatisfaction[1]						
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga Rural	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

Figure 53 is a graphical representation of the overall trend in health indicators in Shinyanga Rural compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Shinyanga Rural, Bukombe and Maswa).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further the positioning of the graphs shows that levels of reported need are highest in Kishapu, and Bukombe and lowest in Bariadi. Shinyanga Rural, Maswa and Meatu are characterised by midrange levels of need for the surveyed area.

Figure 53: Main Health Indicators

Shinyanga Rural

Kishapu

Maswa

Meatu

Bukombe

Bariadi

Kahama
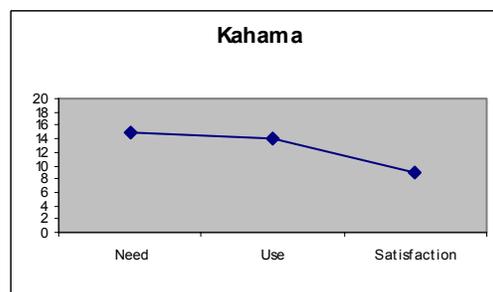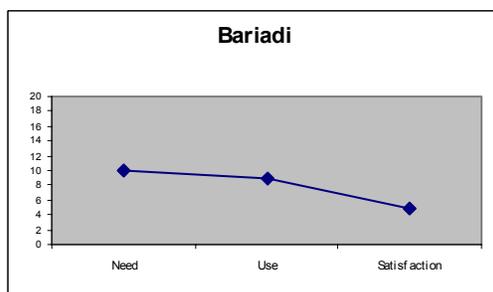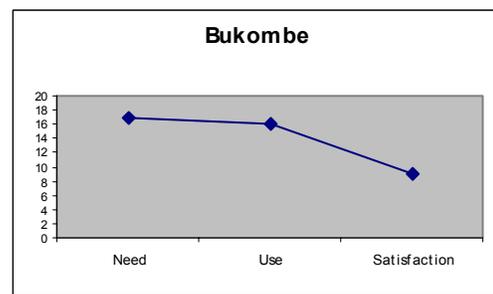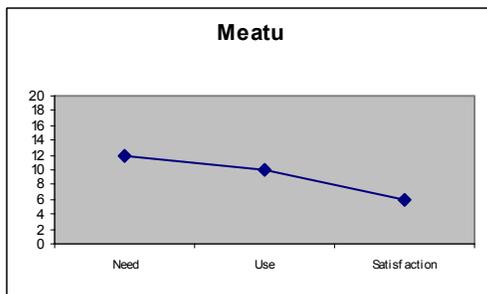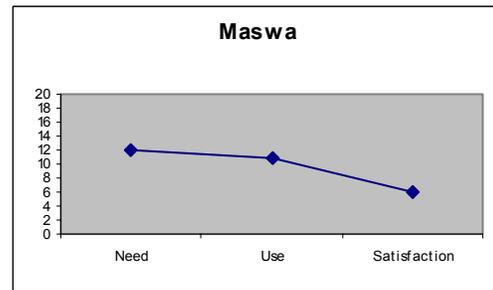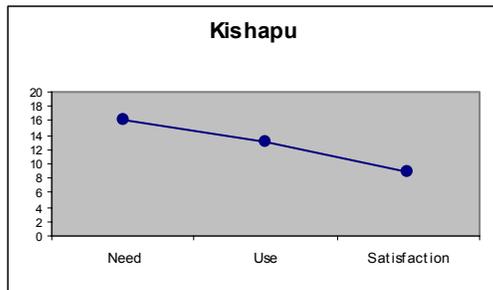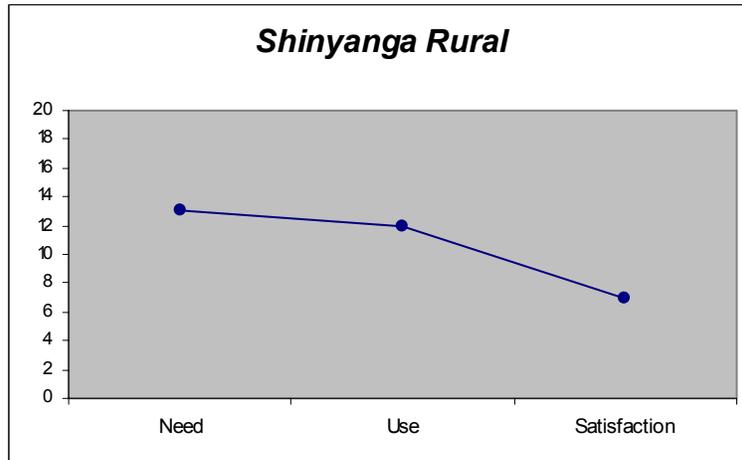
10.6 Child Delivery and Nutrition

Women in Shinyanga Rural tend to use health facilities in child birth more often than in the majority of the other rural parts of the region. While on average just over half of the new mothers in Rural Shinyanga (54 percent) delivered in a hospital in the year preceding the survey, in Shinyanga Rural these women made up over two thirds (71 percent) of new mothers (Figure 54).

Figure 54: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Shinyanga Rural)
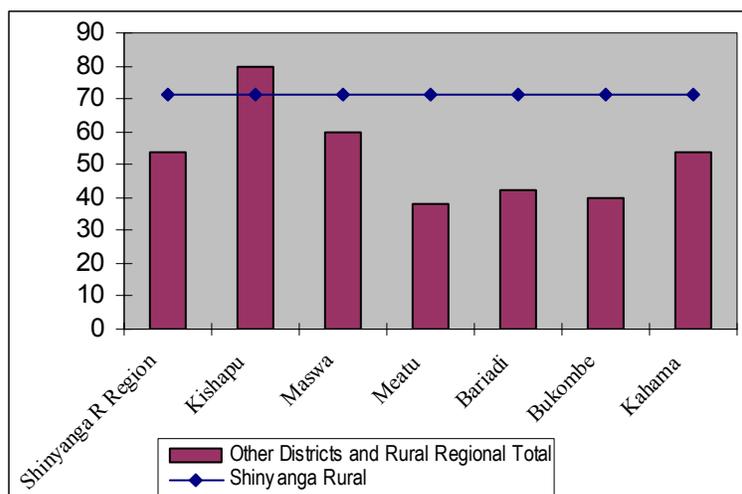
* This figure does not present a formal statistical test of differences in mean

The proportion of chronically malnourished children in Shinyanga Rural is roughly equal to the rural regional average. Figure 54 shows that approximately a third of children under the age of 5 in Shinyanga Rural were too short for their age at the time of the survey, compared to the rural regional average of 31 percent. Only Meatu district had higher rates of stunting in the rural part of the region.

The rate of acute malnutrition is also equal to the rural regional average in Shinyanga Rural. As can be seen in Figure 56, 6 percent of children under the age of 5 in this district and in Rural Shinyanga Region as a whole were too thin for their height at the time of the survey. Lower rates of wasting were found only in Bukombe and Kahama districts.

Figure 55: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Shinyanga Rural)
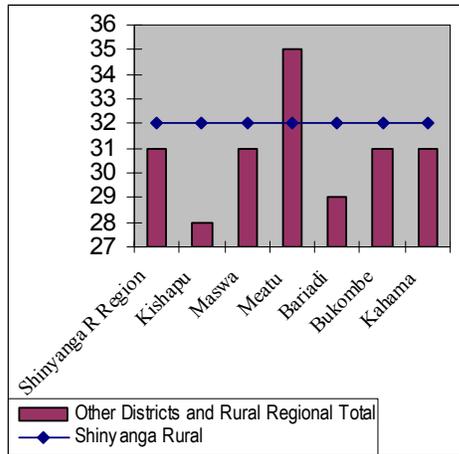
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 56: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Shinyanga Rural)
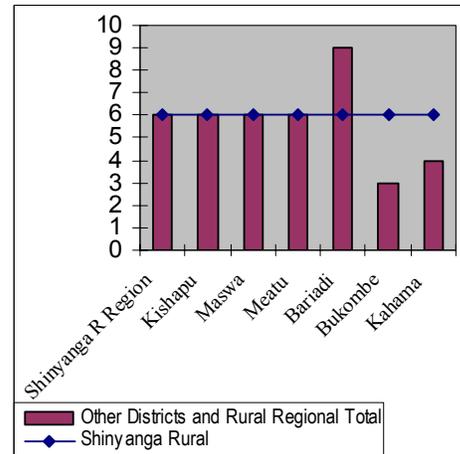
* This figure does not present a formal statistical test of difference in means

10.7 Employment

At the time of the survey two out of three individuals over the age of 14 were employed to full capacity in Shinyanga Rural district. This proportion is roughly equal to the rural regional average, and is only exceeded by proportions of individuals employed to capacity in Bariadi and Meatu. It must be noted, however, that variation in proportions of fully employed individuals between the surveyed districts does not exceed 10 percentage points (Figure 57).

Figure 57: Percentage of Population Employed to Full Capacity (Shinyanga Rural)[1]
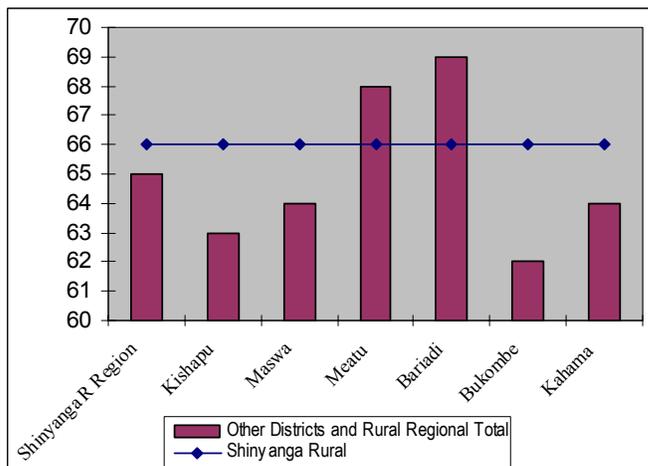
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

10.8 Other Welfare Indicators

As can be seen in Figure 58, food need is more widespread in Shinyanga Rural than in the majority of the surveyed districts with the exception of Meatu. While on average just over one in ten households in the surveyed area had not experienced food shortages in the year preceding the survey, this was the case in only one in twenty households (5 percent) in Shinyanga Rural.

The results of the survey further show that access to water is worse in Shinyanga Rural than anywhere else with the exception of Kishapu. At 54 percent, the proportion of households located within 30 minutes of travel from the nearest source of water is 13 percentage points lower in this district than the rural regional average and is roughly one and a half times lower than the water access rate in Bariadi.

Figure 58: Percentage of Households Reporting Never to Face Food Shortages (Shinyanga Rural)
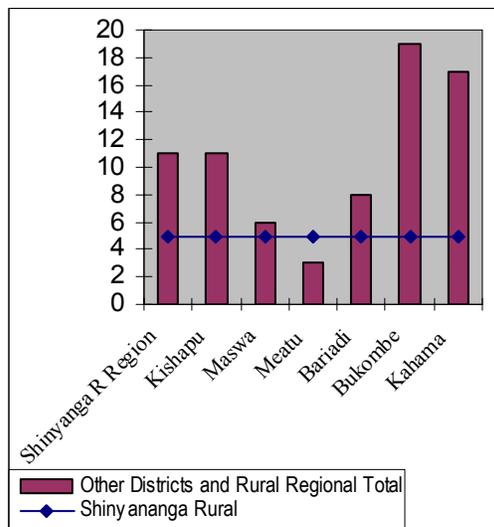
* This figure does not present a formal statistical test of difference in means

Figure 59: Percentage of Households with Access to Water Facilities (Shinyanga Rural)
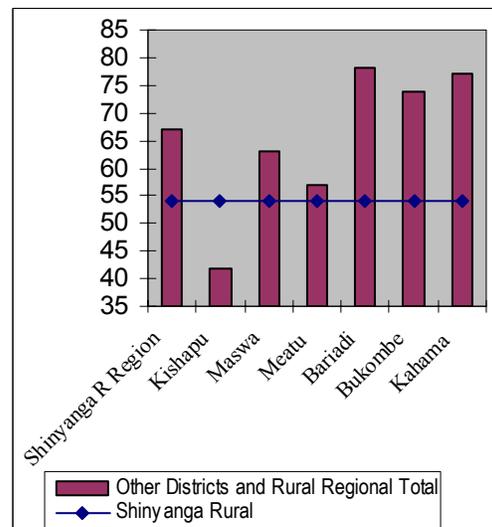
* This figure does not present a formal statistical test of difference in means
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As can be seen in Figure 60 and Figure 61, the great majority in Shinyanga Rural perceive a negative change in the household and community economic situations; negative change appears to have been felt more acutely here than in the majority of the surveyed districts. 72 percent of households reported deterioration in the economic situation in their community and their households. On average, both on household and community level, just over 60 percent of households had experienced change for the worse.

Figure 60: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Shinyanga Rural)
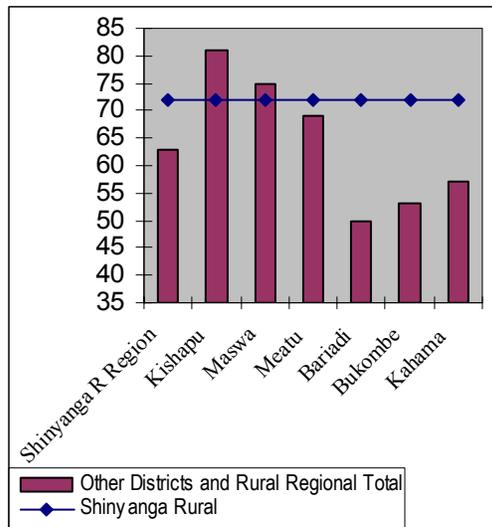
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 61: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Shinyanga Rural)
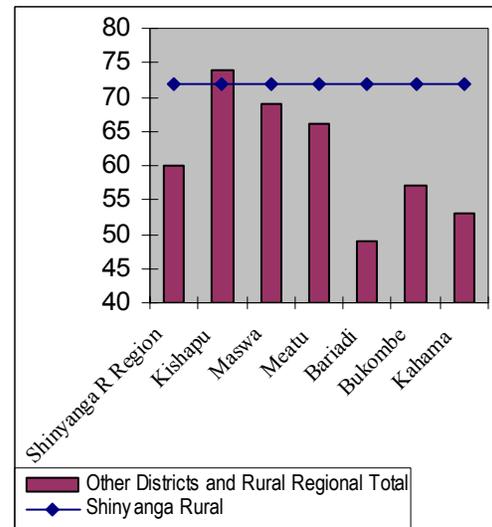
* This figure does not present a formal statistical test of difference in means
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11 SPOTLIGHT ON MASWA

11.1 Key Findings of Rural Shinyanga CWIQ for Maswa

1. Maswa district contains 11 percent of all households in the Rural Shinyanga Region. Further, roughly 12 percent of Rural Shinyanga's population live here.

2. 38 percent of households in Maswa live below the basic needs poverty line. While this poverty rate is higher than the rural regional average, it is still 10 percentage points lower than that in Meatu, where poverty is most widespread. The poor households in Maswa make up 14 percent of all poor households in the surveyed part of the region.

3. On average, households in Maswa are made up of 6 members. Households here tend to be the same size as those in Bukombe and smaller than those in Kishapu, Shinyanga Rural and Meatu districts.

4. Livestock ownership in Maswa is slightly less widespread than in the majority of the surveyed districts, with the exception of Kahama. Similarly, the rate of large-scale land ownership is slightly lower than average in this district; in fact the proportion of households owning at least 6 acres of land here is lower than that in all the other surveyed districts but Bariadi.

5. Literacy rate in Maswa is the third highest in the region after Kahama and Bariadi. While primary school access rate here is the lowest in Rural Shinyanga Region, secondary school access rate is equal to the rural regional average.

6. Satisfaction levels with primary and secondary school are among the lowest in the region here. Hence, overall school dissatisfaction rate is higher in this district than in any other districts with the exception of Bukombe. The majority of students cited lack of books/supplies and shortage of teachers as the main problems. In addition, two out of five students cited bad condition of facilities, while a fifth of students complained about the quality of teaching.

7. Primary school Gross Enrolment Rate (GER) in Maswa is one of the lowest in the surveyed part of the region. Secondary school GER, on the other hand, is significantly higher in this district than anywhere else in Rural Shinyanga Region; in fact it is at least twice as high as those found in the rest of the surveyed districts.

8. The secondary school drop out rate in Maswa is the third highest in the surveyed area after Kishapu and Meatu, at 15 percent. The school non-attendance rate

among primary school age children (7 to 13 years old), on the other hand, is the third lowest in the surveyed area after that in Meatu and Kahama.

9. Maswa ranks second in access to health facilities after Bukombe; nearly one out of three (31 percent) households in this district are located within 30 minutes of travel from the nearest health facility. The rate of need in this district is slightly below average; 12 percent of Maswa's residents had been ill in the four weeks preceding the survey. Use of health facilities is also among the lowest in the region; one in five individuals in Maswa had consulted a health provider in the four weeks preceding the survey.

10. The rate of satisfaction among users of Maswa's health facilities was lower than that in the majority of districts, as well as the rural regional average. Long waiting time was by far the most common complaint among dissatisfied users in this district.

11. Three out of five pregnant women in Maswa delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth slightly exceeds the rural regional average and that in the majority of the surveyed districts, with the exception of Kishapu and Shinyanga Rural.

12. Both the rates of chronic and acute malnutrition (stunting and wasting respectively) in Maswa were equal to the rural regional average.

13. Just fewer than two out of three individuals in the 15+ age group in Maswa were employed to capacity at the time of the survey; lower rates of full employment were found in Kishapu and Bukombe districts only.

14. Food shortages were more widespread in Maswa than in the majority of the surveyed districts, with the exception of Shinyanga Rural and Meatu; 94 percent of households in this district had experienced some degree of food need in the year preceding the survey.

15. Three quarters of households in Maswa perceived a negative change in the economic situation in the community; 69 percent had the same view regarding the change in the household economic situation. These proportions exceed those in the majority of the surveyed districts

11.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 62. As can be seen, 38 percent of households in Maswa live below the basic needs poverty line; this is the third highest poverty rate in the surveyed area, after Kishapu and Meatu. Further, the poverty rate thus defined exceeds the rural regional average by 8 percentage points.

Figure 63 further shows that roughly 18,500 households in Maswa live below the basic needs poverty line. These households constitute 14 percent of all poor households in the surveyed area.

Figure 62: Basic Needs Poverty Rates in Maswa
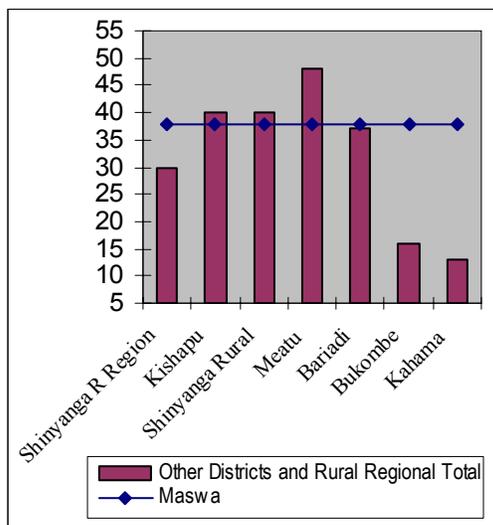
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 63: Maswa's Share of the Poor Households in Rural Shinyanga Region
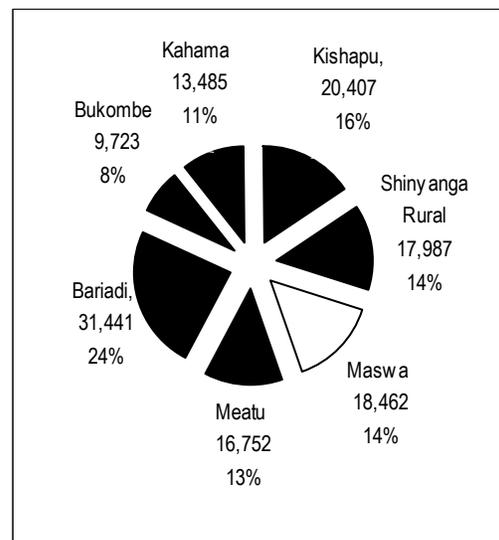
* This figure does not present a formal statistical test of difference in means

11.3 Population

On average, households in Maswa are made up of 6 members; this figure is slightly higher than the rural regional average of 5.8 persons per household. Households in Maswa are, on average, the same size as those in Bukombe, larger than those in Kahama and Bariadi, and smaller than those in Meatu, Kishapu and Shinyanga Rural (Figure 64).

Female headed households are more widespread in Maswa than in the majority of the surveyed districts. One in four households here is headed by a female; this rate exceeds the rural regional average by 5 percentage points (Figure 65).

Figure 64: Average Household size (Maswa)
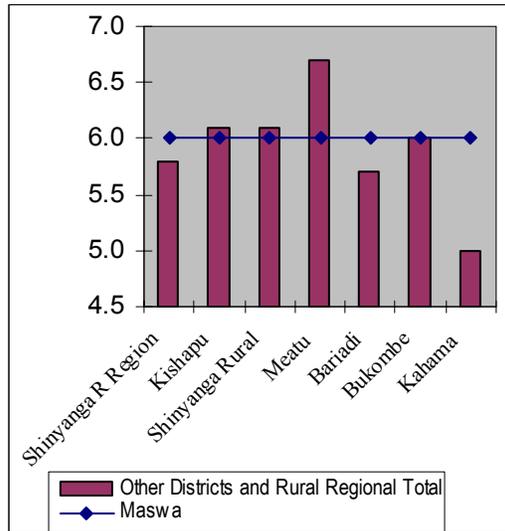
* This figure does not present a formal statistical test of difference in means
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Figure 65: Percentage of Female Household Heads in (Maswa)
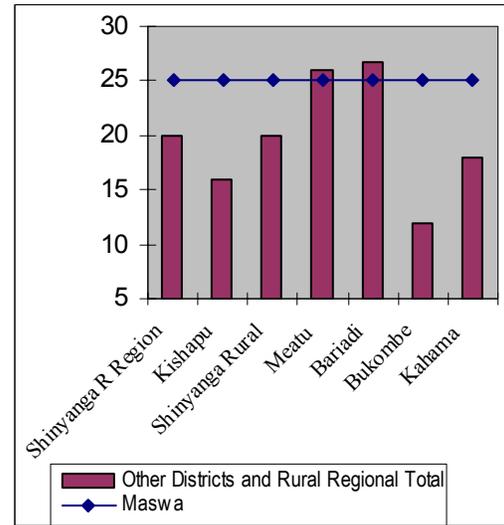
* This figure does not present a formal statistical test of difference in means
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As can be seen in Figure 66, livestock ownership is less widespread in Maswa than in the majority of the surveyed districts. While over two thirds (67 percent) of households hold no livestock here, the rural regional average is lower at 64 percent. The proportion of households without livestock in this district is the second highest in the surveyed area after that in Kahama, where nearly three quarters of households have no livestock. Table 66 shows district level trends in livestock ownership in more detail. As can be seen, the proportions of households holding only small or only large livestock are smaller here than in the majority of the surveyed districts and are below the rural regional average. Ownership of both large and small livestock, on the other hand, is more widespread here than in Bariadi, Bukombe and Kahama; at 18 percent it is roughly equal to the rural regional average.

Figure 66: Percentage of Households Owning no Livestock (Maswa)
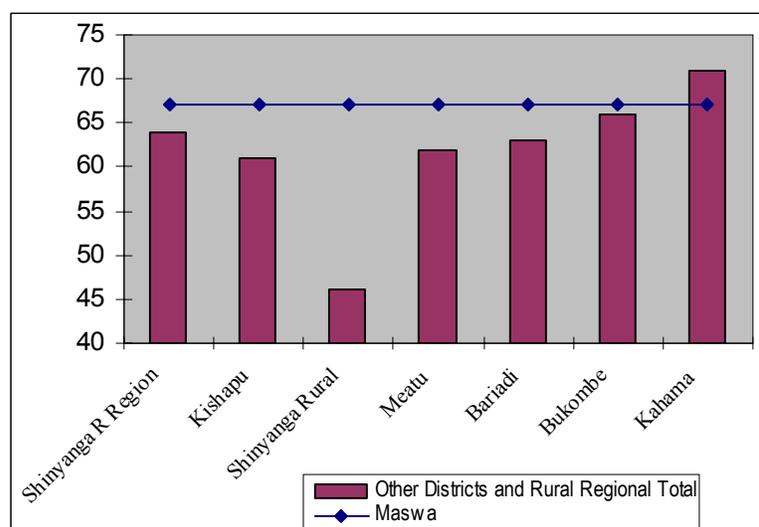
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 66: Type of Livestock Owned (Maswa)

	Ownership of Livestock[1]			
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga R	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 67 shows that large-scale landownership (6+ acres of land) is less widespread in Maswa than anywhere else in Rural Shinyanga, with the exception of Bariadi district. Just over a fifth (22 percent) of the households here own at least 6 acres of land. It must be noted, however, that although large-scale land ownership is more widespread than this in the majority of districts, in most cases the difference in proportions does not exceed 2 percentage points.

Table 67 presents a more detailed overview of district level trends in land ownership. As can be seen, the proportion of landless households in Maswa is equal to the rural regional average. Overall, landownership in Maswa is characteristic of Rural Shinyanga as a whole; proportions of Maswa's households in each category do not deviate from the rural regional average by more than 6 percentage points. As is the case across Rural

Shinyanga Region as a whole, roughly two out of three households in Maswa own at least 2 acres of land.

Figure 67: Percentage of Households Owning at Least 6 Acres of Land (Maswa)
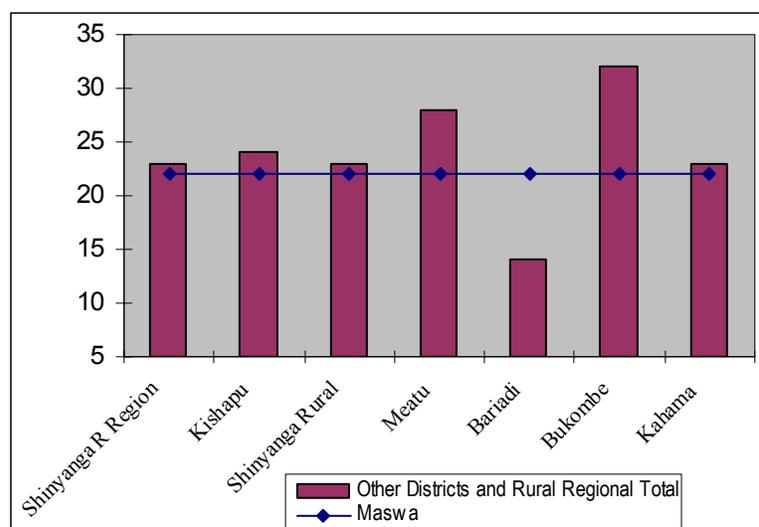
* This figure does not present a formal statistical test of difference in means
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Table 67: Amount of Land Owned (Maswa)

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13	24.6	14.9	23.6
Shinyanga R	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

11.4 Education

Nearly two out of three individuals aged 15 years and over can read and write in Maswa district (Table 68). This literacy rate is roughly equal to the rural regional average. The only districts with higher literacy rates are Kahama and Bukombe, where 74 and 71 percent of individuals can read and write respectively.

The primary school access rate in Maswa is the lowest in the region. In both Maswa and Meatu only 43 percent of primary school age children live within 30 minutes of travel

from the nearest primary school; this access rate is 10, percentage points lower than the rural regional average. Access to primary schools in Maswa appears particularly poor when compared to that in Bukombe, where over two thirds of primary school age children have access to a primary school. In contrast, secondary school access rates in Maswa are equal to the rural regional average, at 16 percent. Secondary school age children in this district are more likely to live within 30 minutes of travel from a secondary school than children from the same age group in the majority of the other districts in Rural Shinyanga.

Both primary and secondary school satisfaction rates in Maswa are below the rural regional average (Table 68). While roughly one in three primary school students were satisfied with school in the district, this was the case for 41 percent of students in Rural Shinyanga Region as a whole, and over half of primary school students in Bariadi. In Maswa's secondary schools, 35 percent of the students were satisfied compared to 43 percent in Rural Shinyanga Region. At primary level, only Bukombe had a lower satisfaction rate than Maswa; at secondary level lower satisfaction rates were found in Bariadi as well as Bukombe,.

Table 68: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Maswa)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga R	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Overall, 67 percent of students in Maswa were dissatisfied with their schools at the time of the survey. This dissatisfaction rate exceeds the rural regional average by nearly 10 percentage points and is nearly 20 percentage points higher than the dissatisfaction rate in Bariadi, the best performing district (Table 69). There are few differences between the ranges of reasons given for dissatisfaction in the surveyed districts. In all districts inadequate supplies of books/teaching materials, as well as lack of teachers were mentioned by the great majority of dissatisfied pupils; bad condition of facilities was also a commonly cited problem. Further, the proportion of students dissatisfied because of overcrowding was higher in Maswa than anywhere else in Rural Shinyanga, with the exception of Bariadi,

Table 69: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Maswa)

	Dissatisfaction	Reasons for dissatisfaction[1]					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59.0	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga R	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72	20.6	40.3	24.3
Meatu	65.4	81.3	18.0	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

The primary school Gross Enrolment Rate (GER) in Maswa was 97 percent. This rate was 3 percentage points lower than the rural regional average, and roughly equal to that in Bariadi and Bukombe. Maswa ranks first in secondary school GER, which exceeds the rural regional average by 10 percentage points, and is more than twice as high as the secondary school GER found in the rest of Shinyanga's rural districts. In fact, this GER is nearly five times as high as that in Meatu and three times that in Shinyanga Rural.

Figure 68: Primary School Gross Enrolment Rate (Maswa)
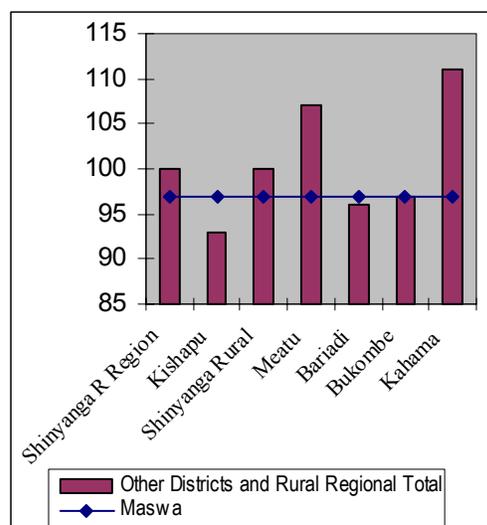
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 69: Secondary School Gross Enrolment Rate (Maswa)
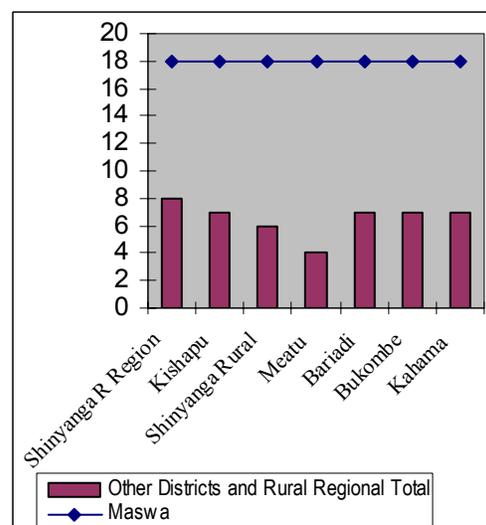
* This figure does not present a formal statistical test of difference in means

Secondary school dropout rate in Maswa is 15 percent (Figure 70). This proportion is equal to that in Shinyanga Rural district and is the third highest dropout rate in Rural Shinyanga Region as a whole. The only districts in a worse position are Kishapu and Meatu, with dropout rates of 16 and 17 percent respectively.

Figure 70: Secondary School Dropout Rate (Maswa)
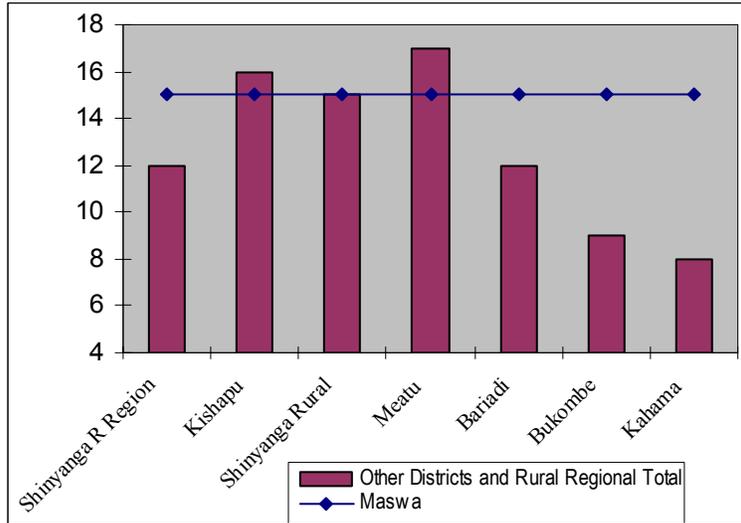
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Further, a fifth of Maswa's primary school age children (7 to 13 years) were not attending school at the time of the survey (Figure 71). This non-attendance rate is lower than that found in the majority of districts with the exception of Kahama and Meatu where, respectively, 17 and 19 percent of primary school age children were not at school at the time of the survey.

On average, school-going children in Maswa are 1.8 years behind at school. This is lower than the average lag incurred in the rest of the surveyed districts. Overall, differences in magnitude of lag incurred do not exceed five months, with the biggest lag found in Bariadi and Bukombe districts at 2.2 years.

Figure 71: Percentage of Children Age 7-13 who are not Attending School (Maswa)
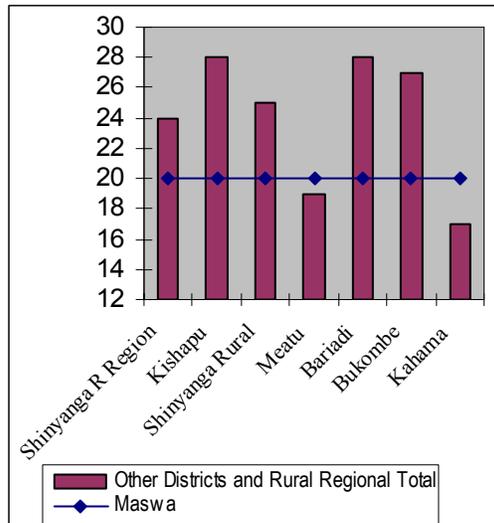
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 72: Years of Lag at School by School Going Children aged 7-19 (Maswa)
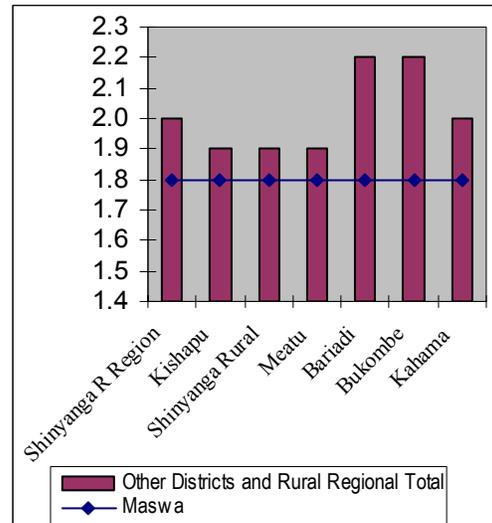
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

11.5 Health

Maswa, alongside Kishapu, ranks second in access to health facilities; nearly a third (31 percent) of households here are located within 30 minutes of travel from the nearest health facility (Figure 73). This is roughly equal to the rural regional average rate and is only lower than health facility access rate in Bukombe, where nearly half (48 percent) of the households has access to health facilities.

Together with Meatu, Maswa district has the second lowest level of need for health services in the surveyed part of the region; only 12 percent of individuals in Maswa reported an illness in the four weeks preceding the survey (Figure 74). Overall, variation in rates of need (incidence of illness) across the districts is not substantial; lowest rates of need were reported in Bariadi (10 percent) and highest in Bukombe (17 percent).

Figure 73: Access to Health Facilities: % Households Living within 30 Minutes of Travel (Maswa)
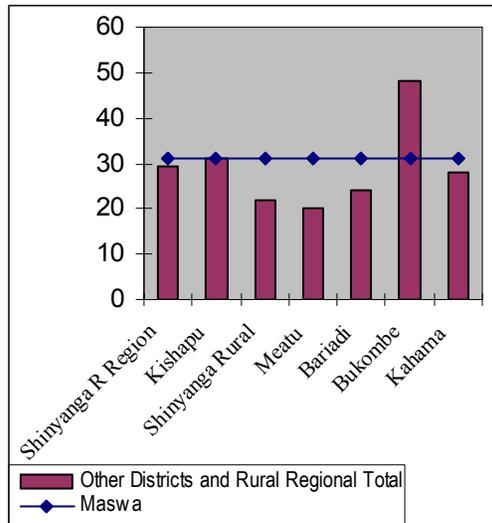
* This figure does not present a formal statistical test of difference in means

Figure 74: Need for Health Facilities: % of People Reporting an Illness in Past 4 Weeks (Maswa)
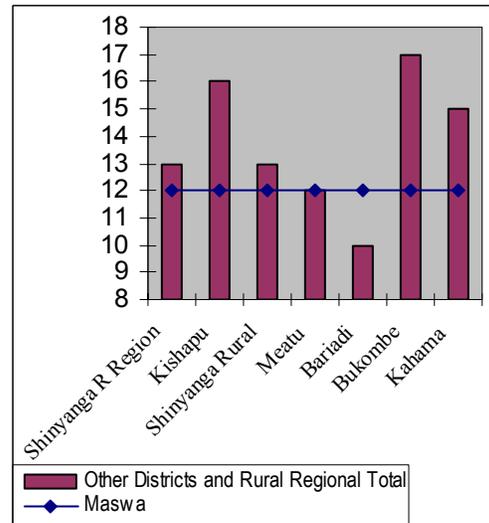
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts. At 21 percent, the rate of use of health services in Maswa is roughly equal to that in Shinyanga Rural and Meatu districts.

The level of satisfaction with health services is lower in Maswa than any other district, with the exception of Shinyanga Rural and Bukombe. At 67 percent, the satisfaction rate among Maswa's health service users is slightly below the rural regional average. Overall, as can be seen from Figure 76, variation in satisfaction rates does not exceed 7 percentage points.

**Figure 75: Use of Health Facilities: %
of People Reported to have
Visited One in the Last 4
Weeks (Maswa)**
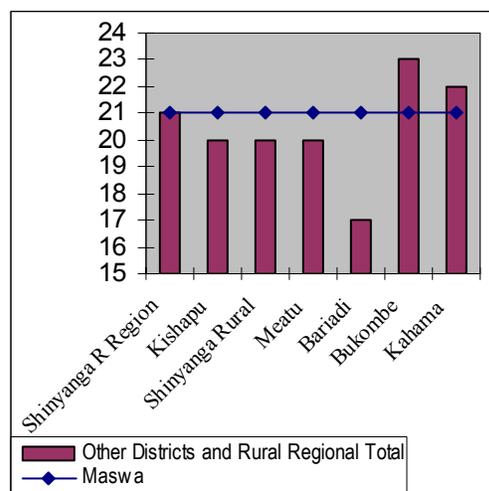
* This figure does not present a formal statistical test of
difference in means
** The y-axis does not start at 0

**Figure 76: Satisfaction with Health
Facilities: % of Users in
Past 4 Weeks who Reported
to be Satisfied (Maswa)**
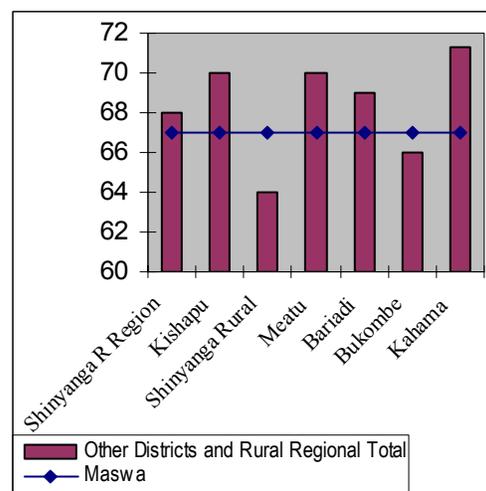
* This figure does not present a formal statistical test of
difference in means
** The y-axis does not start at 0

In Rural Shinyanga Region as a whole, cost and availability of medicine were the main complaints among users of health facilities. In Maswa, however, both of these appear to be less of an issue than length of the waiting time; while on average less than a third (32 percent) of dissatisfied users complained about long waits, in Maswa this proportion was nearly a half at 47 percent.

Table 70: Reason for Dissatisfaction with Health Services (Maswa)

		Reasons for dissatisfaction[1]						
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Shinyanga	31.6	29.4	31.8	34	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga Rural	36.4	31	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

Figure 77 is a graphical representation of the overall trend in health indicators in Maswa compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Maswa, Shinyanga Rural and Bukombe).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further the positioning of the graphs shows that levels of reported need are highest in Kishapu and Bukombe and lowest in Bariadi. Maswa, Shinyanga Rural and Meatu are characterised by midrange levels of need for the surveyed area.

Figure 77: Main Health Indicators
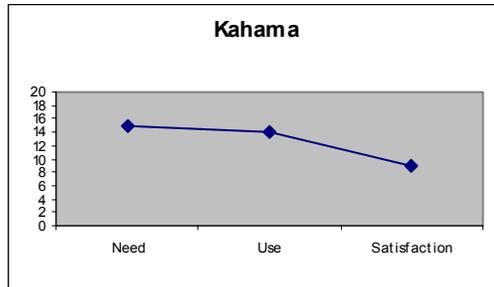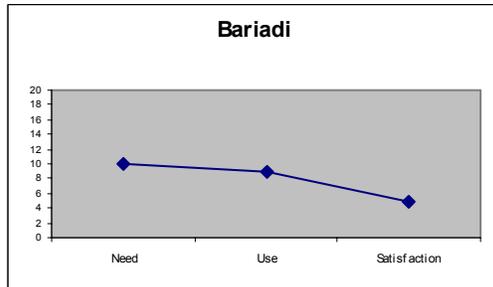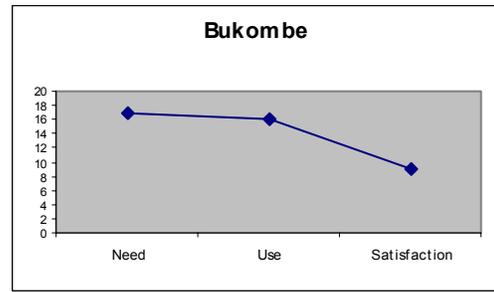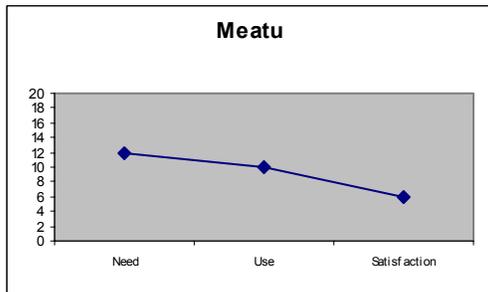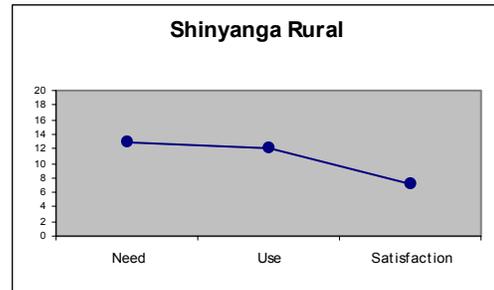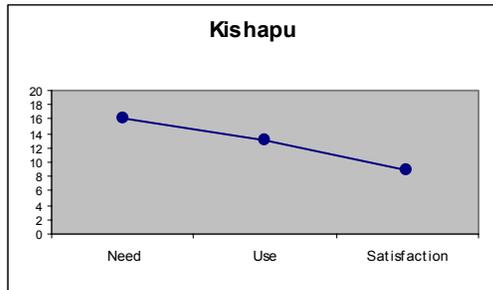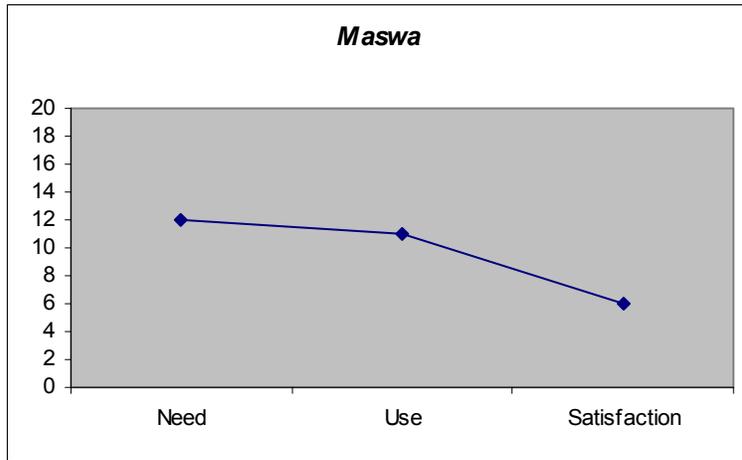
11.6 Child Delivery and Nutrition

In the 12 months preceding the survey, three out of five child deliveries in Maswa were conducted in a health facility (hospital or maternity ward). As shown in Figure 78 this proportion exceeds that in the majority of the surveyed districts, and is slightly higher than the rural regional average.

Figure 78: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Maswa)
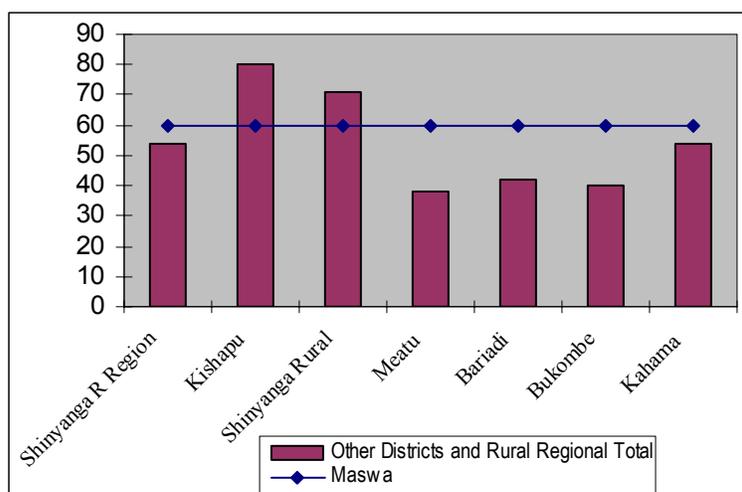
* This figure does not present a formal statistical test of differences in mean

Long-term malnutrition is as widespread in Maswa as in Bukombe, Kahama and Rural Shinyanga Region as a whole (Figure 79). Nearly a third (31 percent) of Maswa's children under the age of 5 were too short for their age at the time of the survey. This stunting rate is only 4 percentage points lower than that in Meatu, the district with the highest stunting rate in the surveyed part of the region.

The rate of acute malnutrition in Maswa is also equal to the rural regional average. As can be seen in Figure 80, 6 percent of children under the age of 5 in this district and in Rural Shinyanga Region as a whole were too thin for their height at the time of the survey. The same level of wasting was also found in Kishapu, Shinyanga Rural and Meatu districts. Lower rates of wasting were found only in Bukombe and Kahama districts.

Figure 79: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Maswa)
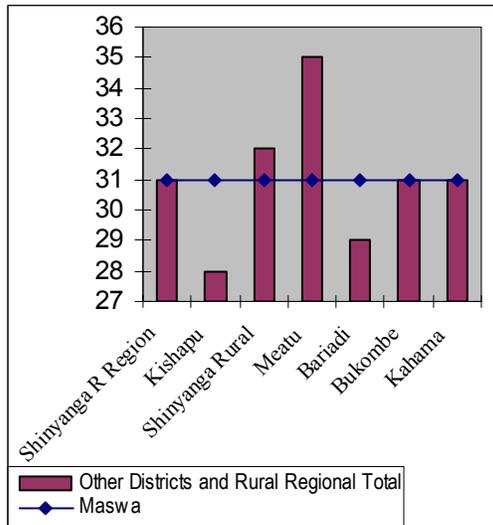

* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 80: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Maswa)
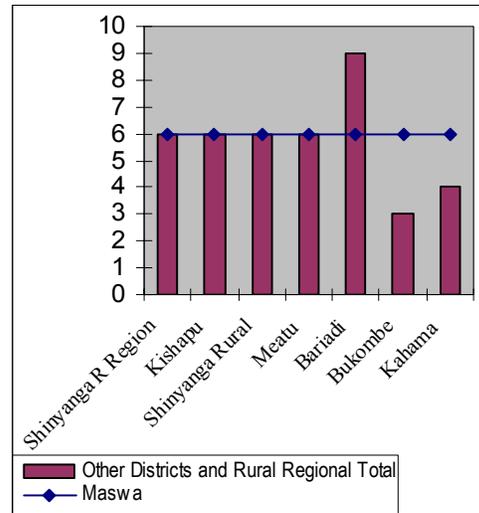
* This figure does not present a formal statistical test of difference in means

11.7 Employment

64 percent of individuals above the age of 14 were employed to capacity in Maswa district at the time of the survey. This proportion is roughly equal to the rural regional average (65 percent) and is only higher than that in Kishapu and Bukombe districts. It must be noted, however, that variation between proportions of fully employed individuals across the surveyed districts does not exceed 10 percentage points.

Figure 81: Percentage of Population Employed to Full Capacity (Maswa)[1]
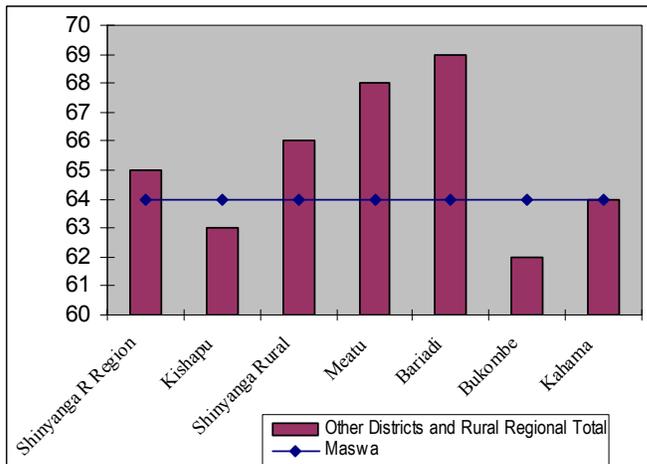
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

11.8 Other Welfare Indicators

In the year preceding the survey, food shortages were more widespread in Maswa than in the majority of the other districts in Rural Shinyanga Region. Only 6 percent of households here had not experienced any problems satisfying their food need in that time. This proportion is slightly over half that found in the surveyed area as a whole, and appears particularly low when compared to Bukombe and Kahama districts, where food secure households make up nearly a fifth of all households.

The rate of access to water is slightly lower in Maswa than the rural regional average; 63 percent of households here are located within 30 minutes of travel from the nearest water source. Access to water in this district is substantially better than that in Kishapu (42 percent) and Shinyanga Rural (54 percent), but is not nearly as good as that in Bariadi, Bukombe and Kahama districts, where at least three out of four households have access to water.

Figure 82: Percentage of Households Reporting Never to Face Food Shortages (Maswa)
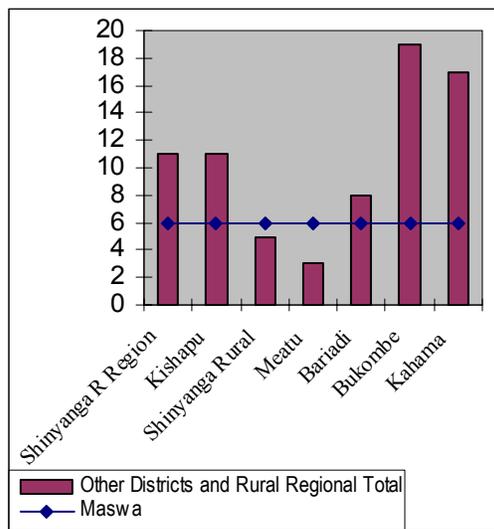
* This figure does not present a formal statistical test of difference in means

Figure 83: Percentage of Households with Access to Water Facilities (Maswa)
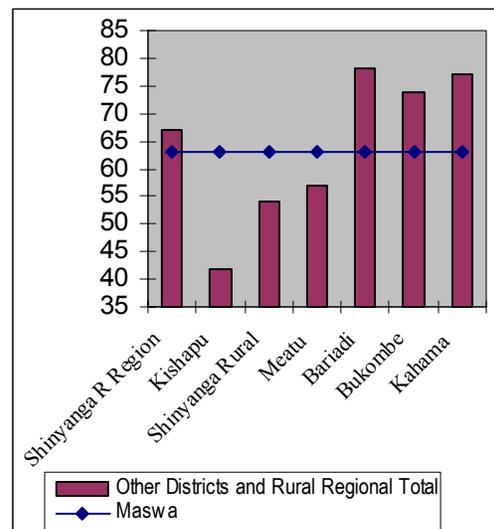
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 84 and Figure 85, the great majority in Maswa perceive a negative change in the economic situation in the household and community. Negative change appears to have been felt more acutely here than in the majority of the surveyed districts. Three quarters of households in this district reported deterioration in the economic situation in their community, and 69 percent in their households. On average, across the surveyed areas on both household and community levels, just over 60 percent of households had experienced change for the worse.

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Figure 84: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Maswa)
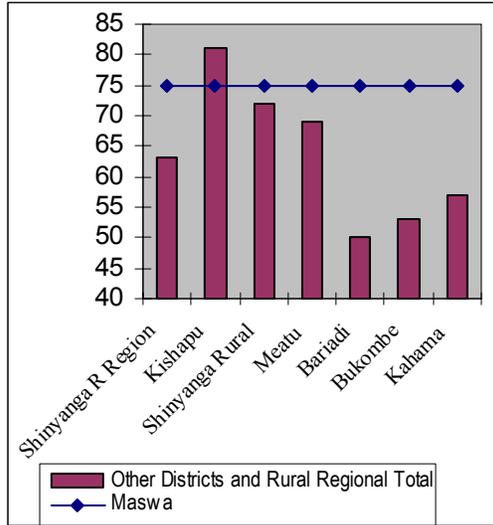
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 85: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Maswa)
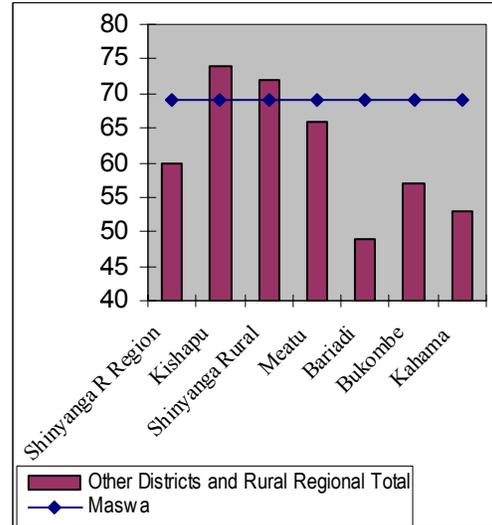
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

12 SPOTLIGHT ON MEATU

12.1 Key Findings of Rural Shinyanga CWIQ for Meatu

1. Meatu district contains 8 percent of all households in the Rural Shinyanga Region. Further, this is the least populated district in the surveyed area; only 10 percent of the whole population of Rural Shinyanga Region live here.

2. The poverty rate in Meatu is the highest in the region; nearly half (48 percent) of the households here live under the basic needs poverty line. These poor households make up 13 percent of all poor households in the surveyed part of the region.

3. On average, households in Meatu are made up of 6.7 members. Households here tend to be larger than those in the rest of the surveyed districts.

4. Livestock ownership in Meatu is slightly more widespread than in the majority of the surveyed districts; only Kishapu and Shinyanga Rural districts have lower proportions of households with no livestock. The rate of large-scale land ownership is also higher in this district than average; it ranks second in large-scale landownership after Bukombe.

5. Both the literacy rate among individuals over the age of 14, and the primary school access rate are below the rural regional average in Meatu. Secondary school access rate is equal to that average for the surveyed area.

6. Maswa and Bukombe are the only districts with lower primary school satisfaction rates than Meatu. At secondary level, the satisfaction rate is equal to the rural regional average. Overall, school dissatisfaction rate is higher in this district than in the majority of the surveyed districts, with the exception of Maswa and Bukombe. Further, this district has a higher proportion of dissatisfied students complaining about lack of books/supplies than that in the rest of the surveyed districts with the exception of Bariadi.

7. While Meatu ranks second in primary school Gross Enrolment Rate (GER) after Kahama, at secondary school level the GER here is the lowest in the region.

8. Non-attendance among primary school age children (7 to 13 years old) and secondary school dropout rate are higher in this district than anywhere else in the surveyed area.

9. Meatu ranks last in access to health facilities; only one in five households in this district are located within 30 minutes of travel from the nearest health facility.

This is also the district with the second lowest rate of need; 12 percent of Meatu's residents had been ill in the four weeks preceding the survey. Rate of health facility use here is roughly equal to the rural regional average.

10. Meatu ranks second in level of satisfaction among users of health facilities after Kahama; 30 percent of health facility users were not fully satisfied with the service received. Further, dissatisfied health facility users in Meatu were more unhappy about shortages of trained professionals than those from the rest of the surveyed districts.

11. 38 percent of pregnant women in Meatu delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth is lower than that in the rest of the surveyed areas.

12. While chronic malnutrition is more widespread in Meatu than anywhere else in Rural Shinyanga Region, the proportion of children under the age of 5 suffering from chronic malnutrition here is equal to the rural regional average.

13. The rate of full employment in Meatu is higher than that in the majority of the surveyed districts, with the exception of Bariadi. 68 percent of individuals in the 15+ age group are employed to capacity here.

14. Food shortages were more widespread in Meatu than anywhere else in Rural Shinyanga. Only 3 percent of households had been fully food secure here in the year preceding the survey, compared to the rural regional average of 11 percent and nearly 20 percent of households in Bukombe.

15. The rate of access to water in Meatu is lower than that in the majority of the surveyed districts, with the exception of Shinyanga Rural and Kishapu.

16. Proportions of households in Meatu reporting deterioration in economic situation on both community and household levels exceed the rural regional average.

12.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 86. As can be seen, Meatu has the highest poverty rate in the region; nearly half (48 percent) of the households here live below the needs poverty line. The poverty rate thus defined exceeds the rural regional average by 18 percentage points.

Figure 87 further shows that nearly 17,000 households in Meatu live below the basic needs poverty line. These households constitute 13 percent of all poor households in the surveyed area.

Figure 86: Basic Needs Poverty Rates in Meatu
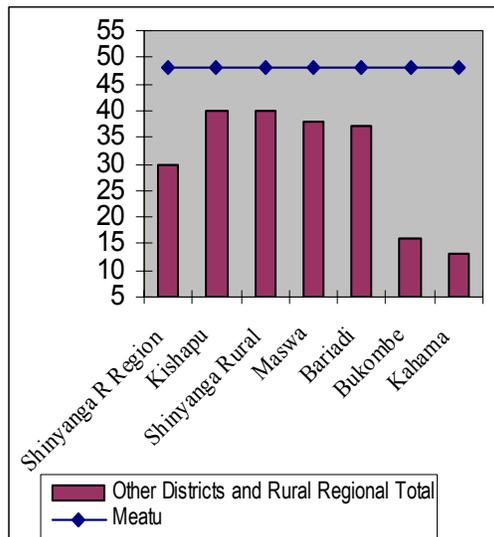
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 87: Meatu's Share of the Poor Households in Rural Shinyanga Region
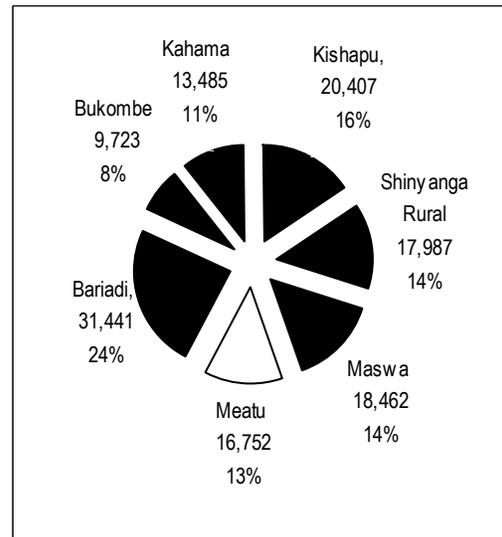
* This figure does not present a formal statistical test of difference in means

12.3 Population

Households in Meatu tend to be larger than those in the rest of Rural Shinyanga. On average, household here are made up of 6.7 members compared to the rural regional average of 5.8 persons per household (Figure 88).

Meatu is also characterised by the second highest proportion of female headed households. 26 percent of households here are headed by a female, compared to the rural regional average of 20 percent. Nowhere else are female headed households as widespread with the exception of Bariadi (Figure 89).

Figure 88: Average Household size (Meatu)
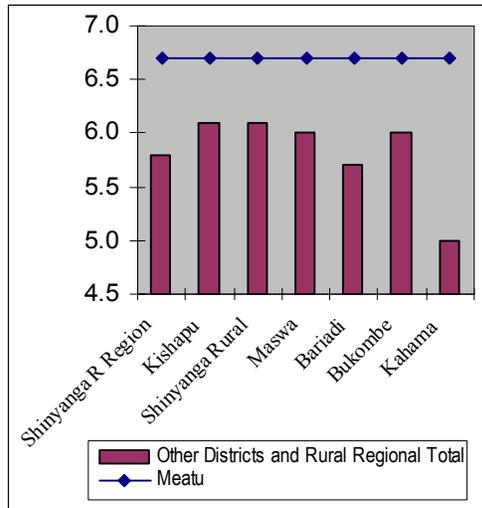
* This figure does not present a formal statistical test of difference in means
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Figure 89: Percentage of Female Household Heads in (Meatu)
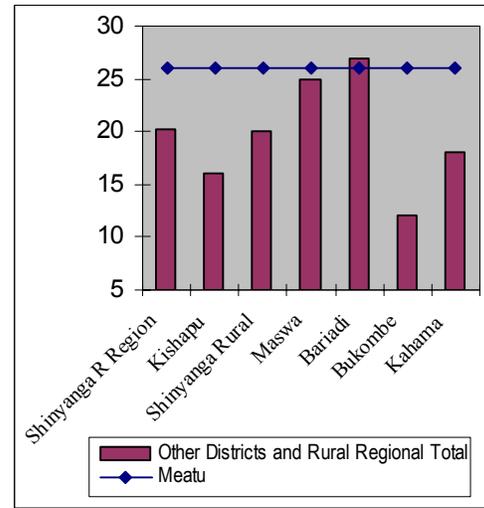
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 90, after Kishapu and Shinyanga Rural, Meatu has the lowest proportion of households holding no livestock, at 62 percent. This rate is slightly below that in Bariadi, Bukombe and the rural regional average, which are all roughly equal to 65 percent. Table 71 shows district level trends in livestock ownership in more detail. As can be seen, the proportions of Meatu's households holding only small or only large livestock do not deviate from the rural regional average by more than 2 percentage points, at 7 and 10 percent respectively. Ownership of both large and small livestock, on the other hand, is more widespread here than anywhere else in Rural Shinyanga, with 22 percent of households fitting into this group.

Figure 90: Percentage of Households Owning no Livestock (Meatu)
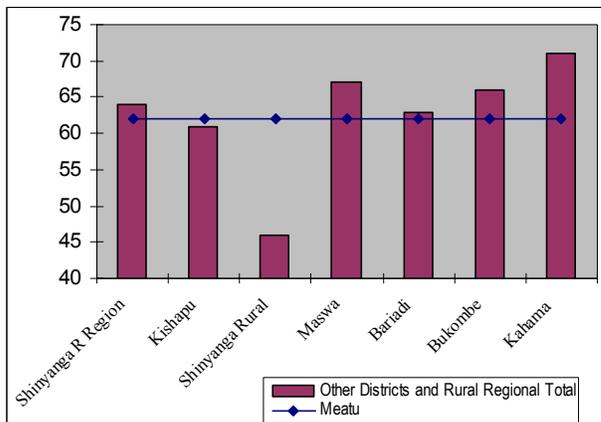
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 71: Type of Livestock Owned (Meatu)

	Ownership of Livestock[1]			
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga R	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 91 shows that large-scale landownership (6+ acres of land) is more widespread in Meatu than anywhere else in Rural Shinyanga, with the exception of Bukombe. The proportion of households owning at least 6 acres of land in this district exceeds the rural regional average by 5 percentage points and, at 28 percent, is twice that in Bariadi (the district with the lowest rate of large-scale landownership). It must be noted, however, that although this proportion is higher than that in the majority of districts, in most cases the difference between districts does not exceed 5 percentage points.

Table 72 presents a more detailed overview of district level trends in land ownership. As can be seen, one in four households in Meatu owns no land; this rate is similar to that found in Maswa and Bariadi districts and is only 2 percentage points lower than the rural regional average. Overall, the proportion of Meatu's households owning between 2 and 4 acres of land is smaller than anywhere else in the region; the majority of households here are either landless or are large-scale landowners (6+ acres of land).

Figure 91: Percentage of Households Owning at Least 6 Acres of Land (Meatu)
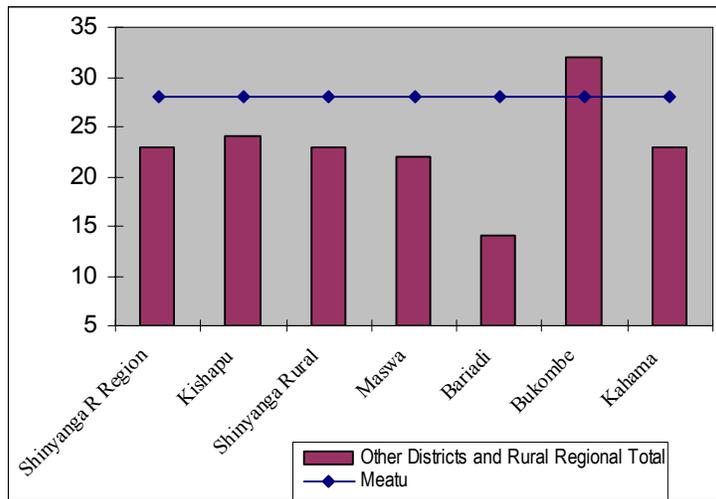
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 72: Amount of Land Owned (Meatu)

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13.0	24.6	14.9	23.6
Shinyanga R	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22.0
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

12.4 Education

Meatu has the second lowest literacy rate in Rural Shinyanga Region after Shinyanga Rural district (Table 73). 60 percent of Meatu's residents can read and write, compared to the rural regional average of 66 percent. Further, there is a significant difference between the literacy rates in Meatu and Kahama, where almost three quarters of the population are literate.

The primary school access rate in Meatu is the lowest in the region. In both Meatu and Maswa only 43 percent of primary school age children live within 30 minutes of travel from the nearest primary school; this access rate is 10 percentage points lower than the rural regional average. Access to primary schools in Meatu appears particularly poor

when compared to that in Bukombe, where over two thirds of primary school age children have access to a primary school. Similarly, access to secondary schools in Meatu is worse than anywhere else in the surveyed area with the exception of Shinyanga Rural district. In fact, the secondary school access rate in Meatu is nearly three times lower than the rural regional average and almost five times lower than that in Bukombe (Table 73).

Primary school satisfaction rate is also lower here than in the majority of the surveyed districts; at 35 percent, it is 6 percentage points lower than the rural regional average. In contrast, secondary school satisfaction levels are average here; 34 percent of secondary school students were fully satisfied with their schools at the time of the survey.

Table 73: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Meatu)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga R	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Overall, nearly two out of three students in Meatu were not fully content with their schools at the time of the survey (Table 74). This is the third highest dissatisfaction rate with education in Rural Shinyanga after Maswa and Bukombe. The proportion of dissatisfied students who cited lack of books/supplies (81 percent) is the second highest in the surveyed area after Bariadi. Almost an equal proportion (80 percent) was dissatisfied because of lack of teachers; bad conditions of facilities were cited by nearly half of the reference population.

Table 74: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Meatu)

	Dissatisfaction	*Reasons for dissatisfaction[1]*					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59.0	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga R	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72.0	20.6	40.3	24.3
Meatu	65.4	81.3	18.0	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

Meatu performs well in primary school enrolment; at 107 percent, its primary school Gross Enrolment Rate (GER) is the highest in Rural Shinyanga after Kahama (Figure 92). In contrast, secondary school enrolment is lower here than in the rest of the surveyed districts (Figure 93). Secondary school pupils make up only 4 percent of the secondary school age population in this district; this is half as high as the average secondary school GER for the surveyed part of the region (8 percent) and almost a fifth of that in Maswa (18 percent).

Figure 92: Primary School Gross Enrolment Rate (Meatu)
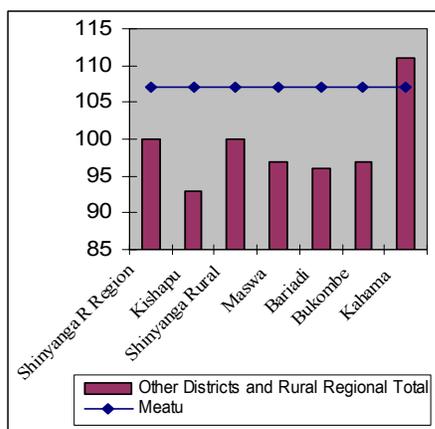
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 93: Primary School Gross Enrolment Rate (Meatu)
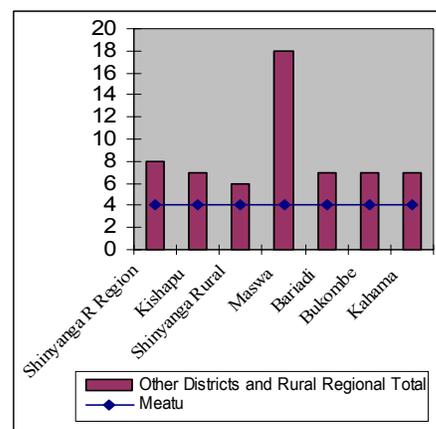
* This figure does not present a formal statistical test of difference in means

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At 17 percent, the secondary school dropout rate is higher in Meatu than anywhere else in the surveyed area. This rate exceeds the rural regional average by 5 percentage points and is twice as high as that in Kahama, the district with the lowest dropout rate in Rural Shinyanga (Figure 94).

Figure 94: Secondary School Dropout Rate (Meatu)
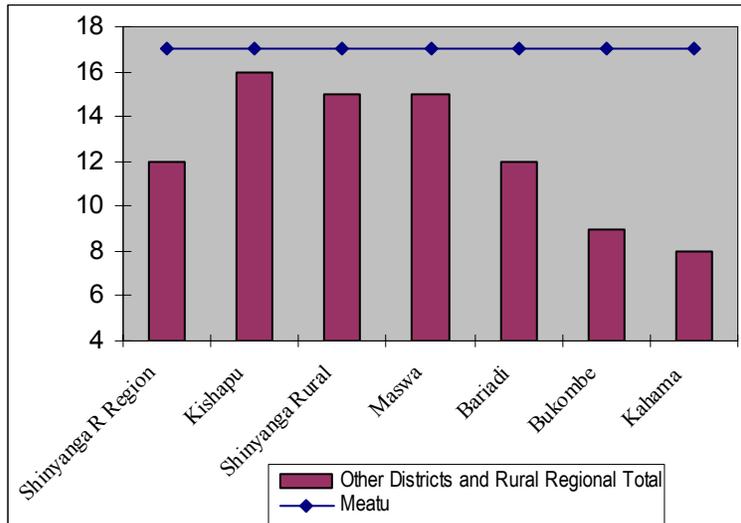
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

In contrast, non-attendance among primary school age children (7 to 13 years) is less widespread here than in the majority of the districts. The non-attendance rate in this district is 5 percentage points lower than average and, at 19 percent, is only higher than that in Kahama (Figure 95).

On average, school children in Meatu are about 1.9 years behind; this is almost equal to the rural regional average of 2.0 years and is exactly equal to the lag incurred in Kishapu and Shinyanga Rural districts. Overall, differences in magnitude of lag incurred do not exceed five months, with the biggest lag found in Bariadi and Bukombe at 2.2 years (Figure 96).

Figure 95: Percentage of Children Age 7-13 who are not Attending School (Meatu)
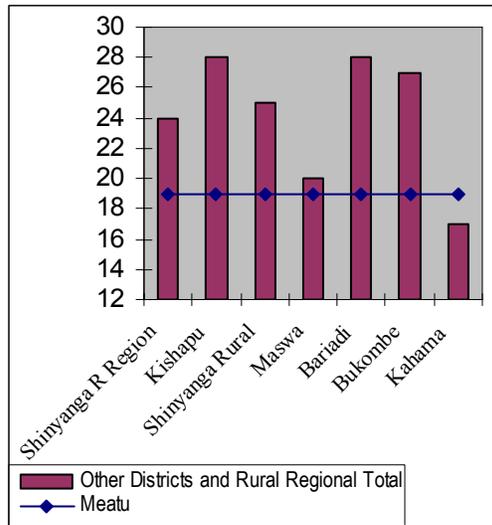
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 96: Years of Lag at School by School Going Children aged 7-19 (Meatu)
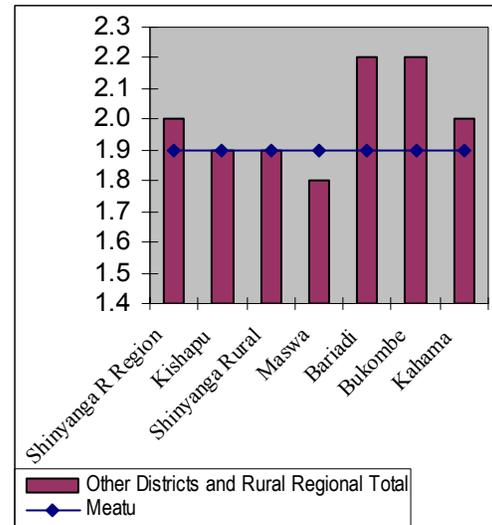
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

12.5 Health

Meatu has the lowest rate of access to health services in Rural Shinyanga Region; only one in five households in the district are located within 30 minutes of travel from the nearest health facility. This access rate is 10 percentage points lower than the rural regional average (Figure 97).

Together with Maswa, Meatu district has the second lowest level of need for health services in the surveyed part of the region; only 12 percent of individuals in Meatu reported an illness in the four weeks preceding the survey (Figure 98). Overall, variation in rates of need (incidence of illness) across the districts is not substantial; lowest rates of need were reported in Bariadi (10 percent) and highest in Bukombe (17 percent).

Figure 97: Access to Health Facilities: % Households Living within 30 Minutes of Travel (Meatu)
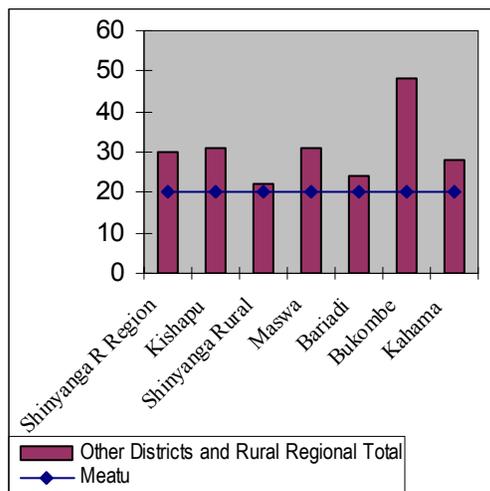
* This figure does not present a formal statistical test of difference in means

Figure 98: Need for Health Facilities: % of People Reporting an Illness in Past 4 Weeks (Meatu)
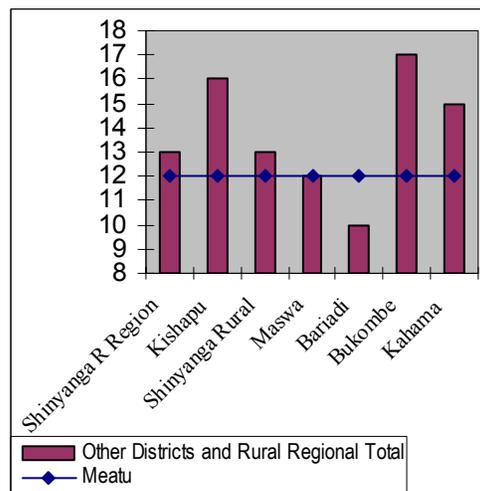
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts (Figure 99). At 20 percent, the rate of use of health services in Meatu is roughly equal to that in Kishapu and Shinyanga Rural, as well as the rural regional average.

Out of those who had used a health facility in the four weeks preceding the survey, 70 percent were happy with the service received. This is the second highest satisfaction rate in the region after Kahama, although, as can be seen from Figure 100, variation in satisfaction rates did not exceed 7 percentage points.

Figure 99: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Meatu)
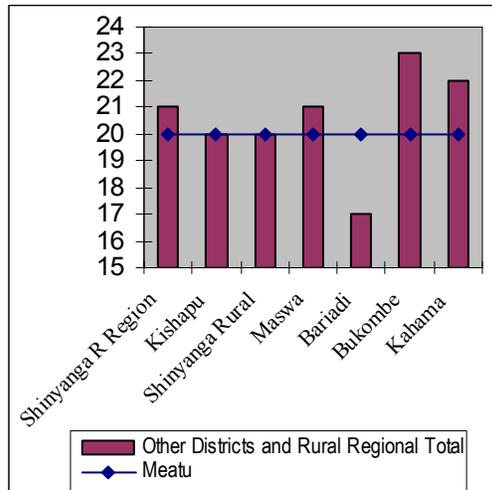
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 100: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Meatu)
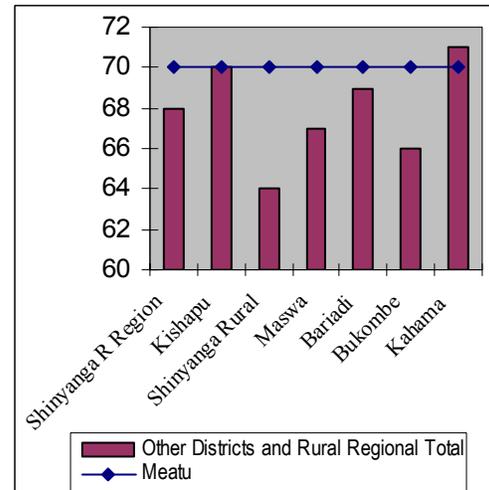
* This figure does not present a formal set of difference in means
** The y-axis does not start at 0

In Rural Shinyanga as a whole, cost and availability of medication were the main complaints among users of health facilities (Table 75). In Meatu, however, shortage of trained professionals appears to be more of a problem; one in two dissatisfied patients here cited shortage of trained professional, compared to one in three in Rural Shinyanga as a whole.

Table 75: Reason for Dissatisfaction with Health Services (Meatu)

		Reasons for dissatisfaction[1]						
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

Figure 101 is a graphical representation of the overall trend in health indicators in Meatu compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Maswa, Shinyanga Rural and Bukombe).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Meatu and Kishapu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further, the positioning of the graphs shows that levels of reported need are highest in Kishapu and Bukombe and lowest in Bariadi. Meatu, Shinyanga Rural and Maswa are characterised by midrange levels of need for the surveyed area.

Figure 101: Main Health Indicators

Meatu

Kishapu

Shinyanga Rural

Maswa

Bukombe

Bariadi

Kahama
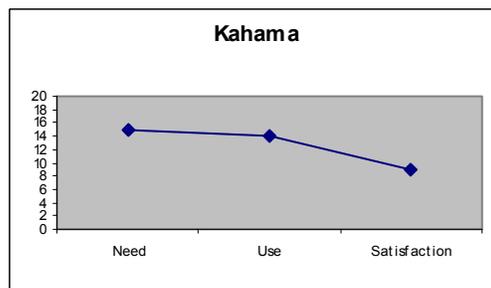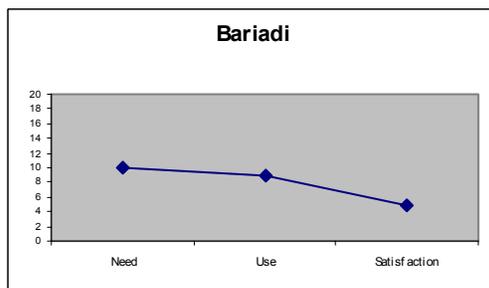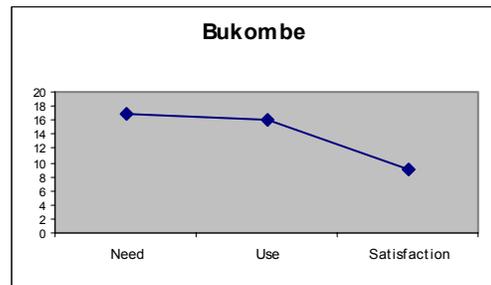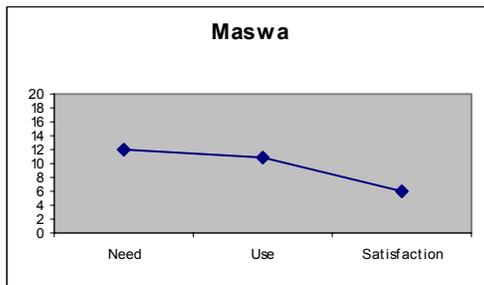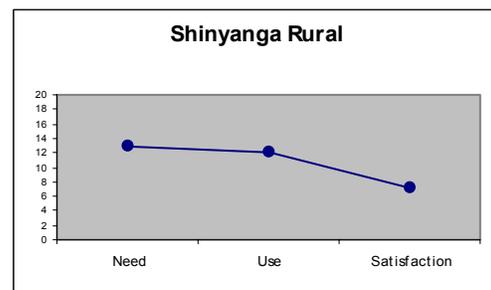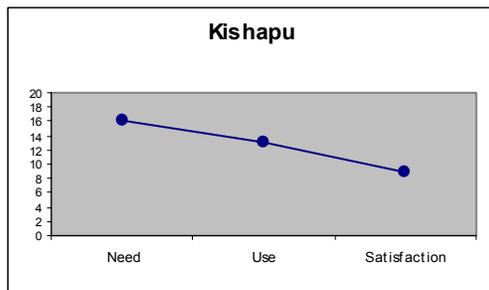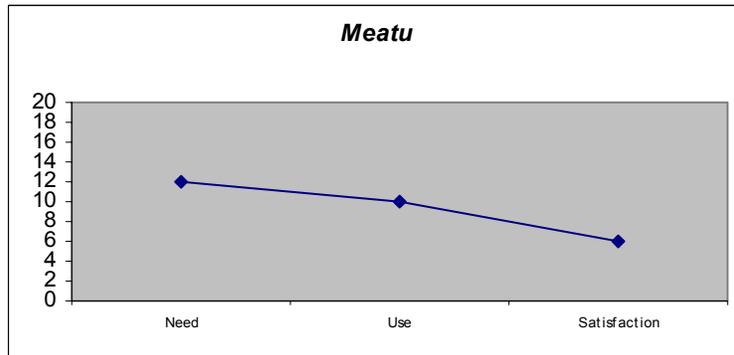
12.6 Child Delivery and Nutrition

Use of health facilities in child birth is less widespread in Meatu than anywhere else in Rural Shinyanga Region (Figure 102). Only just under two out of five (38 percent) of women who gave birth in the 12 months preceding the survey had done so in a hospital or maternity ward. This rate of health facility use is less than half that in Kishapu district and is 16 percentage points lower than the rural regional average.

Figure 102: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Meatu)
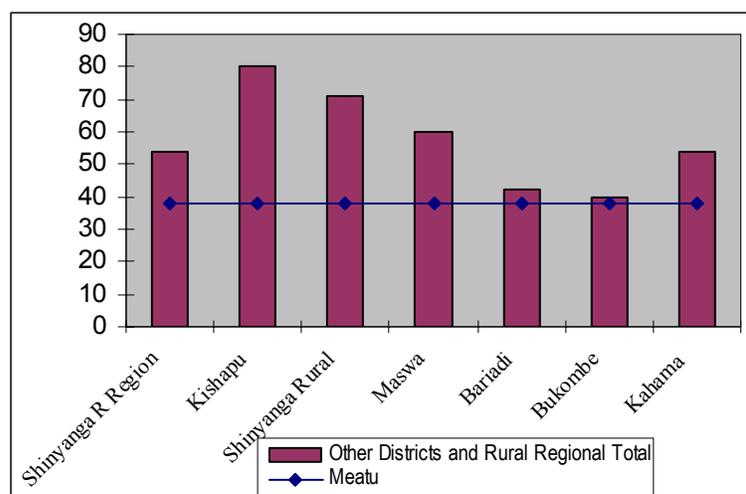
* This figure does not present a formal statistical test of differences in mean

Chronic malnourishment is more common among children in Meatu than those in any other rural district in Shinyanga. Over a third (35 percent) of children under the age of 5 in this district were found to be too short for their age at the time of the survey. Although this stunting rate is higher than that anywhere else in Rural Shinyanga, as can be seen in Figure 103, variation in stunting rates across the districts did not exceed 10 percentage points.

In contrast, the rate of acute malnutrition is equal to the rural regional average in Meatu. As can be seen in Figure 104, 6 percent of children under the age of 5 in this district and in Rural Shinyanga Region as a whole were too thin for their height at the time of the survey. Lower rates of wasting were found only in Bukombe and Kahama districts.

**Figure 103: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Meatu)**
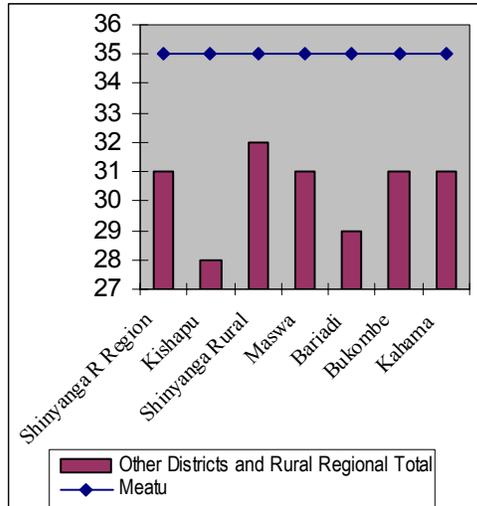
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 104: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Meatu)
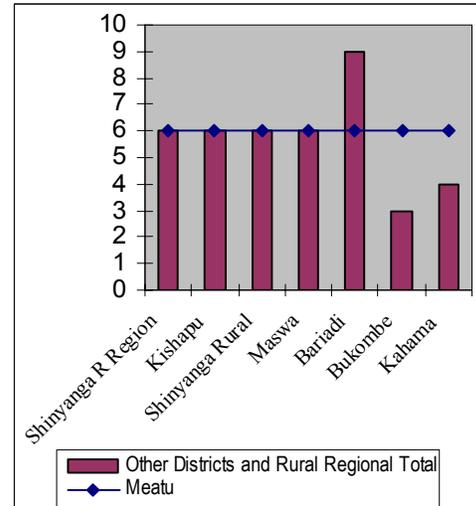
* This figure does not present a formal statistical test of difference in means

12.7 Employment

At 68 percent, fully employed individuals make up over two thirds of individuals in the 15+ age group in Meatu district. This proportion slightly exceeds the rural regional average of 65 percent and is only lower than that in Bariadi district. It must be noted, however, that variation in proportions of fully employed individuals between the surveyed districts does not exceed 10 percentage points.

Figure 105: Percentage of Population Employed to Full Capacity (Meatu)[1]
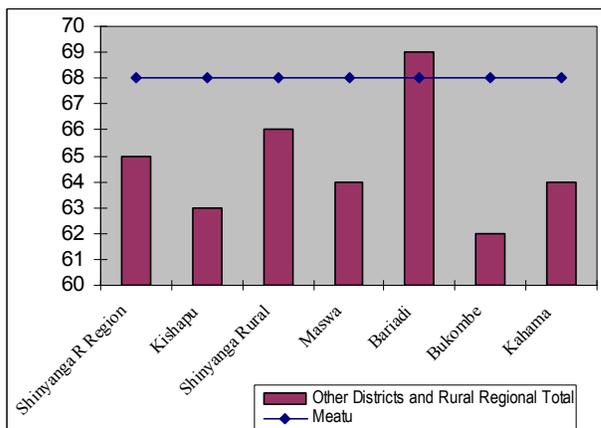
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

12.8 Other Welfare Indicators

Food shortages affect a higher proportion of households in Meatu than anywhere else in Rural Shinyanga (Figure 106). Only 3 percent of households here had fully sufficient food supplies in the year preceding the survey. On average, nearly four times as high a proportion of households in the surveyed area were found to be food secure; this proportion was also more than six times as high in Bukombe as in Meatu.

Access to water is lower here than in the majority of the surveyed districts. At 57 percent, the proportion of households located within 30 minutes of travel from the nearest source of water is 10 percentage points lower here than the rural regional average and roughly 20 percentage points lower than that in Bariadi, Bukombe, and Kahama. Worse levels of access to water were found only in Kishapu and Shinyanga Rural districts (Figure 107).

Figure 106: Percentage of Households Reporting Never to Face Food Shortages (Meatu)
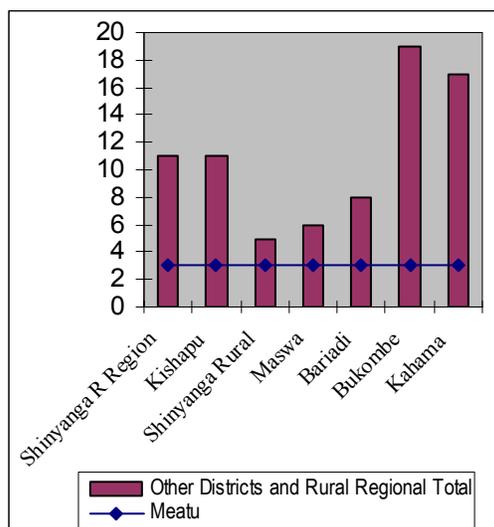
* This figure does not present a formal statistical test of difference in means

Figure 107: Percentage of Households with Access to Water Facilities (Meatu)
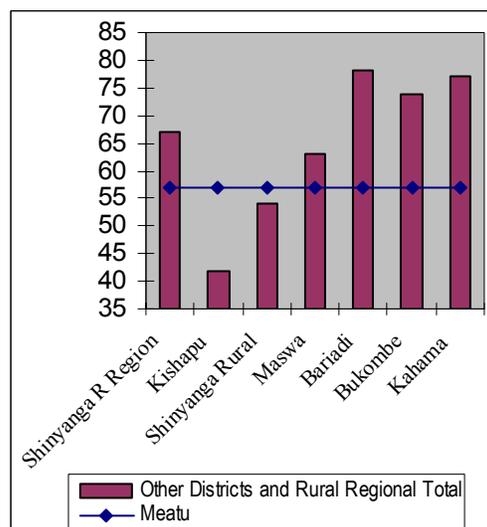
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 108 and Figure 109, the great majority in Meatu perceive a negative change in the economic situation in the household and community; 69 percent of households in this district reported deterioration in the economic situation in their community, while 66 percent expressed the same view about their household. On both community and household levels, negative change was felt more acutely in Kishapu, Shinyanga Rural and Maswa districts than here. On average, across the surveyed area both on household and community level, just over 60 percent of households had experienced change for the worse.

Figure 108: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Meatu)
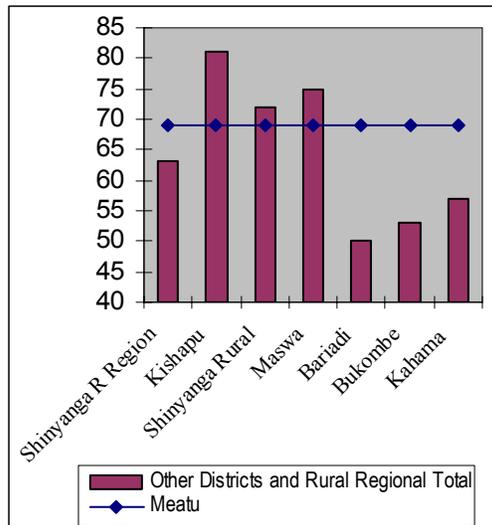
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 109: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Meatu)
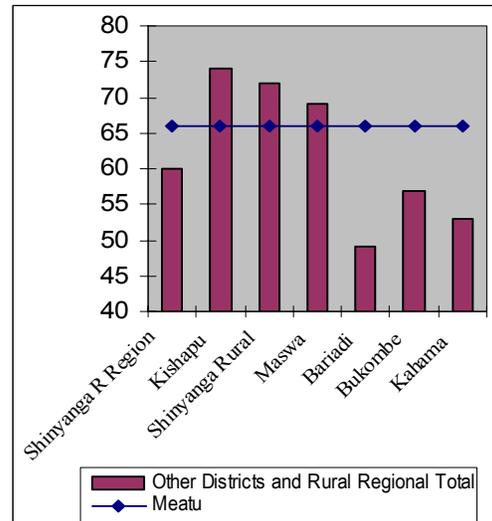
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

13 SPOTLIGHT ON BARIADI

13.1 Key Findings of Rural Shinyanga CWIQ for Bariadi

1. Bariadi district contains a fifth of all households in the Rural Shinyanga Region; a fifth of Rural Shinyanga's population live here.

2. The poverty rate in Bariadi is the third highest in the region; 38 percent of households here live under the basic needs poverty line. These poor households make up nearly a quarter (24 percent) of all poor households in the surveyed part of the region.

3. On average, households in Bariadi are made up of 5.7 members. Households here tend to be smaller than those in the rest of the surveyed districts, with the exception of Kahama.

4. The proportion of Bariadi's households holding livestock is roughly equal to the rural regional average. The rate of large-scale land ownership, on the other hand, is lower in this district than in the rest of the surveyed districts.

5. Both the literacy rate among individuals over the age of 14 and the primary school access rates are below the rural regional average in Bariadi. Nevertheless, this is the district with the third highest primary school access rate and the second highest secondary school access rate in the surveyed part of the region.

6. While Bariadi ranks first in primary school satisfaction, at secondary level the satisfaction rate here is lower than anywhere else in the surveyed part of the region. Overall, however, the school dissatisfaction rate in this district is lower than in the rest of the surveyed districts. The great majority of dissatisfied students cited lack of books/supplies and shortage of teachers as the main problems.

7. While primary school Gross Enrolment Rate (GER) in Bariadi is the second lowest in the region after that in Kishapu, at secondary school level the GER is only slightly lower than the rural regional average and equal to those in Kishapu, Bukombe and Kahama.

8. Bariadi has the worst non-attendance rate among primary school age children (7 to 13 years old) in the surveyed part of the region; only Kishapu district had as high a proportion of primary school age children out of school at the time of the survey. In contrast, the secondary school dropout rate in Bariadi is equal to the average dropout rate for the surveyed part of the region, and is lower than that in the majority of the districts.

9. Access to, need for, and use of health facilities are all below average in Bariadi. In fact, the proportion of individuals who had been ill here in the four weeks preceding the survey was the lowest in the surveyed area. The rate of health facility use was also lower here than anywhere else in Rural Shinyanga.

10. Despite low usage rates, however, the rate of satisfaction in this district exceeds the rural regional average and that in Shinyanga Rural, Maswa and Bukombe districts. Compared to other districts, dissatisfied users in Bariadi find hygiene in the health facilities more problematic. However, cost and lack of medication remain the most common complaints here.

11. Just over two fifths of pregnant women in Bariadi delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth is the third lowest in the surveyed part of the region after Meatu and Bukombe.

12. Bariadi has the lowest proportion of chronically malnourished (stunted) children in the region after Kishapu. Acute malnutrition (wasting), on the other hand, is more widespread here than in the rest of the surveyed districts: 9 percent of children under the age of 5 were too thin for their height at the time of the survey.

13. Bariadi has the highest proportion of individuals in the 15+ age group employed to capacity. This is also the district with the third highest proportion of working individuals.

14. Food shortages were a problem in 92 percent of Bariadi's households. The level of food security here was slightly lower than that in Rural Shinyanga Region as a whole.

15. A higher proportion of households reported deterioration in economic situation on both community and household levels in Kishapu than anywhere else in Rural Shinyanga.

16. Bariadi ranks first in access to water. Over three quarters (78 percent) of households here are located within 30 minutes of travel from the nearest source of water. In Rural Shinyanga Region as a whole this proportion consists of roughly two thirds of the households.

17. A lower proportion of households reported deterioration in economic situation on both community and household levels in Bariadi than anywhere else in Rural Shinyanga.

13.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 110. As can be seen, 37 percent of households in Bariadi live below the basic needs poverty line. The poverty rate thus defined exceeds the rural regional average by 7 percentage points.

Figure 111 further shows that Bariadi contains the highest proportion of poor households in the region. Roughly one in four poor households in Rural Shinyanga are located in Bariadi district; over 30,000 households here live below the basic needs poverty line.

Figure 110: Basic Needs Poverty Rates in Bariadi
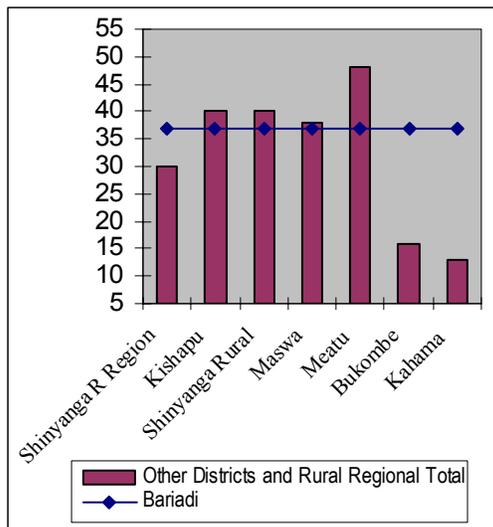
Figure 111: Bariadi's Share of the Poor Households in Rural Shinyanga Region

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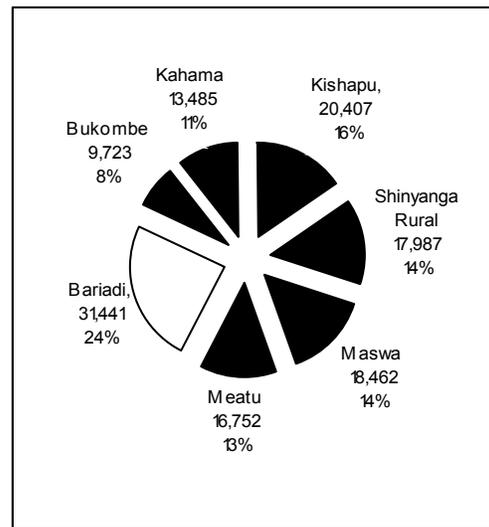
* This figure does not present a formal statistical test of difference in means

13.3 Population

Households in Bariadi are among the smallest in the region; on average households here are made up of 5.7 members. The only district with smaller households is Kahama, where the average household size is 5 persons (Figure 112).

As can be seen in Figure 113, Bariadi has the highest proportion of female headed households in the surveyed part of the region. 27 percent of households here are headed by women; this proportion exceeds the rural regional average by 7 percentage points.

Figure 112: Average Household size (Bariadi)
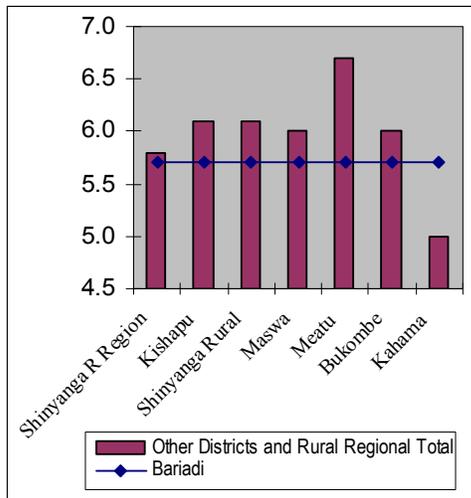
Figure 113: Percentage of Female Household Heads in (Bariadi)
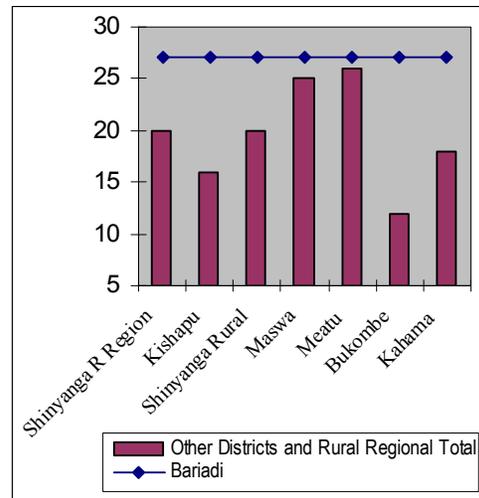
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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

Figure 114 shows that the proportion of households owning no livestock in Bariadi is roughly equal to the rural regional average. At 63 percent the proportion of Bariadi households without livestock is higher than that in Kishapu, Shinyanga Rural and Meatu districts. Table 76 shows district level trends in livestock ownership in more detail. As can be seen, the trend in livestock ownership in Bariadi is characteristic of Rural Shinyanga as a whole; proportions of Bariadi's households in each category do not deviate from the rural regional average by more than 2 percentage points. Overall, ownership of only small livestock is least widespread in this district; the majority of households do not own any livestock, while those that do, tend to hold either large livestock only or both small and large livestock.

Figure 114: Percentage of Households Owning no Livestock (Bariadi)
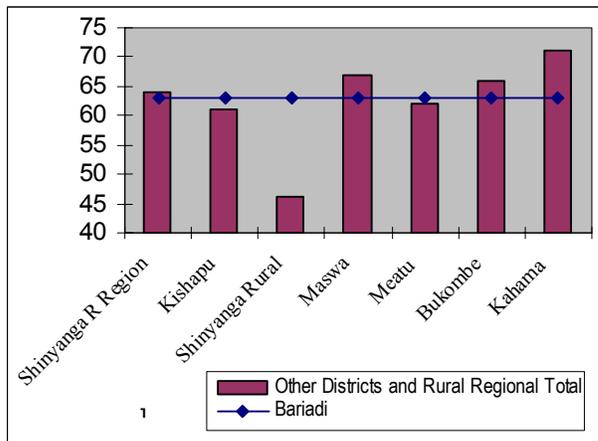
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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Table 76: Type of Livestock Owned (Bariadi)

| | *Ownership of Livestock[1]* | | | |
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga R	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 115 shows that large-scale landownership (6+ acres of land) is less widespread in Bariadi than anywhere else in Rural Shinyanga. While roughly 14 percent of households here own at least 6 acres of land, across Rural Shinyanga this is the case for over one in five households.

Table 77 presents a more detailed overview of district level trends in land ownership. As can be seen, nearly one in four households in Bariadi owns no land; this rate is similar to that found in Kishapu and Meatu districts and is only 3 percentage points lower than the rural regional average. Overall, nearly half of Bariadi's households own between 2 and 6 acres of land; the majority of the rest own no land. Proportions of households owning between 1 and 2 acres, and those with at least 6 acres of land are almost equal.

Figure 115: Percentage of Households Owning at Least 6 Acres of Land (Bariadi)
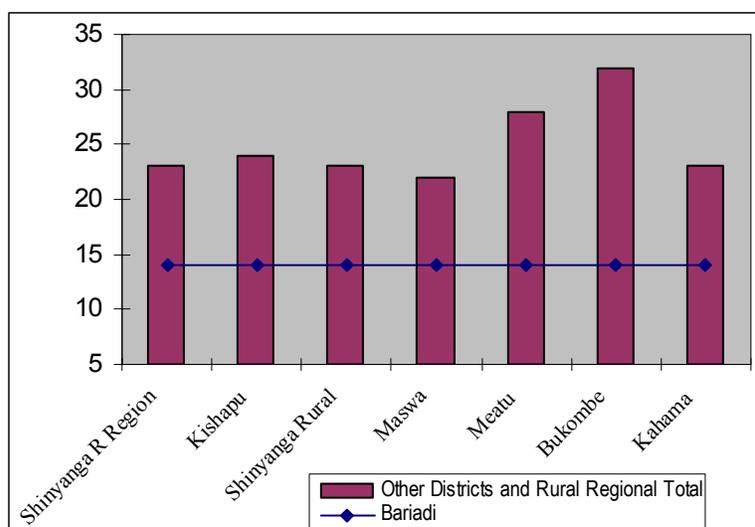
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

**Table 77: Amount of Land Owned (Bariadi)**

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13.0	24.6	14.9	23.6
Shinyanga R	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22.0
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

13.4 Education

Literacy rate among individuals over the age of 14 is below average in Bariadi. 64 percent of the reference population are able to read and write here (Table 78). This figure is substantially below the literacy rate in the best performing district – Kahama - where 74 percent o the population are literate.

The rate of access to primary school is only slightly lower here than the rural regional average; 51 percent of Bariadi's primary school children live within 30 minutes of travel from the nearest school, compared to the rural regional average of 53 percent. At secondary school level, Bariadi has the second best access rate in the surveyed area after Bukombe; over a quarter (27 percent) of secondary school students live within 30 minutes of travel from the nearest secondary school.

While primary school students in Bariadi are more satisfied with their schools than those in the other surveyed districts, secondary school students are least satisfied here. More than one in two primary school students (53 percent) were fully content with their schools at the time of the survey; this exceeds the rural regional average by over 10 percentage points. In contrast, less than one in five secondary school students here (18 percent) were equally satisfied with the schools they were attending; this satisfaction rate is nearly twice as low as that average for Rural Shinyanga.

Table 78: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Bariadi)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga R	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Despite the low secondary school satisfaction rate, Bariadi has the lowest overall school dissatisfaction rate in Rural Shinyanga (Table 79). However, among those who were dissatisfied, the proportion citing lack of books/supplies (85 percent) is the highest in the surveyed area and exceeds the rural regional average by 10 percentage points. Shortage of teachers and bad condition of facilities also feature prominently among the complaints, as is the case across the whole of the surveyed area.

Table 79: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Bariadi)

	Dissatisfaction	Reasons for dissatisfaction[1]					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59.0	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga R	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72.0	20.6	40.3	24.3
Meatu	65.4	81.3	18.0	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

The primary school Gross Enrolment Rate (GER) in Bariadi district is the second lowest in the region after Kishapu, at 96 percent (Figure 116). This figure is within 5 percentage points of the GER in Shinyanga Rural, Maswa and Bukombe. At secondary school level, Bariadi's Gross Enrolment Rate is only slightly lower than the rural regional average (7 percent) it is, however, less than half of Maswa's secondary school GER.

Figure 116: Primary School Gross Enrolment Rate (Bariadi)
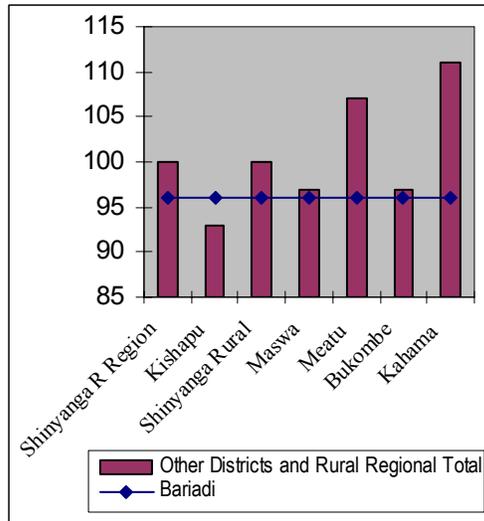
Figure 117: Secondary School Gross Enrolment Rate (Bariadi)

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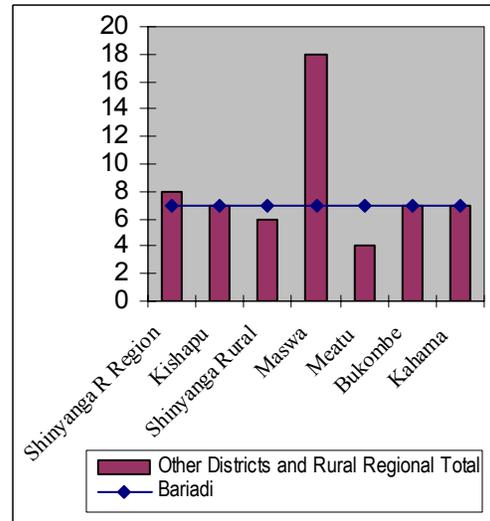
* This figure does not present a formal statistical test of difference in means

At 12 percent, the secondary school dropout rate in Bariadi is equal to the rural regional average and lower than the dropout rate found in the majority of the surveyed districts.

Figure 118: Secondary School Dropout Rate (Bariadi)
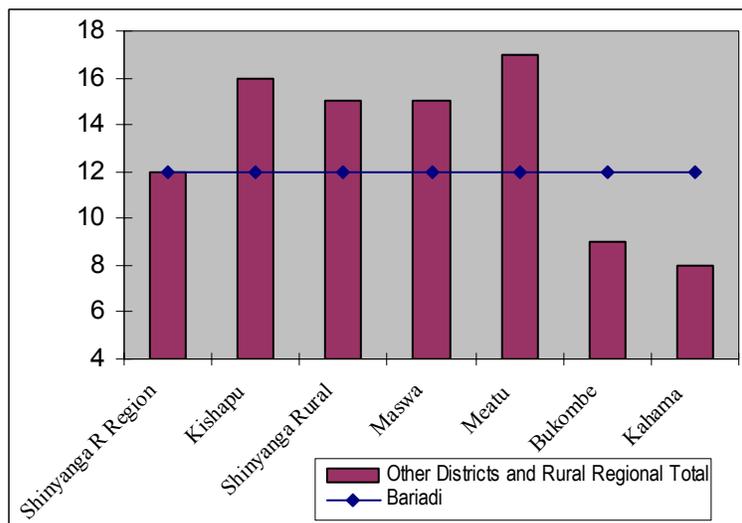
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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At primary school level, however, non-attendance figures are the worst in the region; 28 percent of Bariadi's primary school age children (7 to 13 years) were not attending school at the time of the survey. Only Kishapu has as high a non-attendance rate in its primary schools. In addition, school children in Bariadi, as well as in Bukombe, tend to be more behind than school children in other parts of the region. On average, children here are lagging at school by over two years. Overall, however, the differences in magnitude of lag incurred across the surveyed areas do not exceed five months.

Figure 119: Percentage of Children Age 7-13 who are not Attending School (Bariadi)
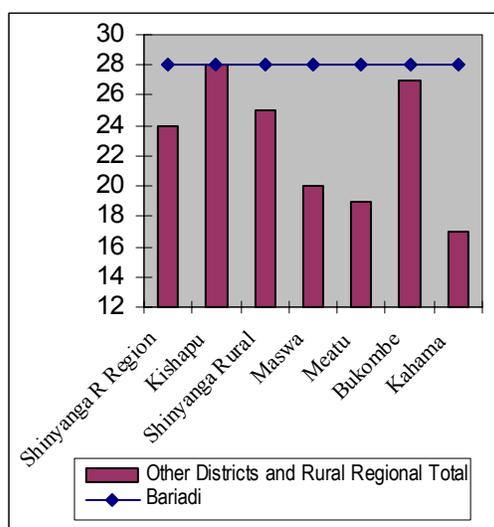
Figure 120: Years of Lag at School by School Going Children aged 7-19 (Bariadi)
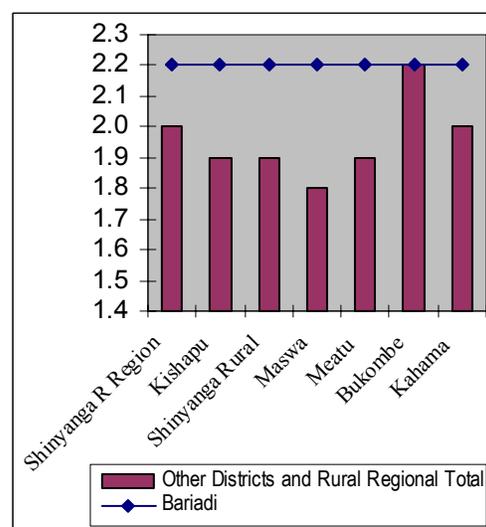
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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

13.5 Health

Roughly a quarter of households in Bariadi have access to health facilities. This access rate is approximately 6 percentage points lower than that in Kishapu, Maswa and the rural regional average.

The rate of need for health services in Bariadi is the lowest in the region; only 10 percent of the population in this district reported an illness in the 4 weeks preceding the survey, compared to the 13 percent rural regional average and 17 percent in Bukombe. Overall, variation in rates of need (incidence of illness) across the districts is not substantial with the highest rate of need only exceeding that in Bariadi by 7 percentage points.

Figure 121: Access to Health Facilities: % Households Living within 30 Minutes of Travel (Bariadi)
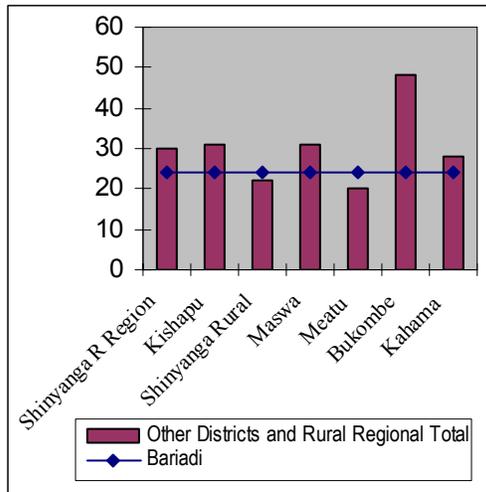
* This figure does not present a formal statistical test of difference in means

Figure 122: Need for Health Facilities: % of People Reporting an Illness in Past 4 Weeks (Bariadi)
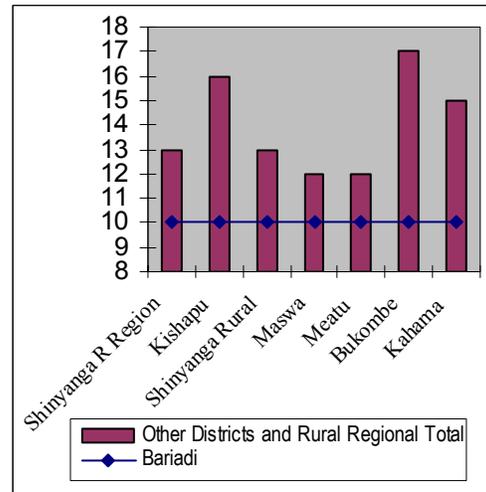
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts. Nevertheless, the rate of health facility use in Bariadi is the lowest in the region; only 17 percent of the district's population had consulted a health provider in the 4 weeks preceding the survey, compared to the 21 percent rural regional average.

The level of satisfaction with Bariadi's health services is slightly higher than average. Out of all those who had used a health facility here in the four weeks preceding the survey, 69 percent were happy with the service received. As can be seen from Figure 124, however, variation in satisfaction rates across the districts did not exceed 7 percentage points.

Figure 123: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Bariadi)
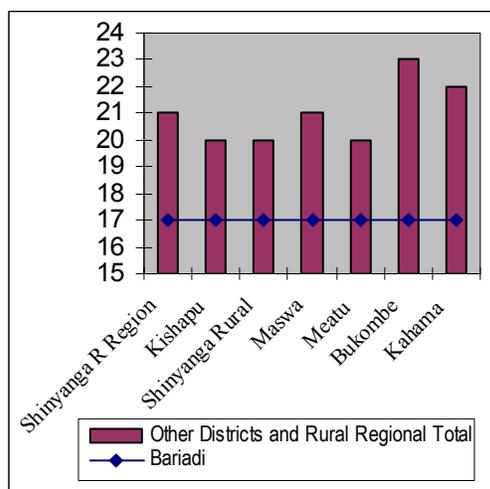
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 124: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Bariadi)
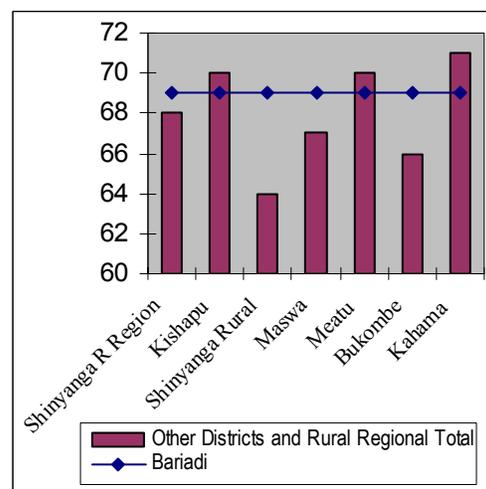
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As is the case across the majority of districts in Rural Shinyanga, cost of health services and lack of medication were the most common reasons for dissatisfaction in Bariadi. In addition, a higher proportion of dissatisfied users found the level of hygiene in health facilities problematic here than in any other district. In contrast, the proportion of dissatisfied patients complaining about low treatment success rate is lower here than anywhere else in the surveyed part of the region.

Table 80: Reason for Dissatisfaction with Health Services (Bariadi)

		Reasons for dissatisfaction[1]						
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga Rural	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

Figure 125 is a graphical representation of the overall trend in health indicators in Bariadi compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Shinyanga Rural, Bukombe and Maswa).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further, the graphs show that levels of reported need are highest in Kishapu and Bukombe and lowest in Bariadi.

Figure 125: Main Health Indicators
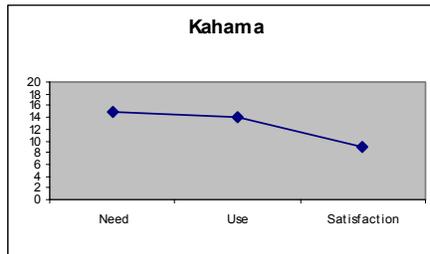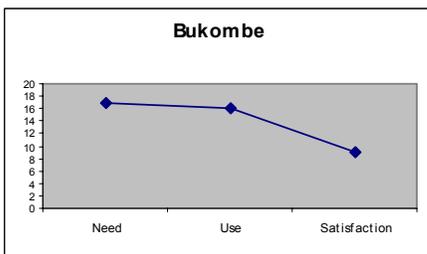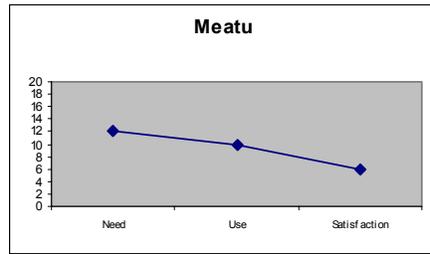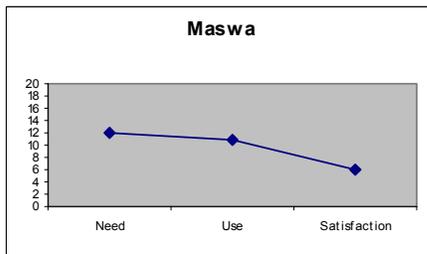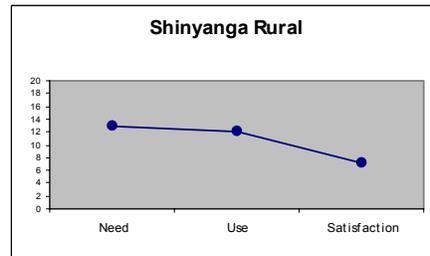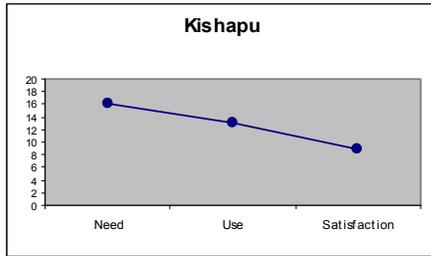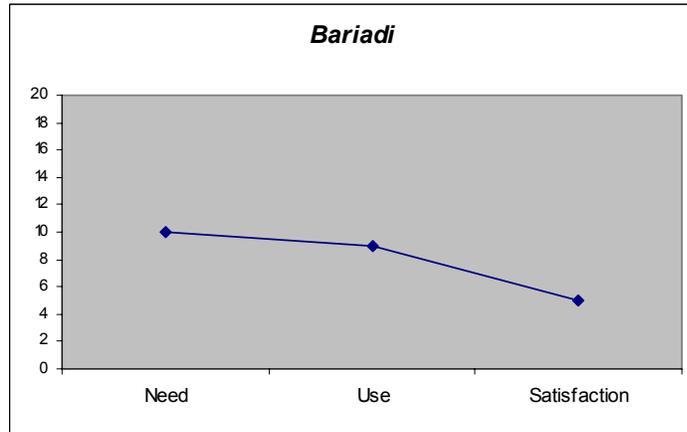
13.6 Child Delivery and Nutrition

As shown in Figure 126, in the year preceding the survey, just over two out of five child deliveries in Bariadi district were conducted in a health facility (42 percent). This rate of hospital use is roughly 12 percentage points lower than the rural regional average and is, in fact, the third lowest in the surveyed part of the region after Meatu and Bukombe.

Figure 126: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Bariadi)
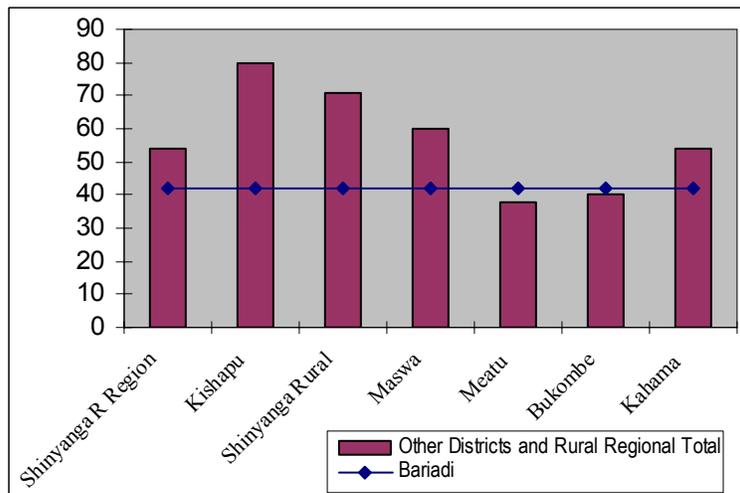
* This figure does not present a formal statistical test of differences in mean

As shown in Figure 127, stunting is less prevalent in Bariadi than in the majority of the surveyed districts, with the exception of Kishapu. 29 percent of children under the age of 5 were too short for their age at the time of the survey. Despite being one of the lowest stunting rates in the surveyed area, this proportion nevertheless indicates that over a quarter of children in the district are suffering from chronic malnutrition.

In contrast to the comparatively low stunting rates, the problem of short-term malnutrition is more acute in Bariadi than anywhere else in the surveyed part of the region. Nearly one in ten children under the age of 5 in this district was suffering from wasting at the time of the survey. Proportions of wasted children in the rest of the surveyed districts do not exceed 6 percent (Figure 128).

Figure 127: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Bariadi)
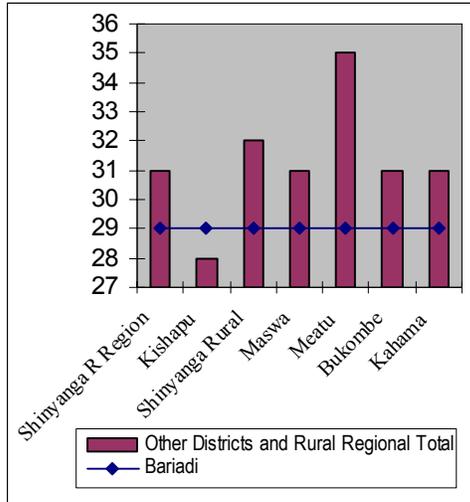
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 128: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Bariadi)
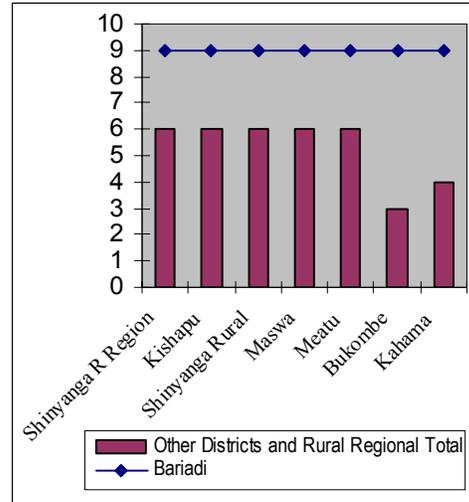
* This figure does not present a formal statistical test of difference in means

13.7 Employment

Employment to capacity is more widespread in Bariadi than anywhere else in Rural Shinyanga. Fully employed individuals in Bariadi make up 69 percent of the 15+ age group; this proportion exceeds the rural regional average by 4 percentage points. It must be noted, however, that variation in proportions of fully employed individuals across the surveyed districts does not exceed 10 percentage points.

Figure 129: Percentage of Population Employed to Full Capacity (Bariadi)[1]
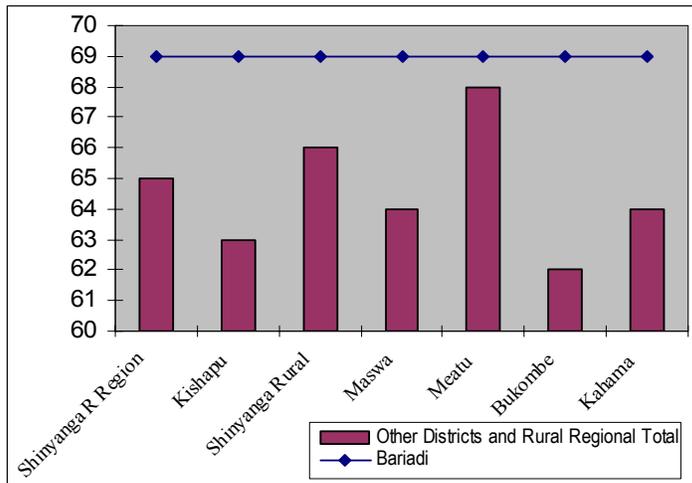
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

13.8 Other Welfare Indicators

Only 8 percent of households in Bariadi were able to fully satisfy their food need in the year preceding the survey. The rest of the households in this district experienced some degree of food shortages in the year preceding the survey. Although this level of food security is only slightly lower than the rural regional average, it appears particularly low when compared to that in Bukombe and Kahama districts. While just over one in ten household across Rural Shinyanga Region had not experienced any problems satisfying their food need, this was the case in nearly a fifth of households in Bukombe and Kahama districts in the year preceding the survey.

In contrast to the comparatively low levels of food security in Bariadi, this district scores highest in access to water. More than three out of four households (78 percent) here are located within 30 minutes of travel from the nearest source of water. This proportion exceeds the rural regional average by 11 percentage points and is nearly twice as high as that in Kishapu.

Figure 130: Percentage of Households Reporting Never to Face Food Shortages (Bariadi)
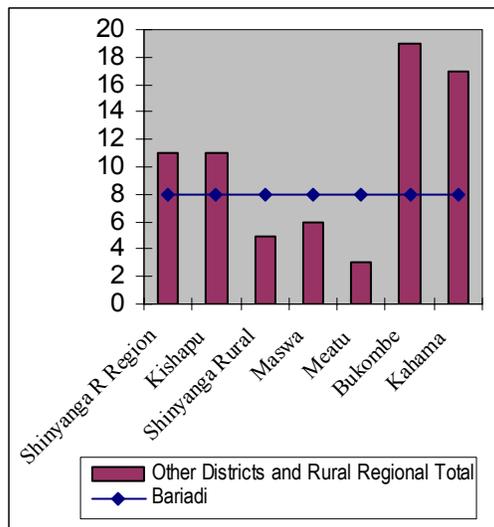
* This figure does not present a formal statistical test of difference in means

Figure 131: Percentage of Households with Access to Water Facilities (Bariadi)
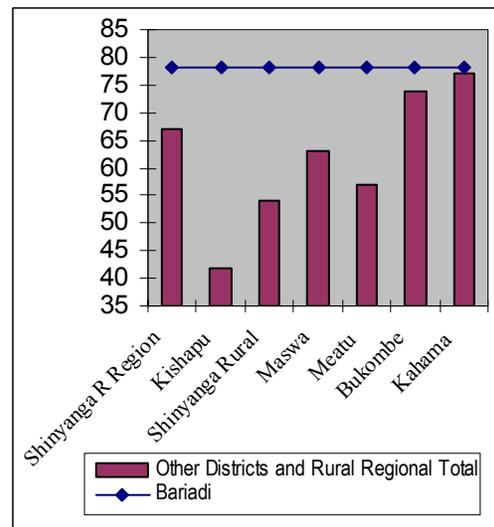
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As shown in Figure 132 and Figure 133, Bariadi's residents have a less negative view of the economic changes that took place in their communities and households in the year preceding the survey than those in the rest of Rural Shinyanga. While roughly one in two households here perceived a negative change in the household and the community over the year preceding the survey, in the majority of districts over 70 percent held the same view regarding the community, and over 65 percent regarding the household. In Rural

Shinyanga Region as a whole, both on household and community level, just over 60 percent of households had experienced change for the worse.

Figure 132: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Bariadi)
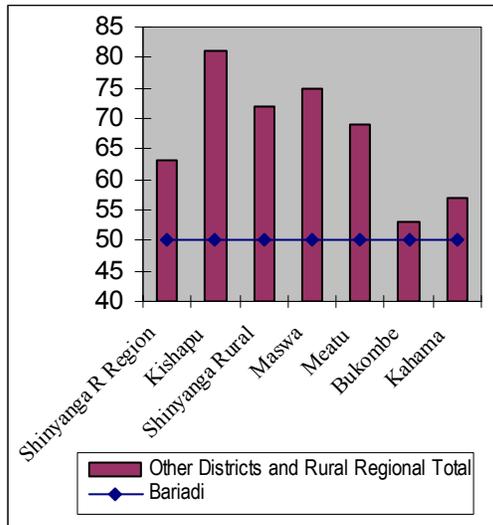
Figure 133: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Bariadi)

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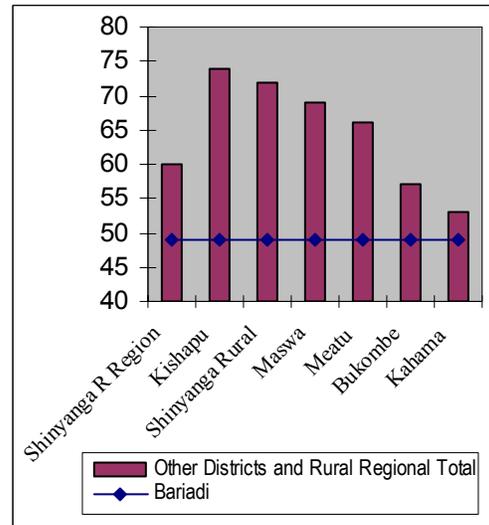
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

14 SPOTLIGHT ON BUKOMBE

14.1 Key Findings of Rural Shinyanga CWIQ for Bukombe

1. Bukombe district contains 14 percent of all households in the Rural Shinyanga Region. Further, 15 percent of Rural Shinyanga's population live here.

2. The poverty rate in Bukombe is the second lowest in the region after that in Kahama; 16 percent of households here live under the basic needs poverty line. These poor households make up 8 percent of all poor households in the surveyed part of the region.

3. On average, households in Bukombe are made up of 6 members. Households here tend to be the same size as those in Maswa and smaller than those in Kishapu, Shinyanga Rural and Meatu districts.

4. Livestock ownership is less widespread in Bukombe than in the majority of the surveyed districts. Two out of three households here hold no livestock. In contrast, the rate of large-scale land ownership is higher here than anywhere else. One out of three households in Bukombe possesses over 6 acres of land, compared to 23 percent in Rural Shinyanga Region as a whole.

5. Both the literacy rate among individuals over the age of 14, and the primary and secondary school access rates are above the rural regional average in Bukombe. In fact, primary and secondary school access rates are higher here than anywhere else in Rural Shinyanga Region.

6. Satisfaction levels with primary and secondary school are among the lowest in the region here. Hence, the overall school dissatisfaction rate is substantially higher here than in any other district, at 71 percent of the school going population. The majority of dissatisfied students cited lack of books/supplies and shortage of teachers as the main problems. Overcrowding appears to be less of a problem in Bukombe's schools than in the rest of the surveyed districts.

7. While primary school Gross Enrolment Rate (GER) in Bukombe is slightly lower than the rural regional average, at secondary school level the GER is almost equal to the average and to that in Kishapu, Bariadi and Kahama districts.

8. The secondary school dropout rate in Bukombe is the second lowest in the surveyed area after Kahama, at 9 percent. In contrast, the non-attendance rate among primary school age children is higher here than that in the majority of the districts.

9. Access to, need for, and use of health facilities are all higher in Bukombe than anywhere else in Rural Shinyanga Region. Nearly half of the households here are located within 30 minutes of travel from the nearest health facility, compared to less than a third of households in Rural Shinyanga Region as a whole. Further, 17 percent of individuals had been ill here in the 4 weeks preceding the survey, and just fewer than one in four had consulted a health provider.

10. The level of satisfaction with health facilities among those who had consulted a health provider in the 4 weeks preceding the survey was lower in Bukombe than in the majority of the surveyed districts, with the exception of Shinyanga Rural. Further, shortage of trained professionals and lack of medical supplies were felt more acutely here than in the rest of the region.

11. Two out of five pregnant women in Bukombe delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth is the second lowest in Rural Shinyanga Region after Meatu and is 13 percentage points lower than the rural regional average.

12. The level of chronic malnutrition (stunting) among children in Bukombe is equal to that found in Maswa and Kahama districts, as well as across Rural Shinyanga Region as a whole; nearly one out of three children under the age of 5 was too short for his/her age at the time of the survey in these areas. Acute malnourishment (wasting), on the other hand, is less widespread here than in the rest of the surveyed districts. At 3 percent, the proportion of children under the age of 5 who were too thin for their height in this district is half the rural regional average.

13. Bukombe has the lowest proportion of individuals in the 15+ age group employed to capacity (62 percent). The highest proportion of economically inactive individuals of working age is also found here.

14. Food need is less widespread in Bukombe than anywhere else in Rural Shinyanga. Nevertheless, 81 percent of households here experienced some level of food shortages in the year preceding the survey.

15. Three fourths of households in Bukombe are located within 30 minutes of travel from the nearest water source. This is the third highest rate of access to water in the surveyed part of the region after Bariadi and Kahama.

16. A lower proportion of households reported deterioration in economic situation, on both community and household levels, in Bukombe than in the majority of the surveyed districts. On community level only Bariadi district has a lower proportion of households with a negative experience; on household level this is the case in Bariadi and Kahama districts.

14.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 134. As can be seen, Bukombe has the second lowest poverty rate in the surveyed area; 16 percent of households here live below the basic needs poverty line. The poverty rate thus defined is lower that the rural regional average by 14 percentage points.

Figure 135 further shows that Bukombe contains the smallest proportion of all poor households in Rural Shinyanga (8 percent). Less than 10,000 households here live below the basic needs poverty line.

Figure 134: Basic Needs Poverty Rates in Bukombe
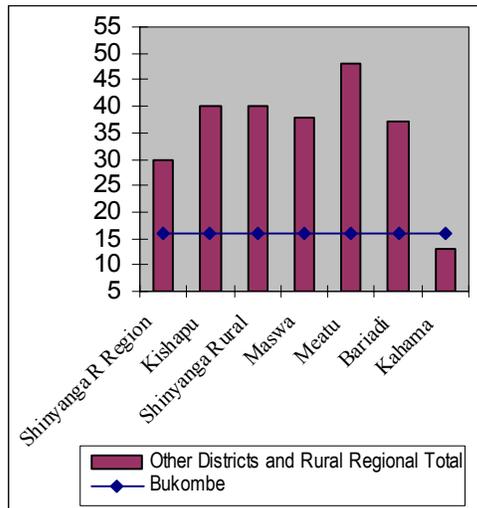
Figure 135: Bukombe's Share of the Poor Households in Rural Shinyanga Region

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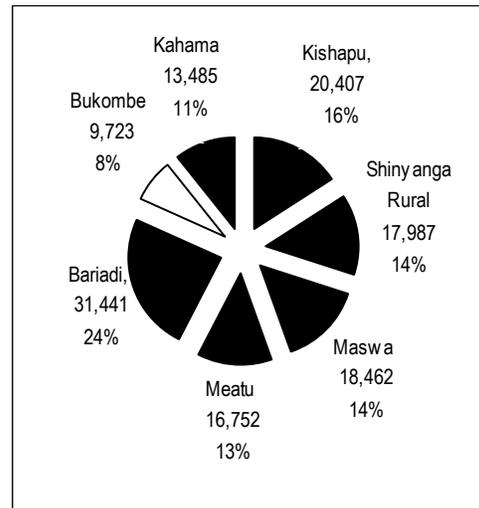
* This figure does not present a formal statistical test of difference in means

14.3 Population

Households in Bukombe tend to be slightly larger than average. While the average household here has 6 members, the rural regional average is 5.8 members. As can be seen from Figure 136, households in Bukombe are, on average, comparable in size to those in Kishapu, Shinyanga Rural and Maswa districts.

Female headed households are less common in Bukombe than in any other district (Figure 137). Only 12 percent of households here are headed by a female; this proportion is 8 percentage points lower than the rural regional average, and is less than half as large as the proportions of female headed households in Bariadi, Maswa and Meatu districts.

Figure 136: Average Household size (Bukombe)
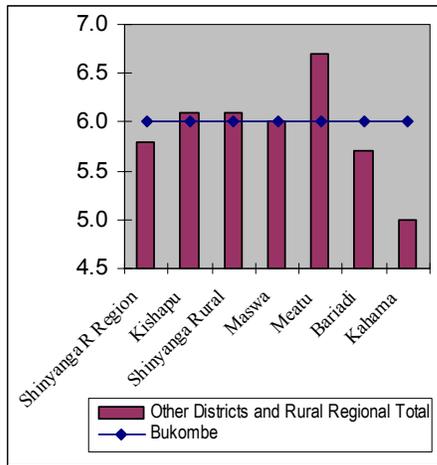
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 137: Percentage of Female Household Heads in (Bukombe)
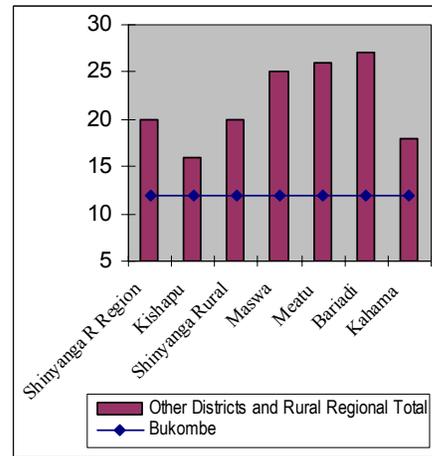
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 138, the proportion of households owning no livestock in Bukombe is among the highest in Rural Shinyanga. Two out of three households here own no livestock; this rate exceeds the rural regional average by 3 percentage points, and is 5 percentage points lower than that in Kahama (where livestock keeping is least common). Table 81 shows district level trends in livestock ownership in more detail. As can be seen, ownership of large livestock only is substantially more widespread in Bukombe than anywhere else in Rural Shinyanga; in contrast, the proportion of households keeping small livestock only is lowest here. One in five households in Bukombe keep large livestock only compared to just over one in ten households across the region; on the other hand, while 17 percent of households in Rural Shinyanga as a whole keep both small and large livestock, this is only the case in 10 percent of Bukombe's households.

Figure 138: Percentage of Households Owning no Livestock (Bukombe)
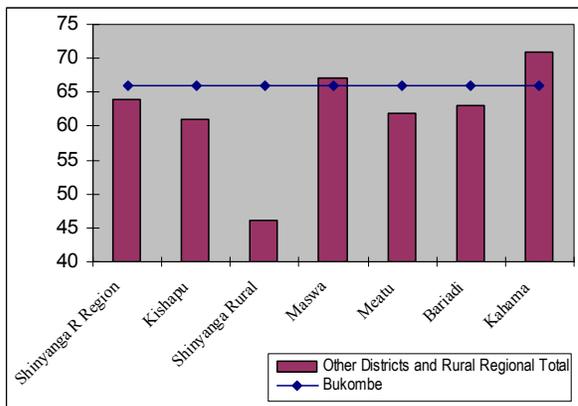
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 81: Type of Livestock Owned (Bukombe)

| | Ownership of Livestock[1] | | | |
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga R	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 139 shows that large-scale landownership (6+ acres of land) is more widespread in Bukombe than anywhere else in Rural Shinyanga. While nearly one in three households here owns at least 6 acres of land, across Rural Shinyanga this is the case in 23 percent of households.

Table 82 presents a more detailed overview of district level trends in land ownership. As can be seen, large-scale landowners are as widespread in Bukombe as landless households. Overall, nearly two thirds (64 percent) of Bukombe households own at least two acres of land, while the great majority of the rest hold no land at all.

Figure 139: Percentage of Households Owning at Least 6 Acres of Land (Bukombe)
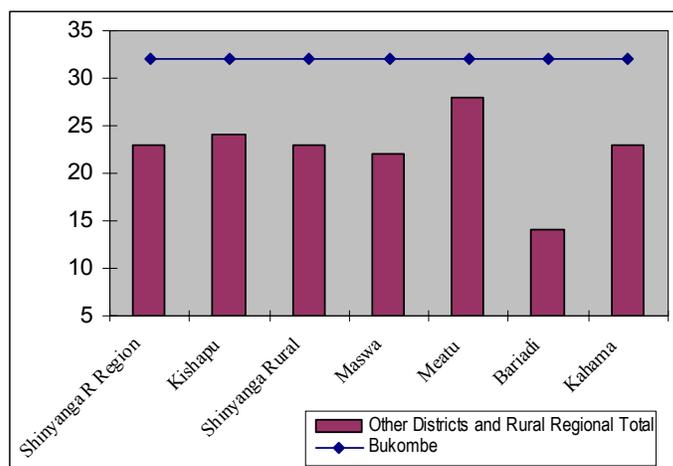
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 82: Amount of Land Owned (Bukombe)

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13	24.6	14.9	23.6
Shinyanga R	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

14.4 Education

As shown in Table 83, Bukombe has the second highest literacy rate in Rural Shinyanga after Kahama. While regionally 66 percent of individuals aged 15 years and over are able to read and write, in Bukombe this proportion is 5 percentage points higher at 71 percent.

Bukombe also has the highest primary school access rate in the region; it is the only district where more than two thirds (68 percent) of primary school pupils live within 30 minutes of travel from the nearest primary school (Table 83). This figure appears particularly high when compared to the rural regional primary school access rate of 53 percent and those in Maswa and Meatu districts (43 percent). At secondary level too, no other district in Rural Shinyanga has a higher access rate than Bukombe. 28 percent of secondary school students in this district live within 30 minutes of travel from the nearest secondary school. This access rate exceeds the rural regional average by 10 percentage points and is seven times as high as that in Shinyanga Rural.

Primary school students in Bukombe are less satisfied with their schools than children in the other surveyed districts (Table 83). Only just over one in four primary school pupils were happy with their schools at the time of the survey, compared to 41 percent of pupils in Rural Shinyanga Region as a whole. At secondary school level the satisfaction rate in Bukombe was also low. While on average roughly a third of secondary school pupils in Rural Shinyanga were satisfied with their schools, in Bukombe satisfied students made up only slightly over a fifth of the secondary school population.

Table 83: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools s (Bukombe)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga R	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Overall, Bukombe's school going population is more dissatisfied than that of anywhere else in the surveyed part of the region. 71 percent of pupils here made at least one complaint regarding their schools. There are few differences between the ranges of reasons given for dissatisfaction in the surveyed districts. In all districts inadequate supplies of books/teaching materials, as well as lack of teachers were mentioned by the great majority of dissatisfied pupils; bad condition of facilities was also a commonly cited problem. However, overcrowding appears to be much less of a problem in Bukombe's schools than anywhere else. While on average 16 percent of students mentioned overcrowding, in Bukombe this proportion made up only 8 percent of the dissatisfied population (Table 84).

Table 84: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Bukombe)

	Dissatisfaction	Reasons for dissatisfaction[1]					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72	20.6	40.3	24.3
Meatu	65.4	81.3	18	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

The primary school Gross Enrolment Rate (GER) in Bukombe is 97 percent; this figure is 3 percentage points lower than the rural regional average (Figure 140). Further, this GER is equal to that in Maswa and is slightly higher than those in Kishapu and Bariadi. It is, however, significantly lower than the GER in Kahama and Meatu. The secondary school GER in Bukombe is almost equal to the rural regional average at 7 percent. All other districts have secondary school GER's that are comparable or lower than that of Bukombe, with the exception of Maswa, where the GER is significantly higher than average at 18 percent (Figure 141).

Figure 140: Primary School Gross Enrolment Rate (Bukombe)
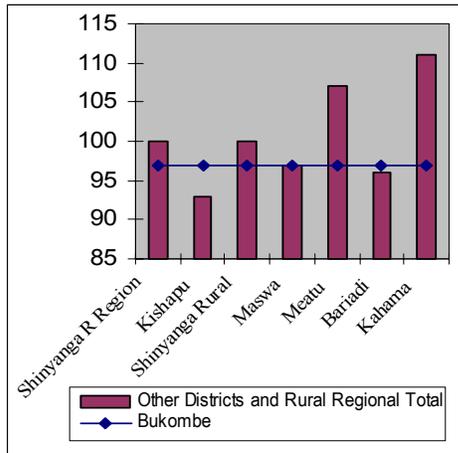
Figure 141: Secondary School Gross Enrolment Rate (Bukombe)
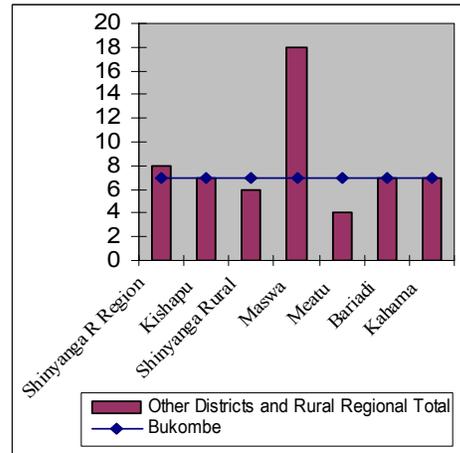
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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

The secondary school drop out rate in Bukombe is the second lowest in the region after Kahama, at 9 percent. This dropout rate is significantly lower than that in most districts, where the dropout rate is at least 15 percent (Figure 142).

Figure 142: Secondary School Dropout Rate (Bukombe)
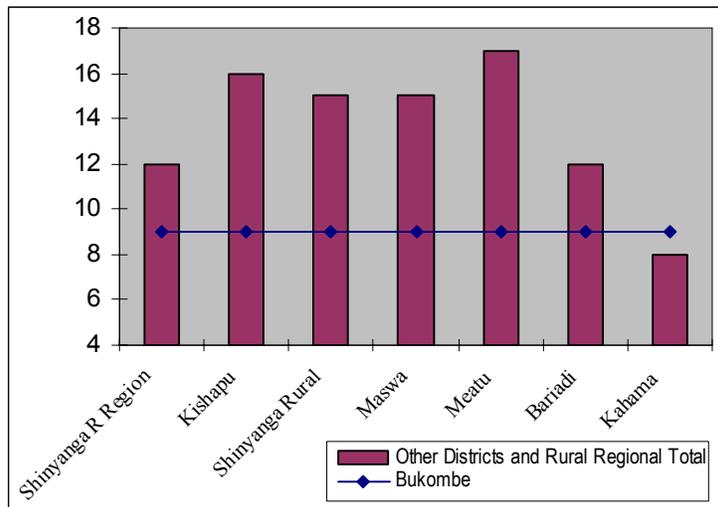
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 143 shows that Bukombe has a higher rate of non-attendance among primary school age children than most of the surveyed districts. 27 percent of primary school age children (7 to 13 years) in Bukombe were not attending school at the time of the survey; this rate is slightly higher than the rural regional average and is 10 percentage points higher than that in Kahama.

School children in Bukombe, as well as in Bariadi, tend to be more behind than school children in other parts of the region. On average, children here are lagging at school by over two years. Overall, however, the differences in magnitude of lag incurred across the surveyed areas do not exceed five months (Figure 144).

Figure 143: Percentage of Children Age 7-13 who are not Attending School (Bukombe)
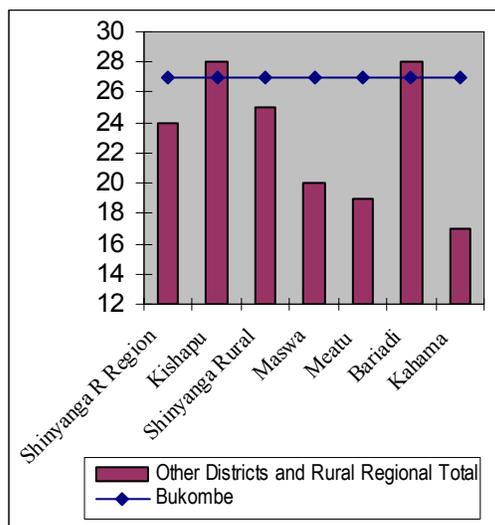
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 144: Years of Lag at School by School Going Children aged 7-19 (Bukombe)
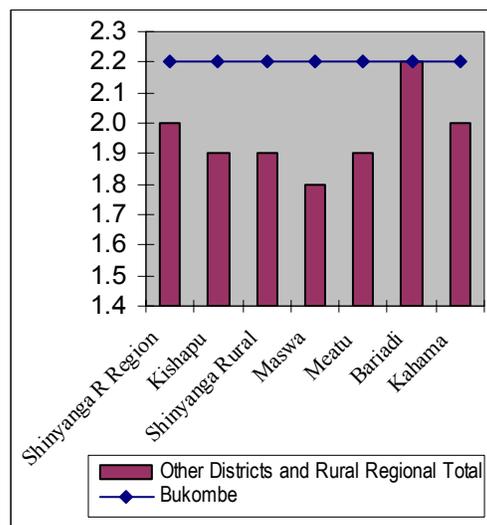
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

14.5 Health

The rate of access to health facilities in Bukombe is by far the highest in Rural Shinyanga. Close to half of the households in this district are located within 30 minutes of travel from the nearest health facility; this access rate exceeds the rural regional average by nearly 20 percentage points. Comparisons with other districts in the surveyed area are shown in Figure 145.

The rate of need for health services, defined as the percentage of households reporting an illness in the 4 weeks preceding the survey, is also higher in Bukombe than in any other district in Rural Shinyanga, at 17 percent. Overall, variation in rates of need across the districts is not substantial; the lowest rate of need in the area is only 7 percentage points lower than that in Bukombe.

Figure 145: Access to Health Facilities: % Households Living within 30 Minutes of Travel (Bukombe)
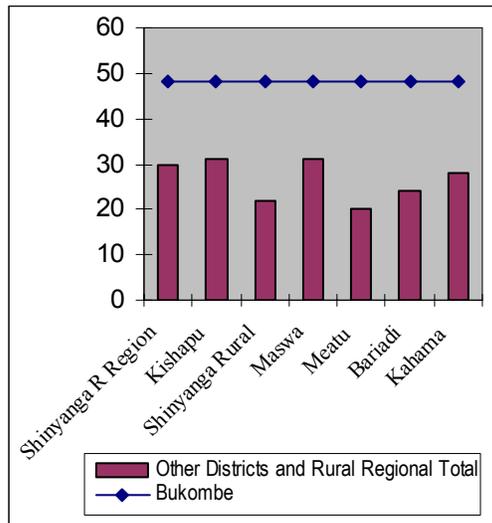
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 146: Need for Health Facilities: % of People Reporting an Illness in Past 4 Weeks (Bukombe)
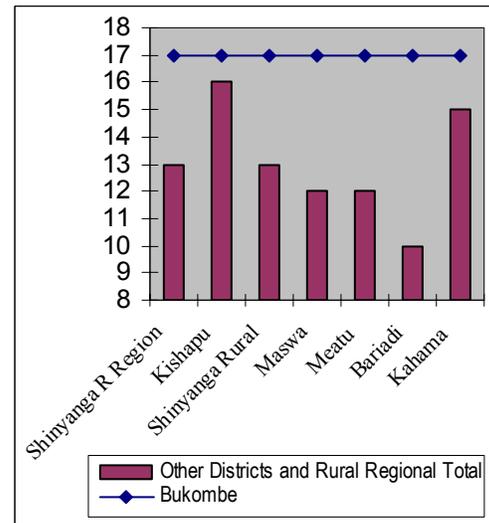
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Similarly, rates of use of health facilities (formal and informal) do not vary by more than 6 percentage points across the districts. Nevertheless, as shown in Figure 147, the rate of use of health facilities in Bukombe is the highest in the region; roughly 23 percent of Bukombe's residents had consulted a health provider in the 4 weeks preceding the survey, compared to the rural regional average rate of 21 percent.

The level of satisfaction with health services is lower in Bukombe than in the majority of the other district with the exception of Shinyanga Rural. At 66 percent, the satisfaction rate among Bukombe's health service users is slightly below the rural regional average. Overall, as can be seen from Figure 148, variation in satisfaction rates does not exceed 7 percentage points.

Figure 147: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Bukombe)
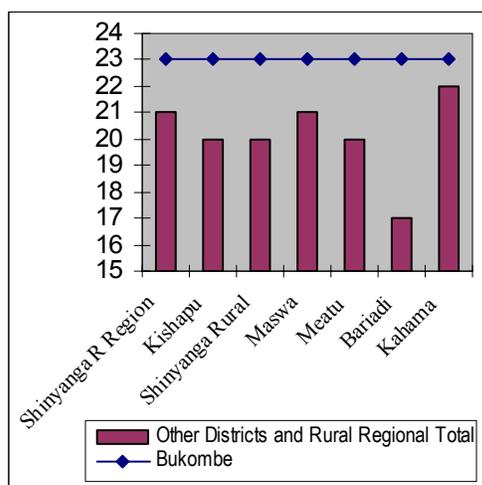
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 148: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Bukombe)
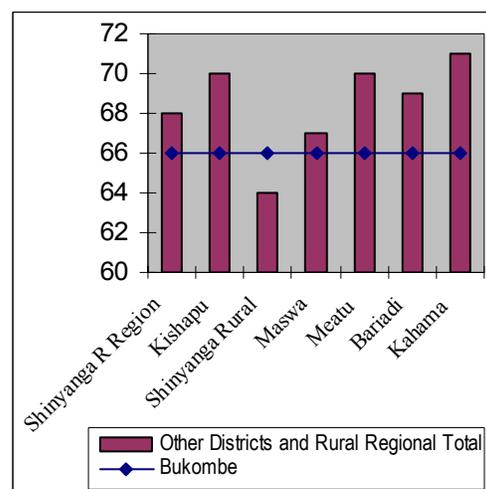
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

The main reasons for dissatisfaction in Bukombe were different from those given in the majority of the districts. While length of waiting time was mentioned by a significantly smaller proportion of dissatisfied health facility users than anywhere else in Rural Shinyanga Region, shortage of trained professionals and medical supplies were felt more acutely here than in the rest of the surveyed districts (Table 85).[34]

Table 85: Reason for Dissatisfaction with Health Services (Bukombe)

| | Dissatisfaction | *Reasons for dissatisfaction*[1] | | | | | | |
		Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga R	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

[34] Availability of drugs was as substantial a problem in Shinyanga Rural

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Figure 149 is a graphical representation of the overall trend in health indicators in Bukombe compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Bukombe, Shinyanga Rural, and Maswa).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Bariadi and Kahama)

Further the graphs show that levels of reported need are highest in Bukombe and Kishapu and lowest in Bariadi.

Figure 149: Main Health Indicators

Bukombe

Kishapu

Shinyanga Rural

Meatu

Maswa

Bariadi

Kahama
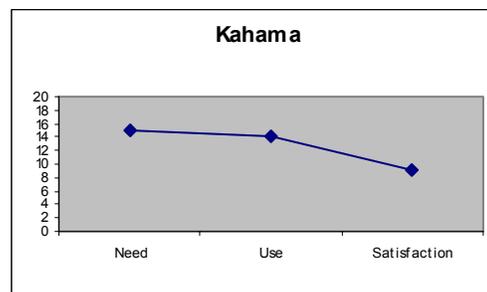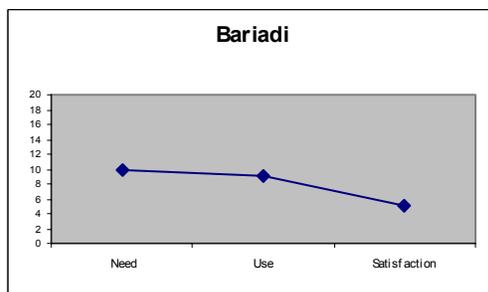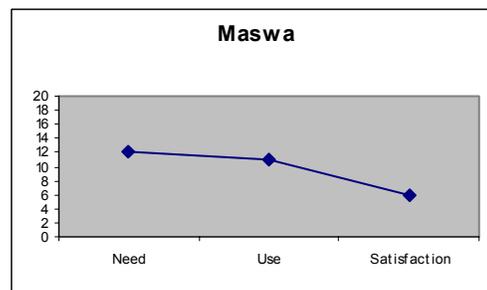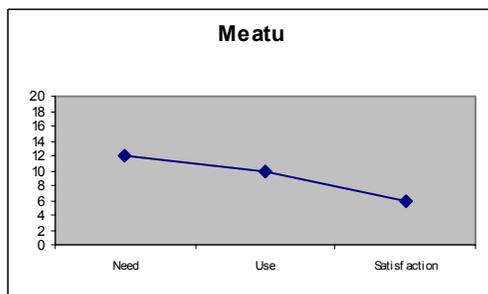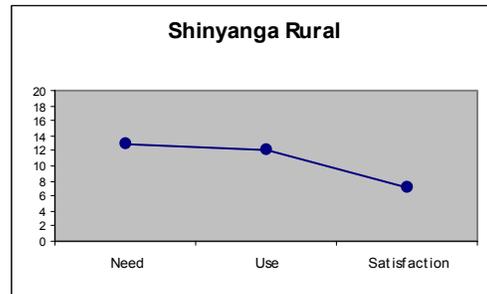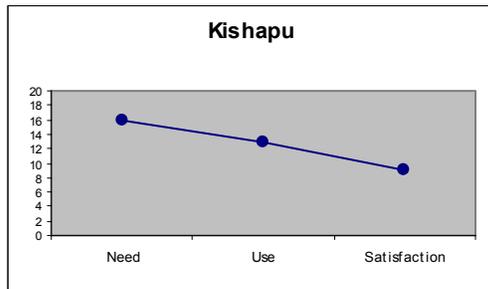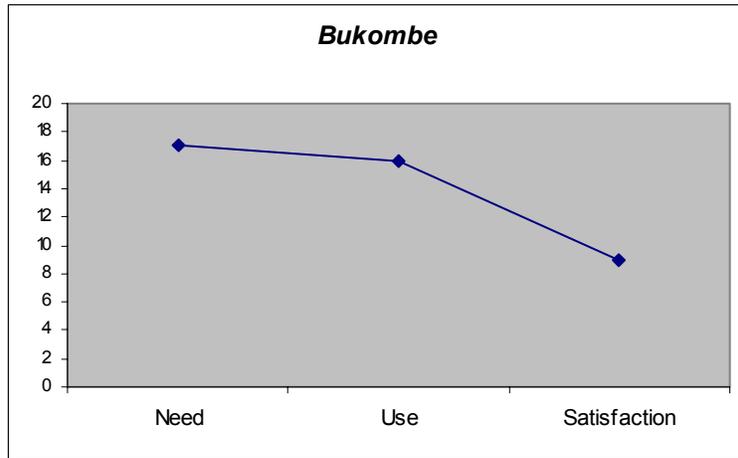
14.6 Child Delivery and Nutrition

As shown in Figure 150, in the year preceding the survey, two out of five child deliveries in Bukombe district were conducted in a health facility. This rate of hospital use is more than 10 percentage points lower than the rural regional average and is, in fact, the second lowest in the surveyed part of the region after Meatu. This rate is significantly lower than that in Kishapu and Shinyanga Rural, where 80 and 71 percent of deliveries were conducted in a health facility in the year preceding the survey.

Figure 150: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Bukombe)
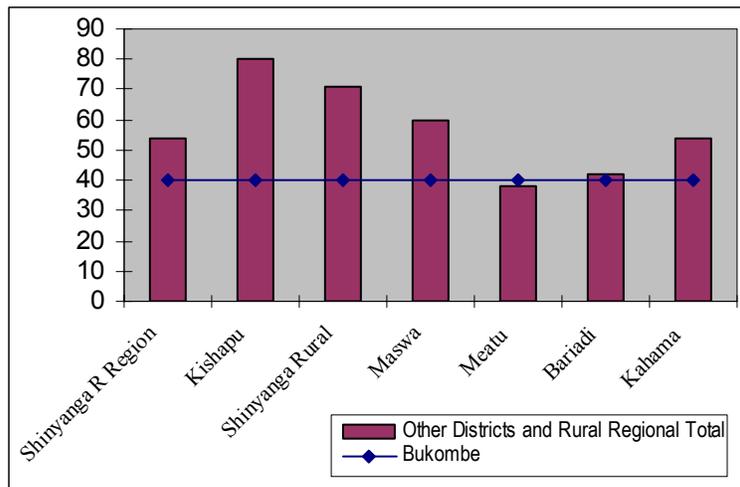
* This figure does not present a formal statistical test of differences in mean

Long-term malnutrition is as widespread in Bukombe as in Maswa, Kahama and Rural Shinyanga Region as a whole. Nearly a third (31 percent) of children under the age of 5 were too short for their age here at the time of the survey. This stunting rate is only 4 percentage points lower than that in Meatu, the district with the highest stunting rate in the surveyed part of the region (Figure 151).

In contrast, as shown in Figure 152, the rate of acute malnutrition is less widespread in Bukombe than anywhere else in Rural Shinyanga Region. Only 3 percent of Bukombe's children under the age of 5 were found to be too thin for their height at the time of the survey. This wasting rate is half the rural regional average and is three times lower than that in Bariadi. It must be noted, however, that variation in wasting rates across the districts does not exceed 6 percentage points.

Figure 151: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Bukombe)
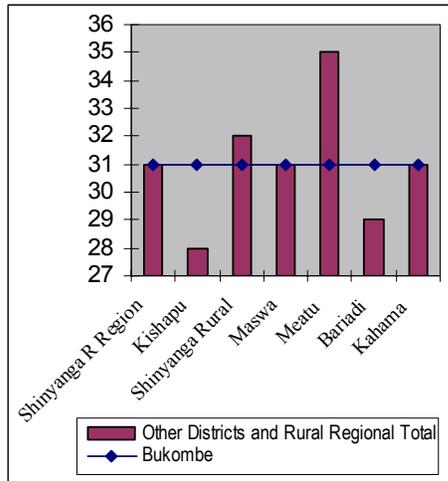
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 152: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Bukombe)
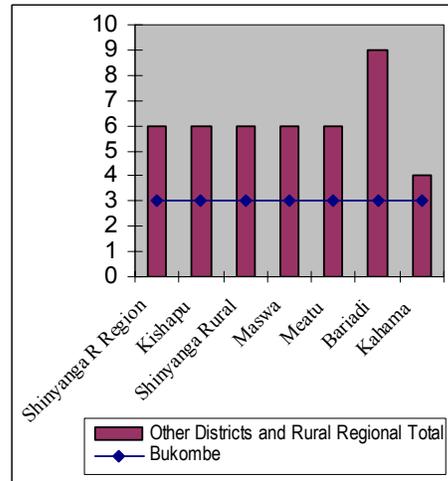
* This figure does not present a formal statistical test of difference in means

14.7 Employment

Just over three out of five individuals (62 percent) over the age of 14 in Bukombe district were employed to capacity at the time of the survey. The proportion of non-working/underemployed individuals in this district is hence slightly larger than that found in the rest of the surveyed districts. It must be noted, however, that variation in proportions of fully employed individuals across the surveyed districts does not exceed 10 percentage points.

Figure 153: Percentage of Population Employed to Full Capacity (Bukombe)[1]
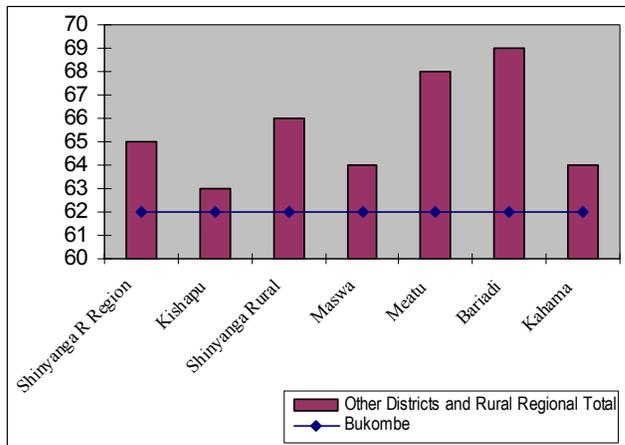
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

14.8 Other Welfare Indicators

As shown in Figure 154, Bukombe has the lowest reported rate of food need in the region. Nearly one in five households here had no problems satisfying the household food requirement in the year preceding the survey. This level of food security is substantially higher than that in most districts in Rural Shinyanga; it is nearly twice as high as the rural regional average. Kahama is the only district with a comparable proportion of food secure households.

Similarly, access to water is also better in Bukombe than in the majority of the surveyed districts, with the exception of Bariadi and Kahama districts. Just under three out of five (74 percent) households here are located within 30 minutes of travel from the nearest source of water. This access rate exceeds the rural regional average by 10 percentage points and appears particularly substantial when compared to that in Kishapu (42 percent), Shinyanga Rural (54 percent), and Meatu (57 percent) districts.

Figure 154: Percentage of Households Reporting Never to Face Food Shortages (Bukombe)
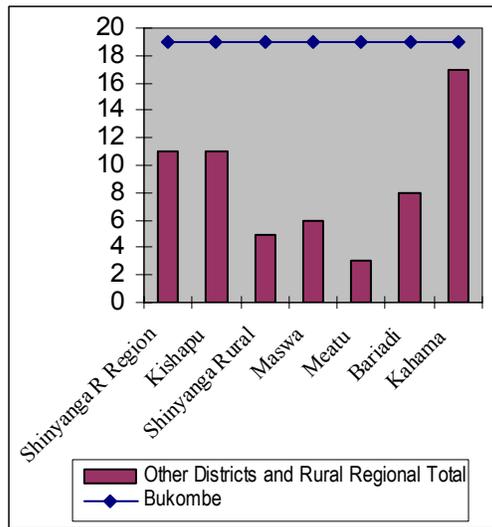
* This figure does not present a formal statistical test of difference in means

Figure 155: Percentage of Households with Access to Water Facilities (Bukombe)
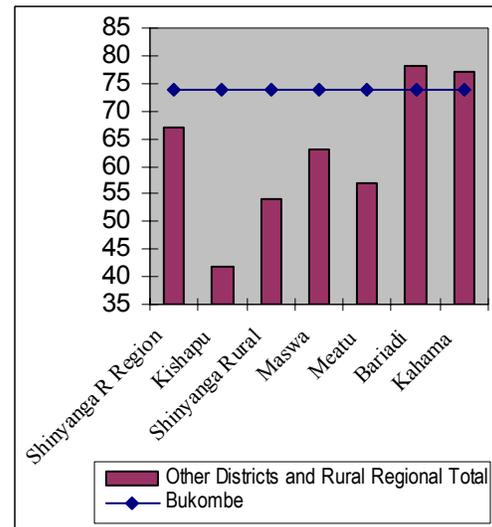
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 156 and Figure 157 show that, overall, change in Bukombe's economic situation on household and community level was perceived as more positive than in the majority of the surveyed districts. In fact, only just over half of the households (53 percent) experienced a deterioration in the economic situation in the community here, compared to over 80 percent in Kishapu and 63 percent in Rural Shinyanga Region as a whole. Similarly, while 57 percent of Bukombe's households experienced a negative change in

their economic situations over the year preceding the survey, this was the case in nearly three quarters of the households in Kishapu.

Figure 156: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Bukombe)
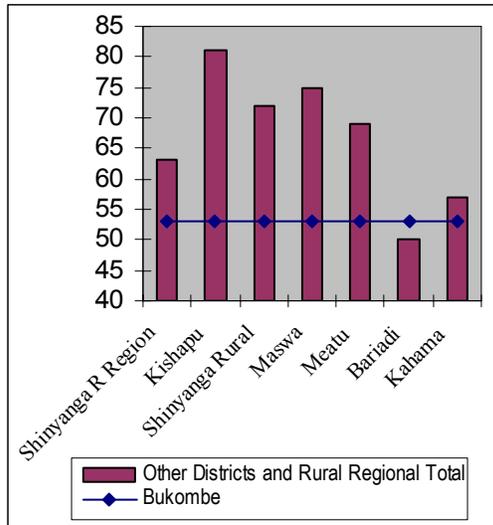
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 157: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Bukombe)
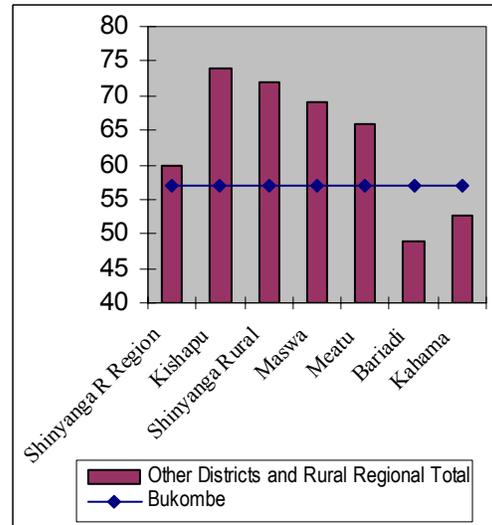
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

15 SPOTLIGHT ON KAHAMA

15.1 Key Findings of Rural Shinyanga CWIQ for Kahama

1. Kahama district contains nearly a quarter (24 percent) of all households in the Rural Shinyanga Region. Further, one fifth (20 percent) of Rural Shinyanga's population live here.

2. The poverty rate in Kahama is the lowest in the region; 13 percent of households here live under the basic needs poverty line. These poor households make up 11 percent of all poor households in the surveyed part of the region.

3. On average, households in Kahama are made up of 5 members. Households here tend to be smaller than those in the rest of the surveyed districts, which are on average made up of 5.8 members.

4. Livestock ownership in Kahama is less widespread than in the rest of the surveyed districts. The rate of large-scale land ownership is equal to the rural regional average here; substantially higher proportions of households owning at least 6 acres of land are only found in Bukombe and Meatu districts.

5. Both the literacy rate among individuals over the age of 14, and the primary school access rate are above the rural regional average in Kahama. In fact, at 74 percent, the literacy rate is higher here than in the rest of the surveyed districts. The rate of access to secondary school, on the other hand, is slightly below average.

6. While the level of satisfaction with primary school is slightly above average in Kahama, secondary school satisfaction rate in this district is the second highest in the surveyed area after Kishapu. Overall school dissatisfaction rate is slightly below average in this district. Further, the majority of students cited lack of books/supplies and shortage of teachers as the main problems.

7. Primary and secondary school Gross Enrolment Rates (GER) in Kahama are among the highest in the surveyed part of the region. In fact, Kahama ranks first in primary school GER, while at secondary level enrolment is only higher in Maswa.

8. The secondary school dropout rate in Kahama is substantially lower than that in the rest of the surveyed districts. The lowest school non-attendance rate among primary school age children (7 to 13 years old) is also found here; at 17 percent it is 7 percentage points lower than the rural regional average.

9. At 28 percent, access to health facilities in Kahama is higher than that in the majority of the surveyed districts, but it is slightly below average. Rates of need for and use of health facilities are also among the highest in the region and are higher than average.

10. At 71 percent, the rate of satisfaction with health facilities is higher in Kahama than in the rest of the surveyed districts. Among the dissatisfied users cost, lack of medication and length of waiting time are the main complaints. In fact, cost was more of an issue in Kahama than in the rest of Rural Shinyanga Region.

11. Just over half of pregnant women in Kahama delivered in a hospital or maternity ward in the year preceding the survey. This rate of health facility use in child birth is equal to the rural regional average and is higher than that in Bukombe, Bariadi and Meatu districts.

12. The level of chronic malnutrition (stunting) among children in Kahama is equal to that found in Maswa and Bukombe districts, as well as across Rural Shinyanga Region as a whole; nearly one out of three children under the age of 5 was too short for his/her age at the time of the survey in these areas. Acute malnourishment (wasting), on the other hand, is less widespread here than in the majority of the surveyed districts with the exception of Bukombe. At 4 percent, the proportion of children under the age of 5 who were too thin for their height in this district is slightly more than half the rural regional average.

13. After Bukombe and Kishapu, Kahama has the lowest proportion of individuals in the 15+ age group employed to capacity (64 percent) and a below average rate of economic inactivity.

14. Food need is less widespread in Kahama than anywhere else in Rural Shinyanga, with the exception of Bukombe district. Nevertheless, 83 percent of households here experienced some level of food shortages in the year preceding the survey.

15. Kahama ranks second in access to water. Over three quarters (77 percent) of households here are located within 30 minutes of travel from the nearest source of water. In Rural Shinyanga Region as a whole this proportion consists of roughly two thirds of the households.

16. The proportion of households reporting deterioration in economic situation on both community and household levels is smaller in Kahama, than in the majority of the surveyed districts.

15.2 Poverty

Data collected in the Rural Shinyanga CWIQ allows calculation of predicted poverty rates on a district level (see Annex B); the results are presented in Figure 158. As can be seen, Kahama has the lowest poverty rate in the surveyed area; only 13 percent of households here live below the basic needs poverty line. The poverty rate thus defined is less than half that average for Rural Shinyanga.

Figure 159 further shows that there are roughly 13,500 households living below the basic needs poverty line in Kahama. These households constitute 11 percent of all poor households in the surveyed area.

Figure 158: Basic Needs Poverty Rates in Kahama
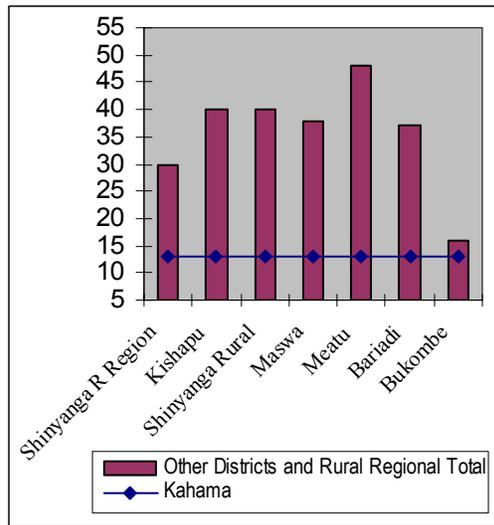
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 159: Kahama's Share of the Poor Households in Rural Shinyanga Region
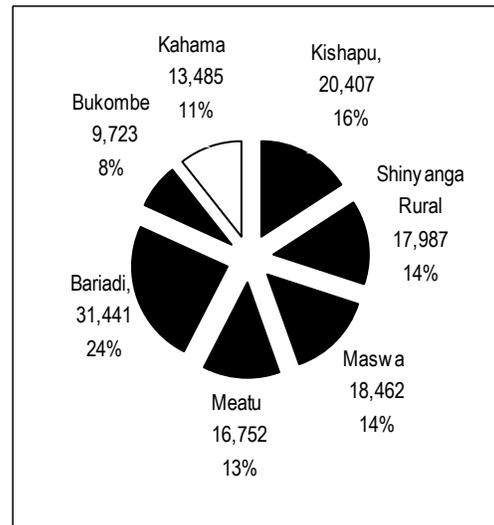
* This figure does not present a formal statistical test of difference in means

15.3 Population

Households in Kahama tend to be smaller than in any of the other surveyed districts. While the average household here has 5 members, the rural regional average is 5.8 members. Figure 160 provides a detailed picture.

The proportion of female headed households in Kahama is 3 percentage points below the rural regional average, at 17 percent. As shown in Figure 161, this proportion is among the lowest in the surveyed area after Kishapu and Bukombe. In the majority of districts female headed households make up at least a fifth of all households.

Figure 160: Average Household size (Kahama)
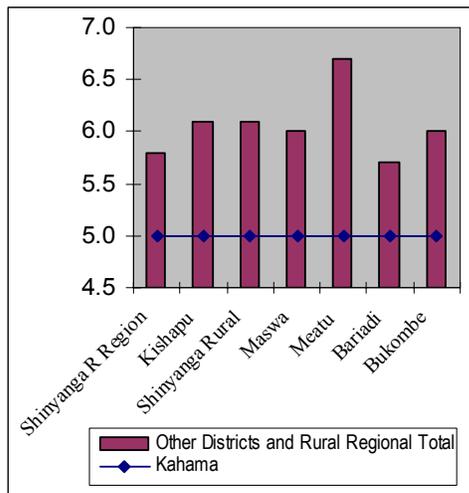
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 161: Percentage of Female Household Heads in (Kahama)
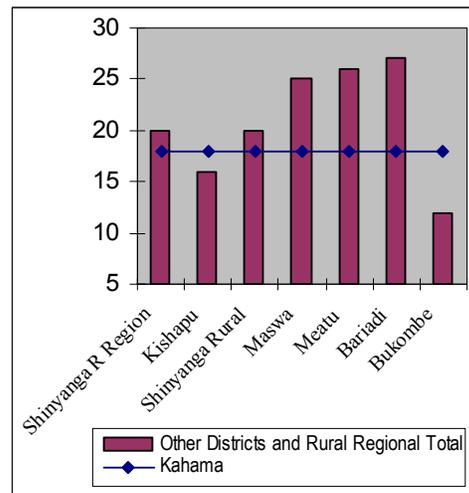
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As can be seen in Figure 162, the proportion of Kahama households owning no livestock is the highest in Rural Shinyanga. 71 percent of households here own no livestock; this rate exceeds the rural regional average by 7 percentage points. Table 86 shows district level trends in livestock ownership in more detail. As can be seen, the largest proportion of Kahama's livestock owners, hold both small and large livestock. Overall, the proportions of households holding only small/large livestock or both are smaller in this district than average for the surveyed area.

Figure 162: Percentage of Households Owning no Livestock (Kahama)
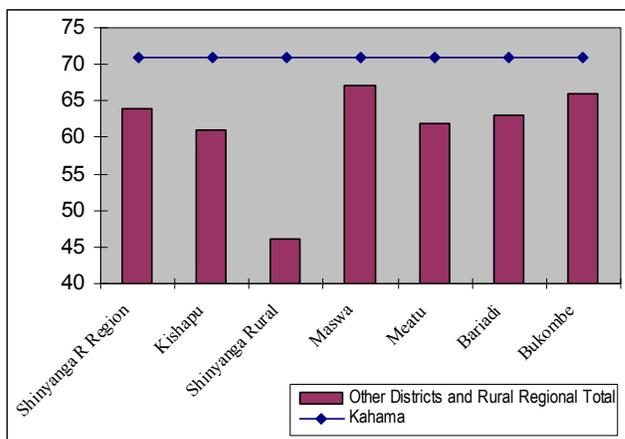
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 86: Type of Livestock Owned (Kahama)

| | Ownership of Livestock[1] | | | |
	None	Small only	Large only	Both
Rural Shinyanga Region	63.5	7.2	12.2	17.2
Kishapu	60.5	8.6	11.3	19.6
Shinyanga R	46.3	10.7	11.9	31.0
Maswa	66.6	5.7	10.1	17.7
Meatu	61.6	7.2	9.8	21.5
Bariadi	63.0	9.1	12.7	15.1
Bukombe	65.5	4.1	20.4	10.1
Kahama	70.9	5.8	9.1	14.2

1. Livestock does not include poultry.

Figure 163 shows that the rate of large-scale landownership (6+ acres of land) in Kahama is equal to the rural regional average. Just under one in four households in this district own at least 6 acres of land. Out of the surveyed districts, Meatu and Bukombe are the only areas where large-scale landownership is substantially more widespread.

Table 87 presents a more detailed overview of district level trends in land ownership. As can be seen, nearly two out of five households in Kahama own no land compared to only one in four in Rural Shinyanga as a whole. Proportions in the rest of the categories are up to 5 percentage points lower than the rural regional average.

Figure 163: Percentage of Households Owning at Least 6 Acres of Land (Kahama)
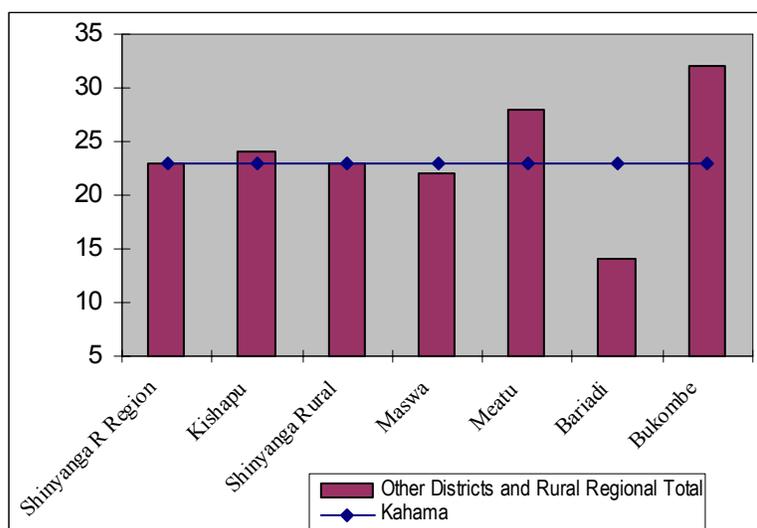
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Table 87: Amount of Land Owned (Kahama)

	Acres of land owned by the household					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Rural Shinyanga Region	27.2	1.2	10.2	24.2	14.3	22.9
Kishapu	22.4	1.5	13.0	24.6	14.9	23.6
Shinyanga R	9.0	2.3	14.1	33.5	17.9	23.2
Maswa	27.3	0.7	15.8	23.8	10.4	22.0
Meatu	24.9	2.9	11.1	17.4	15.3	28.4
Bariadi	23.8	1.1	12.1	30.4	18.7	13.9
Bukombe	31.9	0.4	3.0	21.1	11.4	32.2
Kahama	38.8	0.9	6.7	18.7	11.8	23.1

15.4 Education

As shown in Table 88, Kahama has the highest literacy rate in Rural Shinyanga. While regionally 66 percent of individuals aged 15 years and over are able to read and write, in Kahama roughly three out of four (74 percent) of the population in this age group are literate.

Kahama has the second highest primary school access rate in the region after Bukombe; over three fifths (63 percent) of primary school pupils here live within 30 minutes of travel from the nearest primary school. The rural regional primary school access rate is 53 percent, while the districts with lowest access rates, Maswa and Meatu, have rates of only 43 percent. Secondary school access rates, on the other hand are lower in this districts than in Rural Shinyanga as a whole at 13 percent. Although this rate is lower than the rural regional average, it still more than twice as high as access rates in Shinyanga Rural and Meatu districts.

Both primary and secondary school students in Kahama are relatively satisfied with the schools they are attending. At primary school level the satisfaction rate is roughly equal to the rural regional average; just over two out of five primary school students in Kahama were happy with the schools they were attending at the time of the survey. Students in Kahama's secondary schools were more satisfied than the same group in the rest of the surveyed districts with the exception of Kishapu. Nearly half of the secondary school pupils (47 percent) in Kahama had no problems with the schools they were attending at the time of the survey, compared to only one out of three secondary school students in Rural Shinyanga Region as a whole.

Table 88: Literacy Rates, Access to and Satisfaction with Primary and Secondary Schools (Kahama)

	Literacy rate[1]	Primary School		Secondary School	
		Access[2]	Satisfaction[3]	Access[2]	Satisfaction[3]
Rural Shinyanga Region	66.0	53.2	40.5	16.4	33.7
Kishapu	62.8	45.8	44.1	12.0	62.0
Shinyanga R	58.9	46.8	44.7	3.8	44.1
Maswa	65.2	43.3	33.8	16.2	25.3
Meatu	59.6	42.6	34.9	5.8	34.0
Bariadi	63.9	50.8	52.6	27.3	18.1
Bukombe	71.1	68.4	28.1	28.4	22.3
Kahama	73.6	62.8	42.2	13.0	46.6

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

Overall, 56 percent of school children were dissatisfied with the schools they were attending at the time of the survey. There are few differences between the ranges of reasons given for dissatisfaction in the surveyed districts. In all districts inadequate supplies of books/teaching materials as well as lack of teachers were mentioned by the great majority of dissatisfied pupils; bad condition of facilities was also a commonly cited problem. While on average lack of books/supplies were mentioned by three quarters of the dissatisfied pupils, in Kahama a slightly smaller proportion of pupils cited this problem, at roughly two thirds (67 percent) of the dissatisfied population.

Table 89: Children Currently at School and Dissatisfied with it and Reasons for Dissatisfaction (Kahama)

	Dissatisfaction	Reasons for dissatisfaction[1]					
		Books/ Supplies	Poor teaching	Lack of teachers	School Overcrowded	Bad condition of facilities	Other
Rural Shinyanga Region	59	75.3	20.7	75.6	15.7	39.2	27.8
Kishapu	53.3	68.5	15.8	54.6	11.4	40.3	8.8
Shinyanga	55.1	73.1	18.3	72.6	17.2	43.6	28.2
Maswa	66.6	77.8	19.9	72	20.6	40.3	24.3
Meatu	65.4	81.3	18	79.6	16.5	46.9	26.3
Bariadi	48.6	84.7	28.8	82.7	22.7	33.7	32.5
Bukombe	70.9	75.4	17.7	82.6	7.8	38.5	44.6
Kahama	56.1	67.1	23.5	75.5	15.2	36.1	20.9

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

Kahama ranks first in primary school enrolment; at 111 percent, its primary school Gross Enrolment Rate (GER) is the highest in Rural Shinyanga Region. At secondary level, the GER is equal to those found in Kishapu, Bariadi and Bukombe districts; the proportion of individuals at secondary school in these districts, irrespective of age, make up 7 percent of all individuals of secondary school age in the districts. Maswa is the only district in Rural Shinyanga where this proportion is substantially higher at 18 percent.

Figure 164: Primary School Gross Enrolment Rate (Kahama)
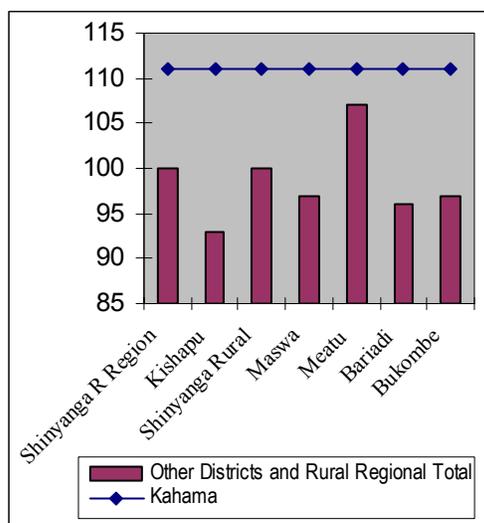
Figure 165: Secondary School Gross Enrolment Rate (Kahama)
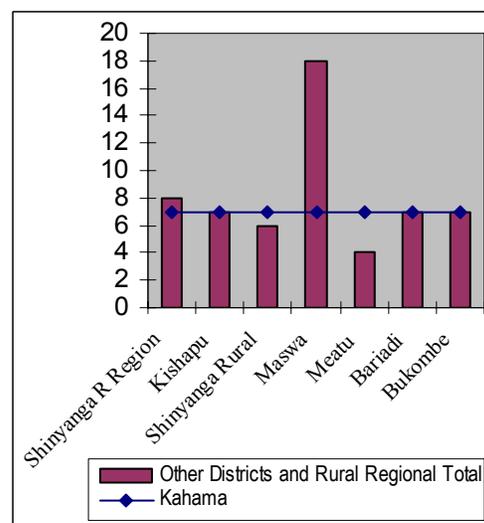
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

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

The secondary school dropout rate in Kahama is the lowest in the region at 8 percent. This dropout rate is significantly lower than that in most districts where the dropout rate is at least 15 percent.

Figure 166: Secondary School Dropout Rate (Kahama)
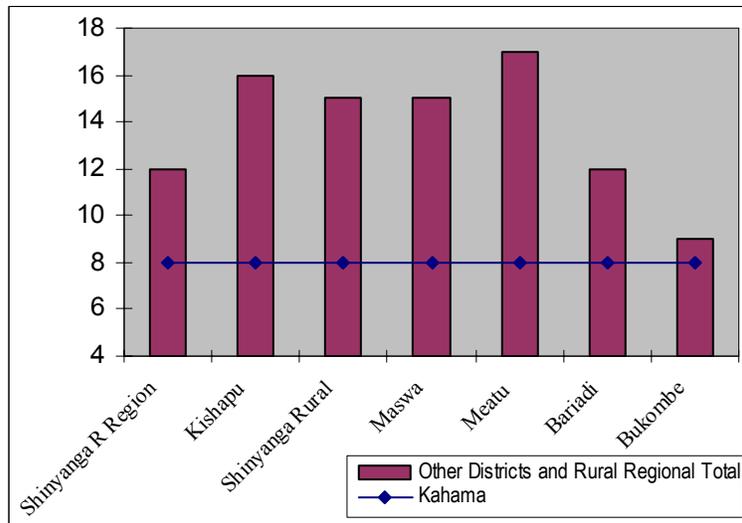
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Non-attendance among primary school age children (7 to 13 years) is also less widespread in Kahama than in the rest of the surveyed districts; it is 7 percentage points below average and, at 17 percent, is more than one and a half times lower than that in Kishapu, Shinyanga Rural and Bariadi districts.

On average, school children in Kahama are about 2 years behind; this is equal to the rural regional average and only slightly higher than the lag incurred in Kishapu, Shinyanga Rural and Meatu districts (1.9 years). Overall, differences in magnitude of lag incurred do not exceed five months, with the biggest lag found in Bariadi and Bukombe at 2.2 years.

Figure 167: Percentage of Children Age 7-13 who are not Attending School (Kahama)
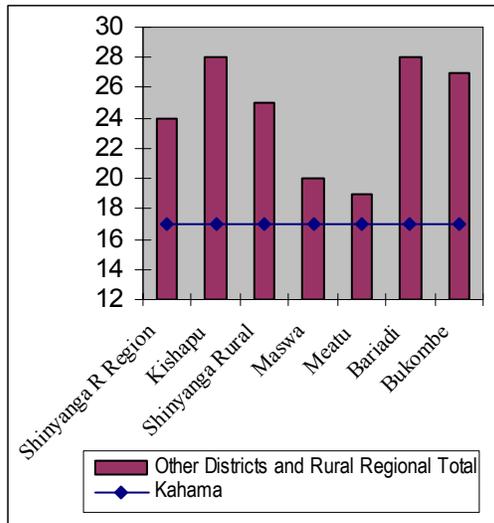
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 168: Years of Lag at School by School Going Children aged 7-19 (Kahama)
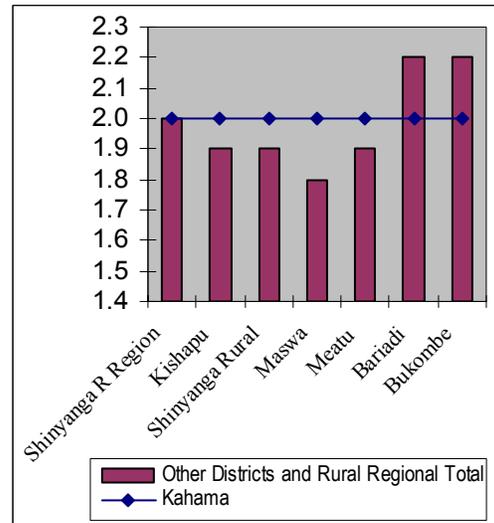
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

15.5 Health

Kahama ranks third in access to health facilities; 28 percent of households here are located within 30 minutes of travel from the nearest health facility. This access rate is only slightly lower than the rural regional average, and is only 3 percentage points lower than the health facility access rates in Kishapu and Maswa (Figure 169).

Overall, variation in rates of need (incidence of illness) across the districts is not substantial; lowest rates of need were reported in Bariadi (10 percent) and highest in Bukombe (17 percent). In Kahama the rate of need was higher than that in the majority of districts; 15 percent of the population here had been ill in the 4 weeks preceding the survey.

Figure 169: Access to Health Facilities: % Households Living within 30 Minutes of Travel (Kahama)
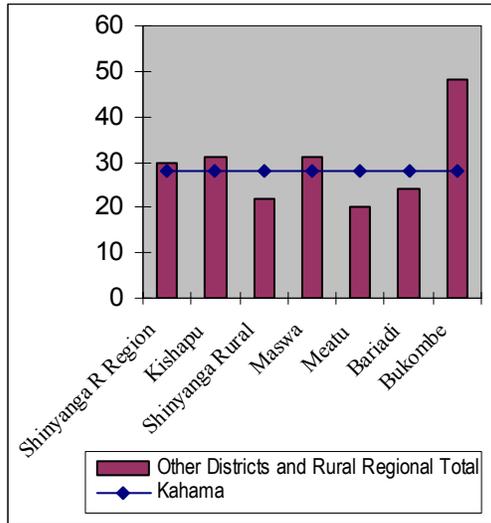
* This figure does not present a formal statistical test of difference in means

Figure 170: Need for Health Facilities: % of People Reporting an Illness in Past 4 Weeks (Kahama)
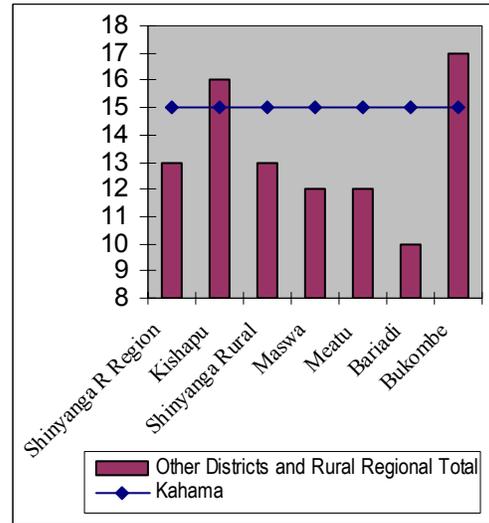
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Rates of use of health facilities (formal and informal) also do not vary by more than 6 percentage points across the districts. Nevertheless, as shown in Figure 171, the rate of use of health facilities in Kahama is among the highest in the region; roughly 22 percent of Kahama's residents had consulted a health provider in the 4 weeks preceding the survey compared to the rural regional average rate of 21 percent.

The satisfaction level among health facility users is higher in Kahama than anywhere else in the surveyed part of the region. 71 percent of users here cited no problems with the service received. As can be seen from Figure 172, however, variation in satisfaction rates across the districts does not exceed 7 percentage points.

Figure 171: Use of Health Facilities: % of People Reported to have Visited One in the Last 4 Weeks (Kahama)
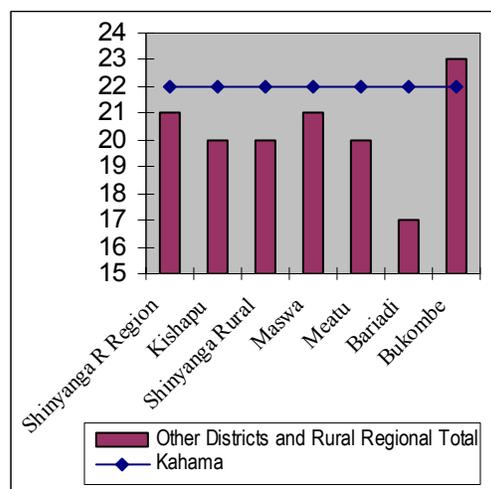
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 172: Satisfaction with Health Facilities: % of Users in Past 4 Weeks who Reported to be Satisfied (Kahama)
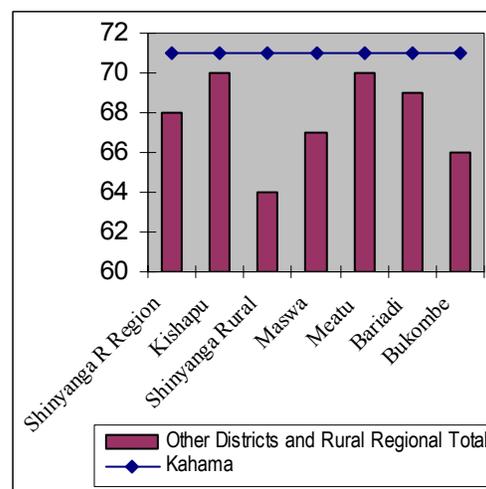
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

The main reasons for dissatisfaction with health facilities in the region are cost, availability of medication and length of waiting time. Cost especially appears to be more of an issue in Kahama than elsewhere ; over half (51 percent) of dissatisfied patients mentioned this issue compared to the rural regional average of 44 percent.

Table 90: Reason for Dissatisfaction with Health Services (Kahama)

		Reasons for dissatisfaction[1]						
	Dissatisfaction	Hygiene	Long wait	Shortage of trained professionals	Cost	No drugs available	Unsuccessful treatment	Lack of supplies
Rural Shinyanga Region	31.6	29.4	31.8	34.0	44.4	39.9	26.0	29.8
Kishapu	30.4	19.1	29.2	19.1	38.8	23.5	26.5	27.5
Shinyanga	36.4	31.0	27.4	25.3	51.2	49.3	35.7	26.4
Maswa	33.3	29.5	47.4	27.7	37.8	33.2	23.9	29.2
Meatu	30.0	33.0	27.8	48.8	42.8	43.1	37.3	34.3
Bariadi	30.7	36.0	38.3	35.7	45.0	39.6	16.3	37.4
Bukombe	33.9	30.9	14.5	45.2	41.1	48.8	20.9	30.9
Kahama	28.7	26.0	38.1	34.1	51.0	38.8	28.3	24.5

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

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Figure 173 is a graphical representation of the overall trend in health indicators in Kahama compared to the rest of the surveyed districts. The graphs show the proportions of residents in each district who had been ill in the four weeks preceding the survey, the proportion of residents who had been ill and consulted a health provider and the proportion of residents who had been ill, had consulted a health provider and had been satisfied with the service received. The shape of the curve informs on the relationship between these three indicators. The positioning of the curve informs on the level of need in the district. In an optimal situation all those who are ill would consult a health provider and receive satisfactory service; in this case the rate of use would equal that of need and satisfaction and the graph would be perfectly horizontal. The Rural Shinyanga districts fit into three categories:

- Those where the quality of service provision is problematic. In these districts nearly all those who need health facilities use them but many are not satisfied with the service received (Bukombe, Shinyanga Rural, and Maswa).

- Those where levels of use and quality of provision are problematic. In these districts health facilities are not used by all those who are ill and many users are dissatisfied with the service received. (Kishapu and Meatu)

- Those where rates of use, need and satisfaction are closest to optimal. (Kahama and Bariadi)

Further the graphs show that levels of reported need are highest in Bukombe and Kishapu and lowest in Bariadi.

Figure 173: Main Health Indicators

Kahama

Kishapu

Shinyanga Rural

Meatu

Bukombe

Bariadi

Maswa
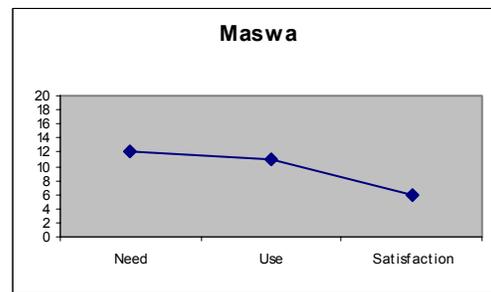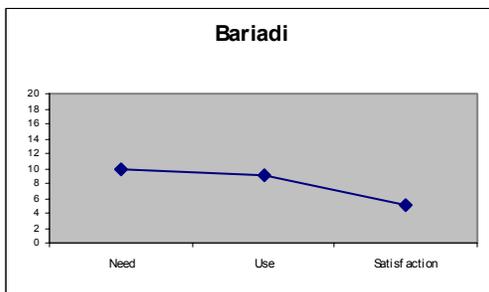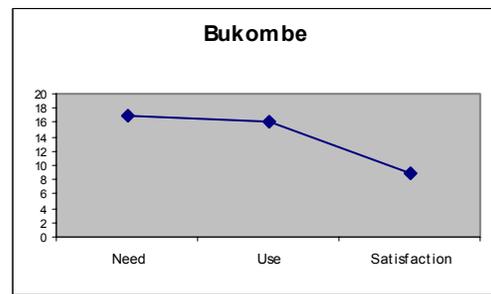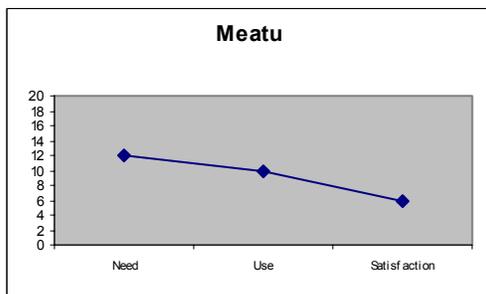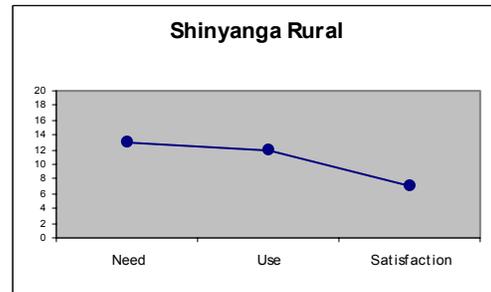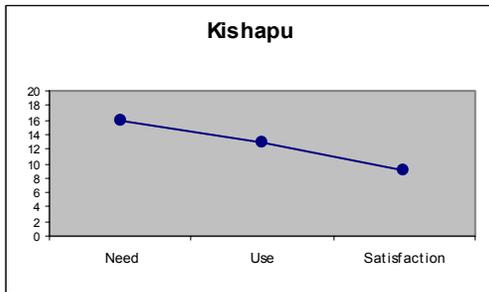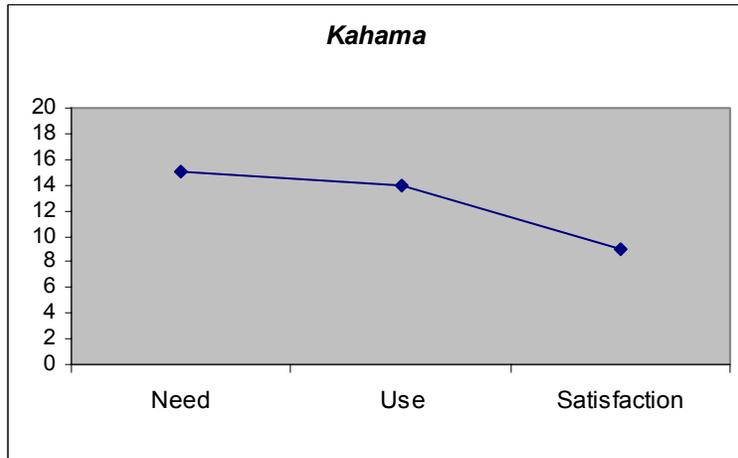
15.6 Child Delivery and Nutrition

The rate of health facility use in child birth in Kahama district is equal to the rural regional average at 54 percent. Although this proportion is higher than that in Meatu, Bariadi and Bukombe districts, it is significantly lower than that in Kishapu and Shinyanga Rural districts where hospital births account for 80 and 71 percent of all births in the respective districts during the year preceding the survey.

Figure 174: Percentage of Mothers Delivering in a Hospital or Maternity Ward (Kahama)
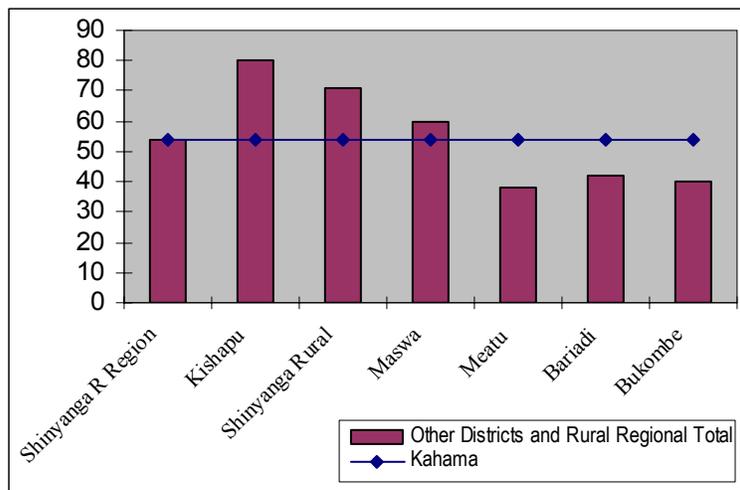
* This figure does not present a formal statistical test of differences in mean

Figure 175 shows that chronic malnutrition is as widespread in Kahama as in Maswa, Bukombe, and Rural Shinyanga Region as a whole. Nearly a third (31 percent) of children under the age of 5 were too short for their age in this district at the time of the survey. This stunting rate is only 4 percentage points lower than that in Meatu, the district with the highest stunting rate in the surveyed part of the region.

In contrast, Kahama has the second lowest rate of acute malnutrition after Bukombe. Only 4 percent of children under the age of 5 in this district were too thin for their height at the time of the survey. This wasting rate is 2 percentage points lower than the rural regional average and is less than half that in Bariadi district. It must be noted that variation in wasting rates across the districts does not exceed 6 percentage points.

Figure 175: Percentage of Chronically Malnourished Children (Stunting at -2sd): (Kahama)
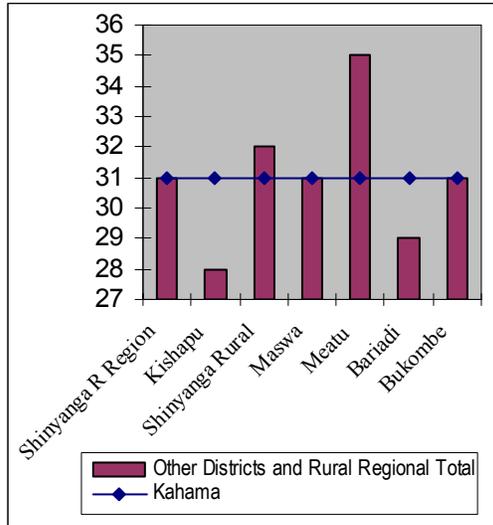

* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

Figure 176: Percentage of Acutely Malnourished Children (Wasting at -2sd): (Kahama)
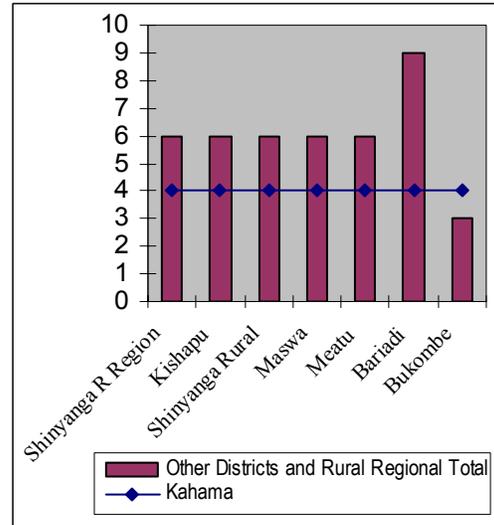
* This figure does not present a formal statistical test of difference in means

15.7 Employment

64 percent of individuals above the age of 14 were employed to capacity in Kahama district at the time of the survey. This proportion is roughly equal to the rural regional average (65 percent), and is only higher than that in Kishapu and Bukombe districts. It must be noted, however, that variation in proportions of fully employed individuals across the surveyed districts does not exceed 10 percentage points

Figure 177: Percentage of Population Employed to Full Capacity (Kahama)[1]
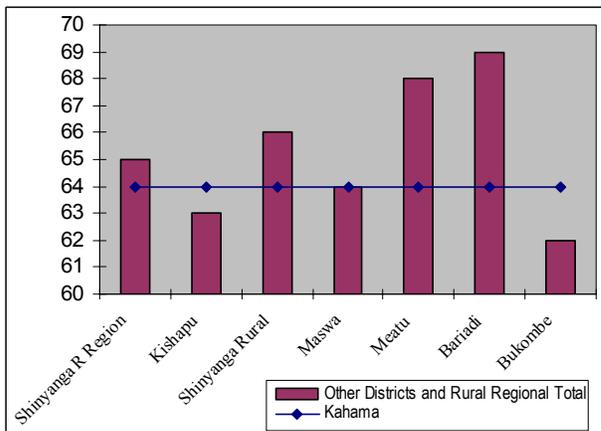
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0
1 Population includes individuals over the age of 14

15.8 Other Welfare Indicators

Food shortages are less of a problem in Kahama district than in the majority of the surveyed districts with the exception of Bukombe. As can be seen in Figure 178, 17 percent of households in Kahama experienced no difficulty in acquiring sufficient supplies of food in the year preceding the survey. Across Rural Shinyanga Region as a whole, this proportion just exceeds a tenth of the households. The level of food security in Kahama appears particularly substantial when compared to that in Meatu or Maswa, where only 3 and 6 percent of the respective households were able to fully satisfy their food need in the year preceding the survey.

The level of access to water in Kahama is also among the highest in Rural Shinyanga Region. More than three fourths of households (77 percent) here are located within 30 minutes of travel from the nearest water source. This proportion exceeds the rural regional average by 10 percentage points and is nearly twice as high as that in Kishapu district.

Figure 178: Percentage of Households Reporting Never to Face Food Shortages (Kahama)
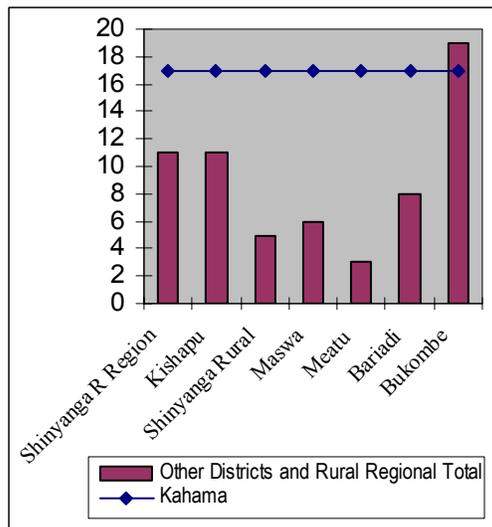
* This figure does not present a formal statistical test of difference in means

Figure 179: Percentage of Households with Access to Water Facilities (Kahama)
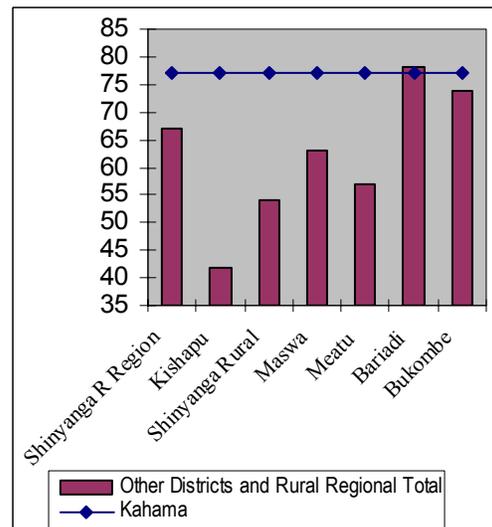
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

As shown in Figure 180 and Figure 181 the outlook on the economic situation in both the community and the household is more positive in Kahama than in the majority of the districts. 57 percent of households here perceived negative change in the economic situation in the community over the year preceding the survey; 53 percent had the same view of the situation in the household. These proportions are both lower than the rural regional average and substantially lower than those in Kishapu and Shinyanga Rural districts.

Figure 180: Percentage of Households who Feel that the Economic Situation in the *Community* has Deteriorated in the Year Preceding the Survey (Kahama)
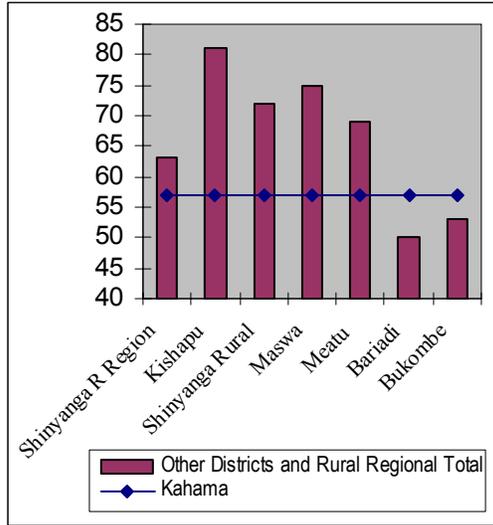
Figure 181: Percentage of Households who Feel that the Economic Situation in the *Household* has Deteriorated in the Year Preceding the Survey (Kahama)

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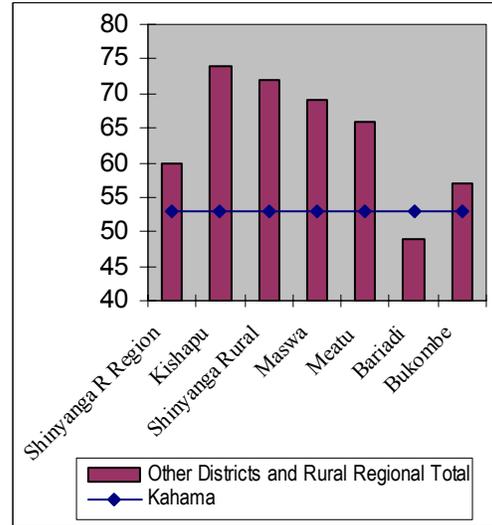
* This figure does not present a formal statistical test of difference in means
** The y-axis does not start at 0

ANNEX A

Estimates of Sampling Errors

Table A 1 : Confidence Intervals Around Key Estimates

	Estimate	(Standard Error) S.E.	95% Confidence Interval	
Household characteristics			Lower	Upper
Household size	5.788	0.232	5.220	6.357
Percentage of male headed households	0.797	0.022	0.743	0.852
Education Percentage of literate individuals in the 15+ age group	0.660	0.023	0.604	0.717
Primary education				
Primary school access rate	0.532	0.040	0.434	0.630
Primary school Net Enrolment Rate	0.764	0.020	0.715	0.813
Primary school satisfaction rate	0.405	0.035	0.319	0.491
Secondary education				
Secondary school access rate	0.164	0.037	0.074	0.254
Secondary school Net Enrolment Rate	0.065	0.011	0.038	0.091
Secondary school satisfaction rate	0.337	0.058	0.194	0.480
Health				
Access	0.295	0.032	0.248	0.407
Need	0.134	0.011	0.109	0.160
Use	0.194	0.010	0.169	0.220
Satisfaction	0.684	0.011	0.658	0.710
Reproductive health				
Average age of women who had given birth in the year preceding the survey	27.185	0.379	26.258	28.111
Percentage of hospital births	0.538	0.057	0.398	0.678

	Estimate	(Standard Error) S.E.	95% Confidence Interval	
Child nutrition				
Stunted	0.308	0.007	0.290	0.325
Severely stunted	0.110	0.007	0.092	0.127
Wasted	0.056	0.010	0.032	0.081
Severely wasted	0.007	0.002	0.002	0.013
Employment				
Percentage of working individuals in the 15+ age group	0.840	0.006	0.825	0.855
Welfare indicators				
Access to water source	0.669	0.051	0.543	0.795
Access to public transport	0.440	0.040	0.342	0.539
Percentage of households using water from a protected source	0.462	0.071	0.287	0.636

ANNEX B

Confidence Intervals and Significance Tests for Poverty Predictors

The following bootstrap procedure was followed to calculate the standard errors of the poverty predictors:

1. Take a random sample (with replacement) of the HBS data
2. In this sample regress log consumption and save the coefficients
3. Use the saved coefficients on the same independent variables in the CWIQ data set and predict log consumption for each household
4. Predicted poverty for this particular iteration is the number of households that are predicted to lie below the logarithmic of the poverty line

These steps are then repeated 100 times. Each time the predicted poverty figure is saved. The confidence interval is simply the 5th and 95th percentile of the dataset of 100 poverty predictions. The results of this procedure are summarised in Table B1 below. For example, the poverty rate in the region is 42% and we can say with 95% certainty that it lies between 36% and 49%. The urban poverty rate has quite narrow confidence intervals (in an absolute sense): we can say with 95% certainty that urban poverty lies between 2% and 7%. Rural poverty has broader confidence intervals (absolutely), lying between 46% and 64% at the same 95% confidence level.

Table B 1: Confidence Intervals for Poverty Predictors (No. of Individuals Living under the Basic Needs Poverty Line)

	Poverty Rate (%)	95% confidence interval	
		Lower Limit	Upper Limit
Rural Shinyanga			
Region	**42**	**36**	**49**
Rural	55	46	64
Peri-urban	5	2	7
District			
Bukombe	24	18	30
Kahama	23	16	29
Shinyanga R	51	41	62
Kishapu	55	48	61
Maswa	51	43	59
Bariadi	50	43	58
Meatu	60	52	68

One can use a similar procedure to test differences of poverty rates across different subsections of the population. For example, to make inferences about differential poverty rates among male headed versus female headed households the following bootstrap method can be followed:

1. Take a random sample (with replacement) of the HBS data
2. In this sample regress log consumption and save the coefficients
3. Use the saved coefficients on the same independent variables in the CWIQ data set and predict log consumption for each household
4. Calculate the percentage point difference between the poverty rates in the two categories (e.g. the poverty rate among males headed households minus the poverty rate among female headed households)

5. Save this difference in a data set

This is repeated 100 times. One can then construct a confidence interval over this difference. Table B2 shows, for example, that poverty among households with access to primary schools is 22 percentage points lower than poverty among households without access to primary school. With 95% certainty this difference lies between 17 and 29 percentage points. Poverty rates do not differ significantly according to the sex of the household head. On average the poverty rate among male headed households is found to be 5 percentage points higher than in female headed households, but within a 95% confidence interval it may be as much as 5 percentage points lower. Thus, we conclude that poverty rates do not differ significantly according to sex of the household head.

Table B 2: Significance Tests for Poverty Rates

Category 1	Category 2	mean difference*	95% confidence interval of the difference	
			lower limit	upper limit
household does not have access to a primary school	Household has access to primary school	22	17	29
household does not have access to a secondary school	Household has access to secondary school	28	21	35
household does not have access to health facilities	household has access to health facilities	22	17	28
individual has been absent from work/school more than a week in the past month	individual has been absent from work/school less than a week in the past month	13	9	16
household head is male	household head is female	5	-5	15

* The poverty rate in category 1 minus the poverty rate in category 2

This procedure can be criticised when the variable under analysis is also part of the independent variables in the consumption regression. In this case at least some of the correlation between consumption and the variable in question is there by construction. To tackle this, bootstrap results in this report have been performed twice for poverty predictors. Once according to the method described above and a second time with the variable in question dropped from the regression. If results stay by and large the same, we can be confident that the constructed correlation is not driving the results.

Table B3 reports results from two methods. The first method includes the variable in the consumption regression, while the second method excludes it. It can be seen that for all variables the mean difference becomes smaller and the confidence intervals narrower. Even though differences between categories are smaller, the same general trends in the data are found by both methods, giving credence to the obtained results.

Of course, it could still be true that the variable under study is picking up correlation from other correlates. This, however, is inherent to a bi-variate analysis.

Table B 3: Significance Tests for Poverty Rates for Variables that are Used as Poverty Predictors

Category 1	Category 2	METHOD 1**			METHOD 2***		
		mean differ ence*	95% confidence interval of the difference		mean differ ence*	95% confidence interval of the difference	
			lower limit	upper limit		lower limit	upper limit
head has not completed primary	head has completed primary	29	17	41	27	23	32
household has no toilet	household has at least a pit latrine	30	12	49	7	1	14
household reports to sometimes, often or always experience food shortages	household reports to never or seldom experience food shortages	21	10	32	17	13	22

*   The poverty rate in category 1 minus the poverty rate in category 2
**   Variable is included as a poverty predictor
***   Variable is excluded as a poverty predictor

ANNEX C

Additional Tables by Chapter

CHAPTER 3

Table C3 1: **Distribution of Households by Number of Rooms**

	1-5 Rooms	6-10 Rooms	11 or more
Rural Shinyanga			
Region	77.8	19.8	2.4
Rural	76.6	20.8	2.7
Peri-Urban	80.8	17.5	1.8
District			
Kishapu	72.4	24.3	3.3
Shinyanga Rural	77.2	19.3	3.5
Maswa	78.7	17.6	3.8
Meatu	75.5	21.8	2.7
Bariadi	78.1	20.2	1.7
Bukombe	85.6	12.9	1.5
Kahama	76.2	21.9	1.8
Poverty			
Non-poor	82.4	16.1	1.6
Poor	67.2	28.5	4.3
Sex			
Male	76.1	21.3	2.6
Female	84.8	13.7	1.5
Socio-economic group			
Public/Parastatal	81.7	15.4	2.9
Private Formal	79.9	16.2	3.9
Private Informal	84.4	14.8	0.8
Self-other	84.2	14.5	1.4
Self-agriculture	77.4	20.1	2.5
Unemployed	54.2	42.3	3.5

Table C3 2: Distribution of Households by Main Contributor to Household Income

	Household head	Spouse	Other
Rural Shinyanga			
Region	85.0	8.5	6.5
Rural	83.2	9.1	7.7
Peri-urban	90.3	6.8	2.9
District			
Kishapu	84.3	8.1	7.6
Shinyanga Rural	82.6	8.5	9.0
Maswa	80.2	9.8	10.0
Meatu	85.8	8.8	5.5
Bariadi	79.1	12.4	8.5
Bukombe	91.1	6.6	2.4
Kahama	90.3	5.7	4.0
Poverty			
Non-poor	89.2	7.5	3.4
Poor	79.2	10.0	10.8
Socio-economic group			
Public/Parastatal	98.5	1.5	0.0
Private Formal	92.3	3.7	4.0
Private Informal	90.2	5.4	4.5
Self-other	91.7	8.0	0.3
Self-agriculture	89.9	7.0	3.1
Unemployed	27.2	36.6	36.2

Table C3 3: Distribution of Households by Possession of Selected Assets

	Iron	Bicycle	Radio	Watch/ clock	Books	Bed	Phone	TV set	Motor cycle	Car/ truck	Bank Account
Rural Shinyanga											
Region	26.9	59.5	50.9	44.9	43.6	86.6	6.7	3.9	1.9	1.8	7.8
Rural	15.0	61.6	49.6	31.4	36.7	82.0	2.3	0.3	0.2	0.3	3.4
Peri-urban	55.0	54.7	80.8	76.8	59.8	97.4	17.1	12.2	6.1	5.4	21.6
District											
Kishapu	24.4	57.4	47.7	35.1	47.9	84.4	5.9	8.1	0.5	3.9	9.7
Shinyanga Rural	16.8	64.8	49.9	28.9	36.5	86.9	2.6	0.7	0.6	0.6	2.5
Maswa	19.4	54.3	49.6	36.7	36.1	77.1	3.5	4.2	1.2	0.8	6.8
Meatu	10.9	49.9	38.0	28.1	35.2	76.6	1.5	1.7	0.0	0.2	2.1
Bariadi	24.8	49.1	55.0	42.7	36.9	82.0	4.0	2.1	2.2	0.1	1.9
Bukombe	33.2	68.0	71.2	59.0	53.2	91.4	3.0	0.3	1.0	1.0	10.2
Kahama	39.9	67.8	76.1	60.3	51.1	96.5	16.9	7.4	4.7	4.3	17.1
Poverty											
Non-poor	34.9	61.1	70.4	54.2	48.0	90.4	9.1	5.4	2.8	2.5	12.8
Poor	8.2	55.9	31.9	23.1	33.4	77.7	1.1	0.3	0.0	0.2	1.1
Socio-economic group											
Public/Parastatal	74.7	81.1	91.7	84.6	87.0	98.2	32.0	22.6	11.5	7.0	60.8
Private Formal	52.5	50.5	90.1	84.6	47.2	98.3	17.8	12.3	2.9	7.2	16.0
Private Informal	31.4	51.1	49.1	43.0	47.9	70.2	14.1	6.7	2.2	2.0	10.2
Self-other	48.9	50.0	78.4	71.0	61.4	94.7	15.3	8.0	6.5	2.6	11.0
Self-agriculture	17.8	62.2	52.4	35.5	36.8	86.6	1.8	1.0	0.5	1.0	2.8
Unemployed	13.1	56.7	46.9	25.8	39.3	71.8	2.3	0.0	0.0	0.0	2.2

CHAPTER 5

Table C5 1: Distribution of Sick Population by Time Taken off School/Work Due to Illness

	None	Less than 1 week	1 to 2 weeks	More than 2 weeks
Rural Shinyanga Region	48.7	40.1	4.5	6.7
Rural	49.8	37.9	4.8	7.4
Peri-urban	45.3	46.8	3.3	4.7
District				
Kishapu	44.2	39.1	6.0	10.7
Shinyanga Rural	49.6	38.9	4.8	6.8
Maswa	50.0	38.6	7.0	4.4
Meatu	54.3	31.9	4.6	9.2
Bariadi	45.1	38.2	7.6	9.1
Bukombe	41.8	51.2	1.7	5.4
Kahama	56.9	36.8	2.3	4.0
Poverty				
Non-poor	48.7	42.0	3.5	5.7
Poor	48.7	36.7	6.1	8.5
Socio-economic group				
Public/Parastatal	54.6	45.4	0.0	0.0
Private Formal	69.3	30.7	0.0	0.0
Private Informal	23.3	65.2	6.1	5.4
Self-other	53.8	46.2	0.0	0.0
Self-agriculture	48.8	40.6	5.4	5.2
Unemployed	13.9	36.2	12.1	37.7

Table C5 2: Distribution of Ill Population by Type of Health Provider Used (Formal and Informal)

	Private Hospital	Government Hospital	Health Post	Private Doctor/Dentist	Traditional Healer	Regional Hospital	Missionary Hospital	Pharmacy	Other
Rural Shinyanga Region	12.3	47.9	4.3	1.8	8.4	2.0	1.6	21.5	0.3
Rural	11.1	47.3	4.1	2.1	10.4	2.1	1.9	20.6	0.4
Peri-urban	15.8	49.5	4.6	1.0	2.5	1.7	0.8	24.1	0.0
District									
Kishapu	17.2	54.2	1.8	0.9	9.6	2.6	2.6	11.1	0.0
Shinyanga Rural	12.7	53.6	4.7	2.1	8.5	2.5	0.7	15.2	0.0
Maswa	5.7	54.5	8.9	0.0	12.4	4.1	1.0	13.4	0.0
Meatu	10.3	58.9	6.9	0.3	15.5	0.4	0.6	5.9	1.2
Bariadi	7.2	46.6	5.5	0.5	13.2	2.2	3.3	20.4	1.2
Bukombe	8.4	46.2	4.4	0.8	4.6	0.6	2.0	32.9	0.0
Kahama	19.1	36.9	1.7	5.3	3.7	2.0	0.7	30.5	0.0
Poverty									
Non-poor	14.3	47.1	3.4	2.1	6.3	1.5	1.4	23.7	0.4
Poor	8.7	49.2	5.9	1.4	12.3	3.0	2.0	17.5	0.1
Socio-economic group									
Public/Parastatal	9.2	54.6	4.9	6.4	0.8	1.7	0.5	22.0	0.0
Private Formal	12.6	42.1	13.0	0.0	3.7	2.6	1.8	24.1	0.0
Private Informal	21.7	44.6	0.2	1.2	11.0	0.4	0.7	19.9	0.1
Self-other	18.1	35.6	1.6	1.9	6.3	0.1	0.0	36.3	0.1
Self-agriculture	9.0	52.6	5.1	1.6	8.7	2.3	2.0	18.4	0.3
Unemployed	14.3	40.8	1.3	3.1	14.6	4.2	2.9	18.2	0.7

CHAPTER 8

Table C8 1: Distribution of Households by Distance to the Nearest Market (in Minutes of Travel)

	< 30	30 to 59	> 60
Rural Shinyanga Region	45.7	19.1	35.2
Rural	27.7	22.7	49.6
Peri-urban	88.1	10.7	1.1
District			
Kishapu	38.1	19.7	42.2
Shinyanga Rural	27.9	23.7	48.4
Maswa	33.5	17.3	49.2
Meatu	25.9	22.6	51.5
Bariadi	51.6	13.3	35.2
Bukombe	57.8	22.4	19.8
Kahama	58.1	19.4	22.5
Poverty			
Non-poor	53.5	18.7	27.8
Poor	27.5	20.1	52.4
Socio-economic group			
Public/Parastatal	64.2	19.2	16.6
Private Formal	87.2	6.5	6.3
Private Informal	39.5	19.2	41.3
Self-other	76.5	14.5	9.0
Self-agriculture	36.6	21.3	42.1
Unemployed	32.1	18.2	49.7

Table C8 2: Distribution of Households by Type of Floor Material

	Concrete	Mud	Other
Rural Shinyanga Region	25.0	74.9	0.1
Rural	6.4	93.5	0.1
Peri-urban	69.0	31.0	0.1
District			
Kishapu	19.4	80.1	0.4
Shinyanga Rural	6.1	93.6	0.3
Maswa	18.4	81.7	0.0
Meatu	5.4	94.4	0.2
Bariadi	34.8	65.2	0.0
Bukombe	26.6	73.2	0.1
Kahama	37.1	62.9	0.0
Poverty			
Non-poor	34.5	65.3	0.1
Poor	2.7	97.2	0.1
Socio-economic group			
Public/P	63.9	36.1	0.0
Private	66.3	33.8	0.0
Private	24.3	75.7	0.0
Self-other	68.6	31.2	0.2
Self-agriculture	11.9	88.0	0.1
Unemployed	5.8	93.8	0.5

Table C8 3: Distribution of Households by Type of Wall Material

	Permanent[1]	Non permanent[2]	Share of Pop.
Rural Shinyanga			
Region	18.8	81.2	100.0
Rural	3.7	96.3	70.2
Peri-urban	54.3	45.7	29.8
District			
Kishapu	13.9	86.1	11.8
Shinyanga Rural	2.6	97.4	10.6
Maswa	16.9	83.1	11.4
Meatu	2.6	97.4	8.2
Bariadi	27.7	72.3	20.0
Bukombe	19.9	80.1	14.3
Kahama	27.0	73.0	23.6
Poverty			
Non-poor	26.0	74.0	70.0
Poor	2.0	98.0	30.0
Socio-economic group			
Public/Parastatal	62.4	37.6	4.1
Private Formal	49.4	50.7	5.8
Private Informal	24.1	75.9	8.2
Self-other	53.5	46.5	12.6
Self-agriculture	7.2	92.8	63.7
Unemployed	1.4	98.6	5.6

[1] Stone, burnt bricks, concrete, corrugated iron sheets.

[2] Mud, wood and others.

Table C8 4: Distribution of Households by Type of Roof Material

	Permanent[1]	Non permanent[2]	Share of Pop.
Rural Shinyanga Region	49.9	50.2	100.0
Rural	32.5	67.5	70.2
Peri-urban	91.0	9.1	29.8
District			
Kishapu	27.1	72.9	11.8
Shinyanga Rural	19.0	81.0	10.6
Maswa	36.6	63.4	11.4
Meatu	35.6	64.4	8.2
Bariadi	70.7	29.3	20.0
Bukombe	62.2	37.8	14.3
Kahama	61.4	38.6	23.6
Poverty			
Non-poor	59.7	40.3	70.0
Poor	26.9	73.1	30.0
Socio-economic group			
Public/Parastatal	84.8	15.3	4.1
Private Formal	87.8	12.2	5.8
Private Informal	42.1	57.9	8.2
Self-other	90.7	9.3	12.6
Self-agriculture	37.8	62.2	63.7
Unemployed	41.8	58.2	5.6

[1] Corrugated iron sheets, roofing tiles and asbestos sheets
[2] Mud, thatch, wood and others

Table C8 5: Distribution of Households by Source of Cooking Fuel

	Firewood	Charcoal	Kerosene	Electricity	Crop Residue	Share of Pop.
Rural Shinyanga Region	73.8	24.2	0.8	1.2	0.1	100.0
Rural	94.6	5.1	0.1	0.1	0.2	70.2
Peri-urban	24.7	69.0	2.3	3.9	0.0	29.8
District						
Kishapu	81.4	12.9	0.2	5.5	0.0	11.8
Shinyanga Rural	96.7	3.0	0.0	0.3	0.0	10.6
Maswa	81.8	17.3	0.8	0.1	0.0	11.4
Meatu	89.5	10.3	0.0	0.0	0.2	8.2
Bariadi	68.6	30.8	0.1	0.0	0.5	20.0
Bukombe	65.2	33.8	0.9	0.1	0.0	14.3
Kahama	59.7	36.0	2.0	2.2	0.1	23.6
Poverty						
Non-poor	62.80	34.30	1.10	1.70	0.10	70.0
Poor	99.50	0.40	0.00	0.00	0.10	30.0
Socio-economic group						
Public/Parastatal	36.4	52.2	3.6	7.8	0.0	4.1
Private Formal	30.8	62.6	2.0	4.6	0.0	5.8
Private Informal	68.3	24.1	0.0	7.3	0.4	8.2
Self-other	23.6	72.8	3.6	0.0	0.0	12.6
Self-agriculture	89.4	10.4	0.0	0.1	0.1	63.7
Unemployed	88.5	10.4	0.0	0.0	1.1	5.6

Table C8 6: Distribution of Households by Source of Lighting Fuel

	Kerosene	Electricity	Other	Share of Pop.
Rural Shinyanga Region	89.4	8.7	1.9	100.0
Rural	97.3	0.3	2.5	70.2
Peri-urban	70.8	28.5	0.7	29.8
District				
Kishapu	86.6	11.4	2.0	11.8
Shinyanga Rural	96.4	0.7	2.9	10.6
Maswa	91.0	6.7	2.4	11.4
Meatu	95.8	1.7	2.5	8.2
Bariadi	86.7	10.9	2.4	20.0
Bukombe	97.8	1.2	1.0	14.3
Kahama	81.9	17.0	1.2	23.6
Poverty				
Non-poor	86.4	12.2	1.4	70.0
Poor	96.5	0.3	3.2	30.0
Socio-economic group				
Public/Parastatal	70.2	29.8	0.0	4.1
Private Formal	72.6	27.4	0.0	5.8
Private Informal	78.9	17.0	4.1	8.2
Self-other	73.3	25.6	1.1	12.6
Self-agriculture	96.3	1.9	1.8	63.7
Unemployed	93.9	0.0	6.1	5.6

Table C8 7: Distribution of Households by Assessment of Ranking Councillor's Performance

	Good	Average	Poor	Don't know
Rural Shinyanga Region	51.6	19.7	21.9	6.8
Rural	51.4	20.0	23.9	4.7
Peri-urban	52.2	19.1	15.7	13.0
District				
Kishapu	47.6	21.6	27.8	3.0
Shinyanga Rural	49.9	24.1	21.0	5.0
Maswa	52.4	18.3	26.3	3.0
Meatu	50.9	23.1	21.9	4.1
Bariadi	65.9	15.0	14.8	4.4
Bukombe	47.6	16.8	19.9	15.7
Kahama	44.0	22.2	24.7	9.2
Poverty				
Non-poor	51.0	19.6	20.8	8.6
Poor	52.4	19.9	23.4	4.3
Sex				
Male	51.9	19.7	22.0	6.5
Female	51.3	19.8	21.9	7.0
Socio-economic group				
Public/Parastatal	55.2	22.9	12.7	9.2
Private Formal	48.5	21.6	20.3	9.6
Private Informal	37.5	21.7	28.6	12.2
Self-other	42.4	23.0	22.0	12.6
Self-agriculture	56.0	17.7	21.0	5.4
Unemployed	54.6	17.6	20.9	6.9

ANNEX D

Questionnaire

Kumbukumbu Na

Core Welfare Indicators Questionnaire

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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 UMRI KATIKA 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

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

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)*

C.9 Je, ni kwa nini [JINA] hasomi shule kwa sasa? *(UNAWEZA KUONYESHA JIBU ZAIDI YA MOJA)*

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

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

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

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

D.3 Je, [JINA] ana ulemavu wowote wa viungo au akili?
1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

MHUSISHE MWANAKAYA IKIWA ULEMAVU ALIONAO UNAMZUIA KUFANYA SHUGHULI AU KWENDA SHULE

D.4 Je, [JINA] amepata ugonjwa/kujeruhiwa katika wiki 4 zilizopita? *(KAMA HAPANA NENDA D.7)*
1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

D.5 Je, [JINA] amewahi kupata ajali/kuugua ugonjwa gani? *(UNAWEZA KUWA NA JIBU ZAIDI YA MOJA)*

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.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

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

D.8 Je, ni mhudumu wa afya wa namna gani [JINA] alimuona?

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.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

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

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.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.11 Je, ni kwa nini [JINA] hakutumia huduma za afya katika kipindi cha wiki nne(4) zilizopita? *(UNAWEZA KUWA NA MAJIBU ZAIDI YA MOJA)*

GERESHO LA D.11
a=Hakuna haja
b=Ni ghali mno
c=Ni mbali sana
d=Nyingine

E - AJIRA

E.1 Je, [JINA] alijishughulisha na kazi yoyote katika siku 7 zilizopita?
1=Ndiyo 2=Hapana

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

IKIWA MWANAKAYA ANA UMRI CHINI YA MIAKA 5 NENDA MWINGINE KAMA JIBU NDIYO NENDA E.5

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
☐   ☐   ☐

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