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SNV

MONDULI DISTRICT CWIQ Baseline Survey on Poverty, Welfare and Services in Monduli District

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Foreword



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ABBREVIATIONS

CDC	Centres for Disease Control and Prevention
CWIQ	Core Welfare Indicator Questionnaire
DRDP	District Rural Development Project
EA	Enumeration Area
EDI	Economic Development Initiatives
GER	Gross Enrolment Rate
GPS	Global Positioning System
HBS	Household Budget Survey
NER	Net Enrolment Rate
PEDP	Primary Education Development Plan
TZS	Tanzanian Shilling
VDP	Village Development Plan
VHW	Village Health Worker
WHO	World Health Organisation



Definitions

General

Peri-urban	Semi-urban areas in rural districts e.g. district capital
Village Isolation	Distance of the village from the district capital
Household Isolation	Distance of the household from the centre of the sub-village (Enumeration Area)
Ethnic Fractionalisation	The probability that 2 randomly selected individuals from the same village are from different tribes

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
Non Attendance Rate	The percentage of individuals of secondary school age who had attended school at some point and were not attending school at the time of the survey

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.
Equipped Health Facility	A health facility is considered equipped if it has the capacity to conduct malaria tests.
Village Health Worker	An individual with no or little formal health training appointed by the village to provide basic medical assistance to the villagers.



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

Employment

Working Individual	An individual who had been engaged in any type of work in the 4 weeks preceding the survey.
Underemployed Individual	An individual who was ready to take on more work at the time of the survey.
Non-working Individual	An individual who had not been involved in any type of work in the 4 weeks preceding the survey.
Unemployed Individual	An individual who had not been engaged in any type of work in the 4 weeks prior to the survey due to lack of work.
Economically Inactive Individual	An individual who had not been engaged in any type of work in the 4 weeks prior to the survey due to reasons unrelated to availability of work (eg. Illness, old age, disability).
Regular Employee	An individual who is paid a wage/salary.
Casual Employee	An individual who is paid an hourly/daily wage.
Subsistence Farmer	An individual who claims that his agricultural activities are aimed solely at provision of food for the household.
Commercial Farmer	An individual who claims that some or all of his agricultural activities are intended for commercial purposes.



Local Governance

Communal Works

Work carried out by the community often involving the construction or rehabilitation of public goods, like roads, bridges, schools or health facilities.

Indigenous Insurance Group

A clearly defined group of people from a community who have entered into an explicit agreement to help each other in a specified way in case certain events occur (often funerals or hospitalisation).



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1 INTRODUCTION

1.1 *The Monduli District CWIQ*

This report presents district level analysis of data collected in the Monduli District Core Welfare Indicators Survey using the Core Welfare Indicators Questionnaire instrument (CWIQ). CWIQ is an off-the-shelf survey package developed by the World Bank to produce standardised monitoring indicators of welfare. The questionnaire is purposively concise and is designed to collect information on household demographics, employment, education, health and nutrition, as well as utilisation of and satisfaction with social services.

The standardised nature of the questionnaire allows comparison between districts and regions within and across countries, as well as monitoring change in a district or region over time. Monduli District CWIQ was the first survey of its kind to be administered in Monduli. Although beyond the purpose of this study, the results of Monduli District CWIQ could also 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, Rural Kagera Region and Rural Shinyanga Region. African countries that have implemented nationally representative CWIQ surveys include Malawi and Ghana.

The survey was implemented by EDI (Economic Development Initiatives) a Tanzanian registered research, consultancy and training group on behalf of SNV 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.

The Monduli District CWIQ was sampled to be representative at district level. 450 households were chosen in the district to represent its population. Households were clustered in 30 Enumeration Areas and stratified in rural and peri-urban areas.¹

The survey started with the listing of the households in February 2005. Every one of the 450 sampled households was visited and administered a questionnaire in March 2005.

This report begins with a description of the survey methodology, including the sampling frame. The following chapters focus on poverty trends and population characteristics. Education, health, child delivery and nutrition and employment are examined next. Analysis of village level governance processes concludes the report.

¹ Although Monduli is generally classed as rural, it still contains some areas which are semi-urban (e.g. Monduli Mjini – district capital). Throughout this report such areas shall be referred to as ‘peri-urban’.



In, perhaps, one or two years time it would be advisable to repeat the survey 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.

1.2 Survey Methodology

Data from the 2002 Census was used to select 15 households in 30 Enumeration Areas of Monduli District. In the first stage sub-villages were selected in 2 strata. In the second stage households were selected in each sub-village (also referred to as Enumeration Area in this report). In total 450 households were surveyed. Households were stratified into rural and peri-urban areas and given statistical weights reflecting the number of households they represent (Table 1). In addition to the administering of the household questionnaire, anthropometric measurements of every child under the age of 5 were made in each of the surveyed households. Further, Global Positioning Systems (GPS)² were used to record the exact location of all of the surveyed households and of the vital facilities in the areas. Finally, in addition to 15 household questionnaires, a community questionnaire was conducted in each Enumeration Area. Community level data collected using this instrument informs on, among others, selected basic characteristics of members of local government, the planning strategies used within villages and the level of awareness and involvement of the community in local governance.

Table 1: Sample Stratification

	<i>Rural</i>		<i>Peri-urban</i>		<i>Total</i>
	No. of selected Enumeration Areas	No. of selected households	No. of selected Enumeration Areas	No. of selected households	
Monduli District	26	390	4	60	450

1.3 Key District Findings

This section discusses the key findings of the survey. Table 2 gives an overview of the core indicators collected in the Monduli District CWIQ survey.

1. Monduli district has a population of approximately 208,000 individuals who live in nearly 42,000 households. About 36,000, or 86 percent, of these households are located in rural areas; the remaining 14 percent (roughly 6,000 households) are found in areas classified as peri-urban.
2. Results show that the district poverty rate is 51 percent; in other words, over half of the households have a consumption level below the Basic Needs Poverty Line³.

² GPS is a system that uses satellites to locate a geographic position in terms of degrees of longitude and latitude.

³ Basic Needs Poverty Line is explained in the next chapter



Poverty rate is significantly higher in rural than in peri-urban areas; while in rural areas the residents of 59 percent of households live under the Basic Needs Poverty Line, in peri-urban areas this proportion is only 2 percent.

3. Overall, the literacy rate in Monduli is 45 percent. However, there are noticeable differences across gender, poverty status and area of residence. Results show that literacy rate among individuals from poor households is as low as 28 percent; it is significantly higher among members of non-poor households, at 62 percent. Similarly, while only 37 percent of females are able to read and write, this proportion is 15 percentage points higher among men, at 52 percent. Lastly, while in rural areas the literacy rate is 38 percent, in peri-urban areas it is as high as 85 percent.
4. Access to a facility is defined as living within 30 minutes of travel from the facility. Roughly a quarter of the primary school age children in the district have access to a primary school; only 6 percent of secondary school age children live equally close to the nearest secondary school. At both primary and secondary school levels, access is substantially higher in peri-urban than rural areas. At 58 percent, primary school access rate in peri-urban areas is more than twice that in rural areas. Secondary school access rate in peri-urban areas is 25 percent; this is more than 8 times that in rural areas.
5. The proportion of children from poor households with access to a primary school is 18 percent. This access rate is 12 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 Monduli district was 88 percent. Just less than two thirds of primary school age children (7 to 13 years) were found to be attending school.
7. Secondary school Net Enrolment Rate (NER) was only 6 percent. This means that roughly only 1 in 17 individuals of secondary school age was attending secondary school at the time of the survey.
8. Breakdown by age further shows that some children start school late and, therefore, lag behind at school throughout their schooling career. Only 30 percent of Standard I children were of the correct age (7 years) in Monduli; more than half of the children were between the ages of 8 and 10 years.
9. Just under a fifth (18 percent) of households in Monduli have access to health facilities. Access rate to health facilities in peri-urban areas is nearly twice as high as that in rural areas, at 29 percent and 16 percent respectively.
10. Results of the survey show that approximately 52,000 individuals, or 25 percent of Monduli's residents, had been ill in the 4 weeks preceding the survey.
11. The proportions of the population using health facilities differ slightly between rural and peri-urban areas; the rates are 14 and 18 percent respectively.
12. Over half (57 percent) of all individuals who had consulted a health provider in the 4 weeks preceding the survey, were satisfied with the services they received.



Satisfaction rates in rural and peri-urban areas deviate only slightly from the district average.

13. The most common reason for dissatisfaction with health services in Monduli is the low availability of supplies necessary for treatment; this problem was cited by 56 percent of dissatisfied health facility users. Condition of facilities, including long waiting time and low levels of hygiene, was also mentioned by a substantial proportion of health users.
14. 88 percent of all women who gave birth in the 12 months preceding the survey received prenatal care. Only 23 percent of births, however, were conducted in a hospital or maternity ward.
15. Nearly 8,000 or 32 percent of children under 5 years of age in Monduli district suffer from chronic malnutrition (stunting); in other words these children are too short for their age. Roughly 2,000 children (8 percent) are acutely malnourished (wasted); these children are too thin for their height.

**Table 2: Monduli at a Glance**

	Rural	Peri-Urban	Total
POPULATION			
Total No. of Individuals	179,196	28,326	207,522
Total No. of Households	35,619	6,048	41,667
POVERTY			
% Households Living Under the Basic Needs Poverty Line	59	2	51
LITERACY			
Literacy Rate (for individuals over the age of 14)	38	85	45
<i>Non-poor</i>	52	85	62
<i>Poor</i>	28	86	28
<i>Male</i>	45	90	52
<i>Female</i>	30	80	37
PRIMARY SCHOOL			
Access	19	58	24
Satisfaction	54	49	53
Gross Enrolment Ratio	81	134	88
<i>Non-poor</i>	80	131	94
<i>Poor</i>	81	248	82
<i>Male</i>	86	126	92
<i>Female</i>	74	142	83
Net Enrolment Ratio	60	97	65
<i>Non-poor</i>	62	99	71
<i>Poor</i>	58	50	58
<i>Male</i>	62	98	67
<i>Female</i>	57	97	62



	Rural	Peri-Urban	Total
SECONDARY SCHOOL			
Access	3	25	6
Satisfaction	42	43	42
Gross Enrolment Ratio	5	15	7
<i>Non-poor</i>	12	16	13
<i>Poor</i>	0	0	0
<i>Male</i>	3	11	4
<i>Female</i>	7	16	9
Net Enrolment Ratio	6	13	6
<i>non-poor</i>	10	13	11
<i>Poor</i>	0	0	0
<i>Male</i>	3	11	4
<i>Female</i>	6	13	7
HEALTH			
Access	16	29	18
Need	25	26	25
Use	14	18	15
Satisfaction	56	64	57
NUTRITION			
% of stunted children	36	10	32
<i>Boys</i>	35	14	32
<i>Girls</i>	40	8	32
% of wasted children	9	0	8
<i>Boys</i>	8	0	7
<i>Girls</i>	9	0	8



2 POVERTY PREDICTORS

2.1 Introduction

This chapter discusses the poverty measurements used throughout the report. The scope of the Monduli District CWIQ did not include collection of household expenditure data. However, using other variables, household consumption expenditure has been predicted to allow a more in-depth analysis of the data. The first part of this chapter explains how predicted consumption was calculated and demonstrates its reliability. An overview of the distribution of poverty across the district and levels of inequality are examined in the section that follows. A brief discussion of household poverty and characteristics of household heads 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 incorporated in the majority of surveys. These variables inform on household assets and amenities, education level of the head of household, amount of land owned by 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 Monduli District 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 Monduli in order to ensure that the model developed accurately represents this district 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

<i>Basic Variables</i>	<i>Food Security</i>
Age of household head	Problems satisfying food needs
Household size	Number of meals per day
Education of household head	Number of days meat was consumed
Activity of household head	
<i>Household Assets</i>	<i>Household Amenities</i>
Farm land owned	Source of water
Roof material	Toilet (yes/no)
Wall material	
Radio, radio cassette, music system	
Iron, electric or charcoal	
Saving/current bank account	

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 Monduli District 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: 9.6 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	24.3	9.6
Predicted Non-poor	11.0	55.0

Predicting the regional poverty rate is not the purpose of CWIQ. Expenditure surveys, such as the 2000/2001 Household Budget Survey, are much better suited for this purpose. However, the accuracy with which estimates can be made using the CWIQ gives credence to the use of predicted poverty level as a variable throughout this report.

2.3 Poverty and Inequality in Monduli District

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 Monduli, the level of consumption inequality in the district, and some household level poverty trends.



2.3.1 Distribution of Poverty by Area of Residence

Overall, 51 percent of households in Monduli have a consumption level below that required to satisfy basic needs; nearly all of these households are located in rural areas. Figure 1 shows the distribution of poverty levels by area of residence. As can be seen, roughly 3 out of 5 households in the rural areas of Monduli are poor (59 percent); in peri-urban areas this is only the case for 1 out of 50 households (2 percent).

Figure 1: Poverty Levels by Area of Residence

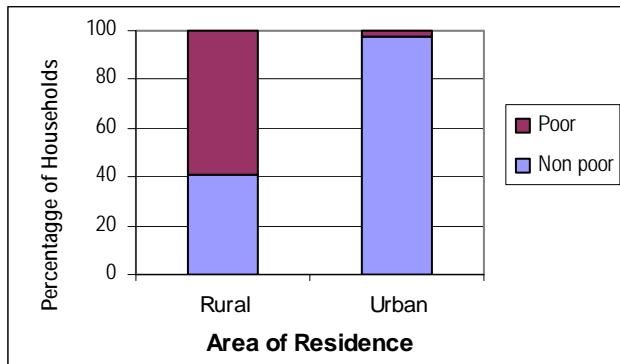
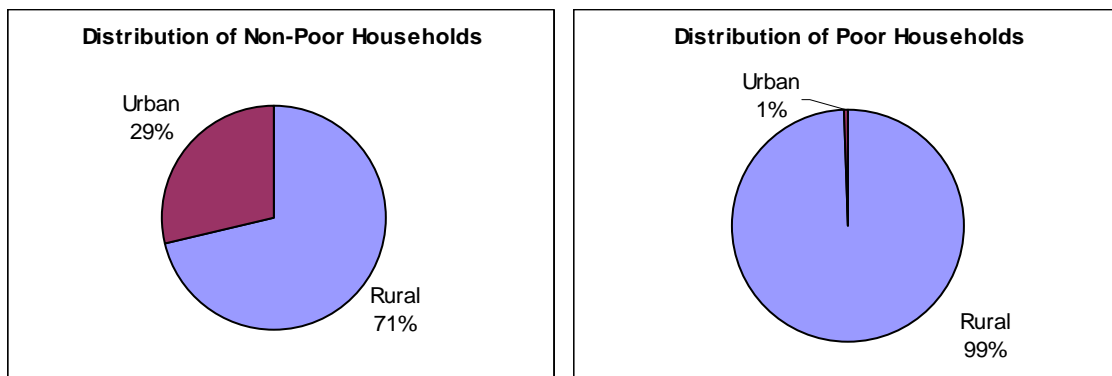


Figure 2 further shows that only 1 percent of all poor households in the district are located in peri-urban areas. The proportion of non-poor households located in peri-urban areas is 29 times greater.

Figure 2: Distribution of Non-Poor and Poor Households by Area of Residence



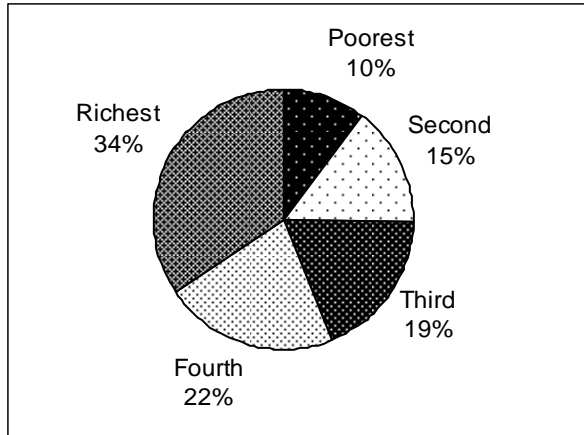
2.3.2 Consumption Inequality

A commonly used measure of income inequality is the share of consumption accounted for by households in different expenditure classes. For this purpose households are divided into five groups of equal size according to their consumption expenditure. Figure 3 demonstrates that in Monduli District the consumption of the richest group (the group with the highest consumption expenditure) accounts for 34 percent of total consumption.



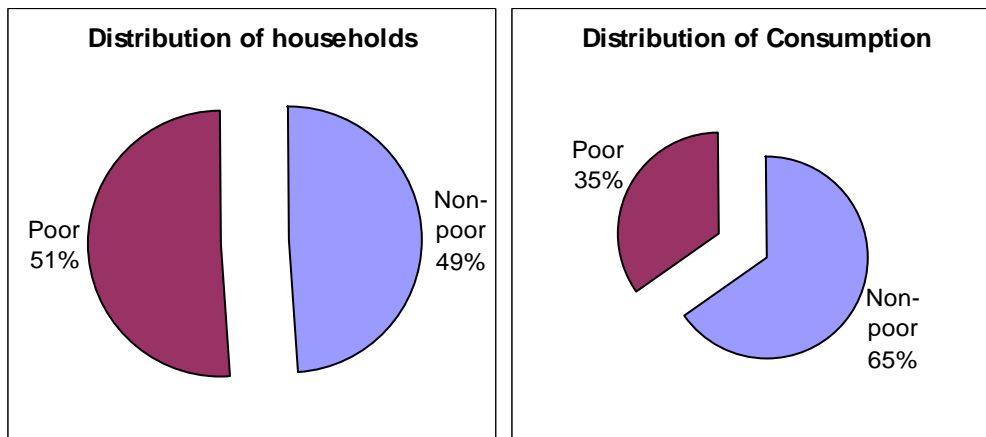
In contrast, the consumption expenditure of the poorest group accounts for only 10 percent of the total.

Figure 3: Consumption Inequality



Inequality can also be examined by comparing the proportion of poor households in the district to the proportion of total consumption expenditure accounted for by these households. Figure 4 shows that while poor household constitute 51 percent of households in the district, their consumption expenditure only accounts for 35 percent of the total.

Figure 4: Consumption Inequality in Monduli District



2.4 Poverty and Characteristics of Household Heads

This section examines the differences and similarities in the main characteristics of poor and non-poor households⁴ in Monduli District. Household characteristics, and more specifically characteristics of the household head, are disaggregated by poverty status for

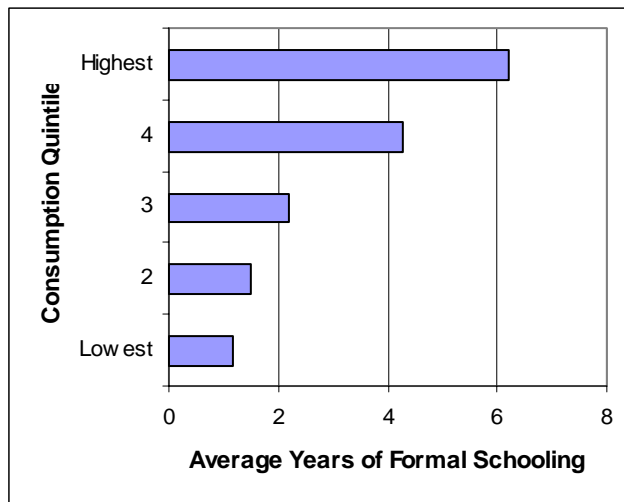
⁴ The analysis in this section should be treated with a degree of caution as some of the household characteristics compared across the two groups have also been used to predict poverty. As mentioned before, this means that there may be some inherent correlation between these variables and poverty.



this purpose. Characteristics of the household head are the focus of this section as they often affect the whole household. For instance, in Monduli the head of household is the main contributor of income in 84 percent of all households. Further decomposition by poverty status is presented in each of the relevant sections.

Results of the survey suggest that education of the household head is correlated with the household poverty status. Figure 5 shows that while households in the lowest consumption quintile are headed by individuals with an average of just over 1 year of formal schooling, heads of households in the highest quintile have had, on average, 6 times as much education. Although education of the household head is one of the variables used to predict consumption expenditure, the validity of the observed correlation between poverty and education of household head should not be underestimated as this relationship is statistically significant.

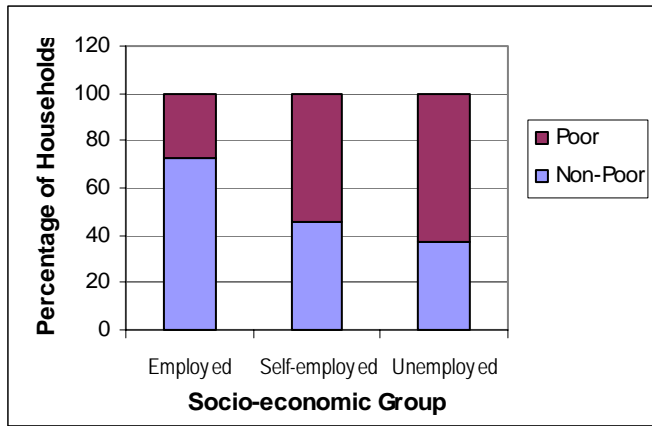
Figure 5: Average Years of Schooling Received by Household Head by Consumption Quintile



Analysis of poor and non-poor households by socio-economic group, which is defined by the employment sector of the household head, shows that households in the employed group, that includes those employed by another individual/organisation, tend to be significantly better off than households headed by either self-employed, or unemployed individuals. Households in the latter two groups are predominantly poor. In contrast, poor households constituted only just over a quarter (27 percent) of households in the former group.

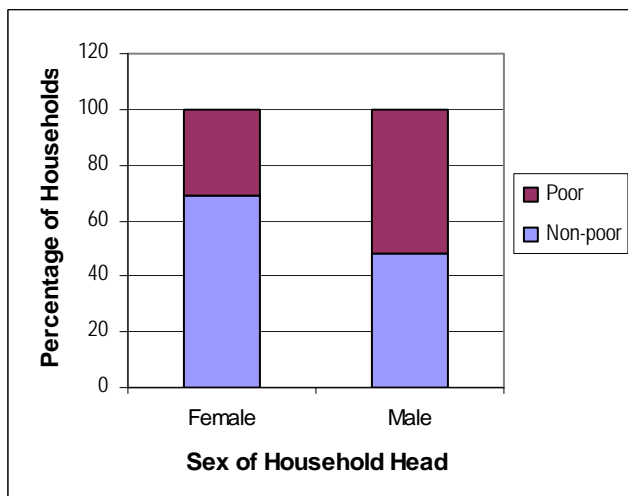


Figure 6: Distribution of Poor and Non-poor Households by Socio-economic Group



Finally, the results suggest that poverty is more widespread in male headed households. While the difference presented in Figure 7 is not statistically significant, it does show a distinct trend; the majority of male headed households (52 percent) are poor, compared to less than a third (31 percent) of households headed by women.

Figure 7: Distribution of Poor and Non-poor Households by Gender of Household Head





3 VILLAGE, POPULATION AND HOUSEHOLD CHARACTERISTICS

3.1 Introduction

This chapter provides an overview of Monduli's village, household and population characteristics. To begin with, the tribal and religious make up of Monduli's villages are examined. This is followed by analysis of the ethnic and religious diversity in Monduli district. The levels of isolation in Monduli are then looked at in terms of the distribution of households by distance to the capital and to the centre of the village in which they are located. The next part of the chapter discusses main characteristics of the population in Monduli such as area of residence, gender and poverty. The same analysis is then conducted at household level. An examination of the main characteristics of household heads in Monduli concludes the chapter.

3.2 Village Characteristics

3.2.1 Ethnicity and Religion in Monduli

Table 5 below shows the tribal and religious make-up of Monduli's villages. As can be seen, members of the Masai tribe are found in the great majority of areas in the district. 93 percent of the villages contain this group. Further, the Masai constitute the great majority of the population in these villages; 85 percent, on average. The Wachaga are the second most widespread ethnic group in the district. Members of this tribe, however, are only found in a third of the villages and, on average, make up 4 percent of the villages where they live. There are at least 8 other ethnic groups found in the district. None of these groups, however, live in more than a fifth of Monduli's villages or constitute more than 2 percent of the population in these villages.

Lutheran Protestants, as well as pagan groups are present in all villages in the district. On average, pagans constitute just over half of the population. Lutherans, on the other hand, make up a fifth of this population. Roman Catholics and Protestants are also present in the great majority of villages. Muslims, on the other hand, are least widespread in Monduli; they are found in less than half (47 percent) of villages and, on average, constitute only 4 percent of the population in these villages.

**Table 5: Distribution of the Population by Tribe and Religion at Village Level**

	Proportion of Villages That Contain the Group	Average Proportion of Population Constituted by Group in Villages Where it is Present
Monduli District Tribes		
Wamasai	93.3	85.0
Wachaga	33.3	3.6
Wairaq	16.7	1.3
Warangi	10.0	0.2
Wambulu	16.7	1.2
Wameru	20.0	2.0
Wanyaturu	20.0	0.8
Wanyiramba	16.7	2.3
Wapari	20.0	0.9
Wasandawi	6.7	0.4
Other	30.0	1.8
Monduli District Religions		
Muslim	46.7	3.8
Roman Catholic	90.0	14.1
Lutheran	100.0	20.8
Protestant	96.7	10.5
Pagan	100.0	51.3

3.2.2 Ethnic and Religious Fractionalisation

The level of ethnic fractionalisation is a variable that is used throughout the report. Villages are split into those with high ethnic fractionalisation and those with low ethnic fractionalisation. Ethnic fractionalisation is commonly measured as the probability that 2 randomly selected individuals from a village are from a different tribe. If a village is homogeneous this probability is 0. In the extreme case that everyone in the village would be from a different tribe the probability is 100 percent. Figure 8 shows that 71 percent of the villages in Monduli have an ethnic fractionalization index lower than 10 percent.

As shown below, religious fractionalization can be measured in the same way (Figure 8). Religious fractionalisation is higher than ethnic fractionalisation in Monduli. The religious fractionalisation index is below 10 percent in only 4 percent of the villages. In contrast, in the majority of the villages (63 percent) the religious fractionalisation index is at least 30 percent.

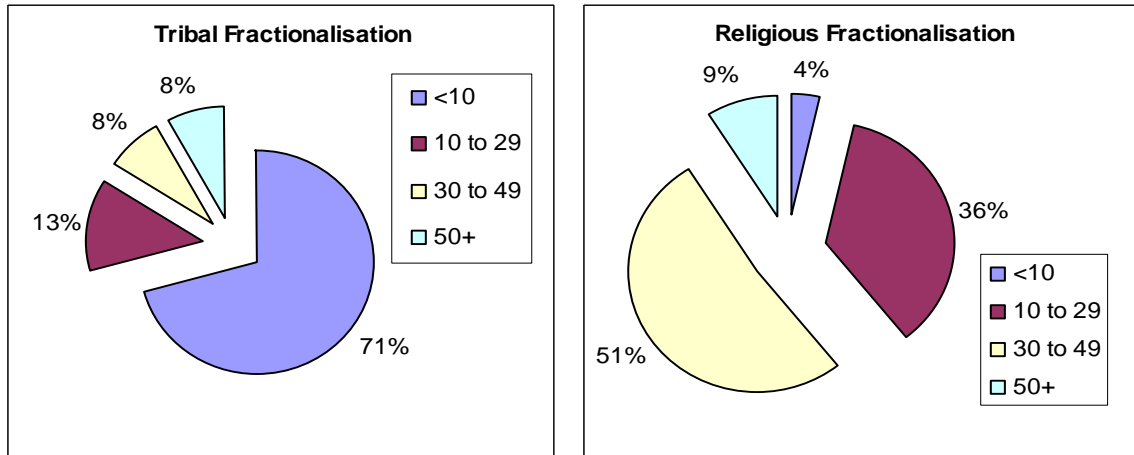
Fractionalisation is important in terms of the internal workings of villages. Commonly in literature on social capital low fractionalization is taken as a sign of high social cohesiveness. It should be noted that in the context of Monduli more traditional villages may show a lower level of ethnic fractionalization.

Throughout the report, two ethnic fractionalisation categories are used – “Low” and “High”. The “Low” category contains the 50 percent of villages that have lower levels of



ethnic fractionalisation. The fractionalisation index in these areas does not exceed 5 percent. The “High” category contains the 50 percent of villages that have a higher ethnic fractionalisation index, that above 5 percent.

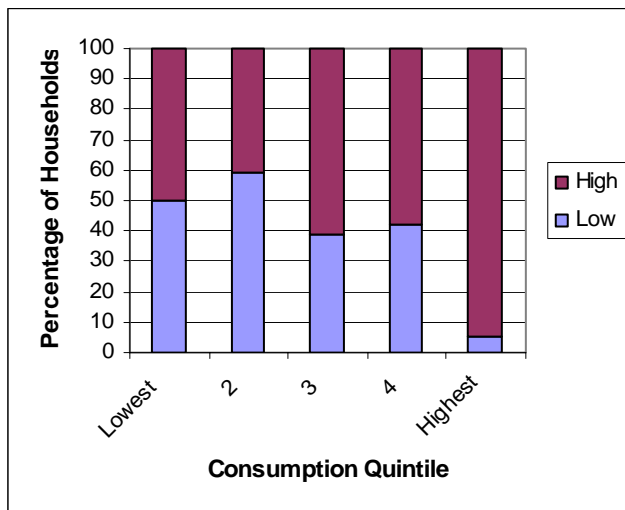
Figure 8: Ethnic and Religious Fractionalisation



3.2.3 Ethnic Fractionalisation and Poverty

Roughly half of the households in the lowest two consumption quintiles are also located in more homogeneous villages. As shown in Figure 9, there is a positive relationship between ethnic fractionalisation and consumption expenditure. For instance, while nearly 3 out of 5 households in the second consumption quintile are located in less fractionalised villages, this is only the case for 1 out of 20 households in the highest consumption quintile.

Figure 9: Distribution of Households Located in More and Less Fractionalised Villages by Consumption Quintile



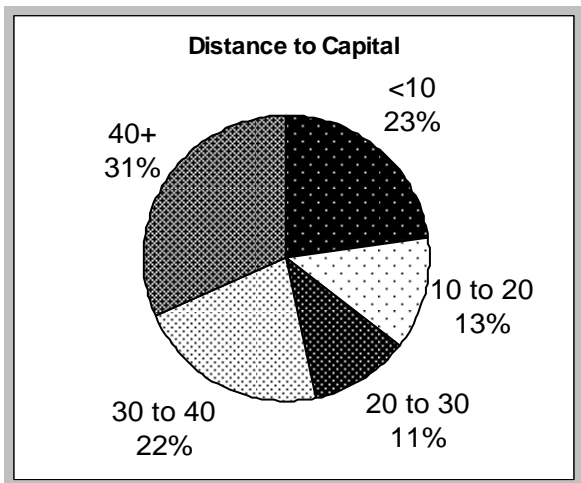


3.2.4 Village Isolation

Isolation is another variable that will be used throughout the report. Trends in both village and household isolation will be examined. While household isolation will be discussed later on in this chapter, this section focuses on village isolation. Figure 10 shows that the majority of the villages in the district (54 percent) are located at least 30 kilometres away from the capital. Nearly a quarter (23 percent) of the villages, on the other hand, are located less than 10 kilometres away from the capital.

Throughout this report, two village isolation categories will be used: “Closer to the district capital” and “Further from the district capital”. These refer, respectively, to 50 percent of the closer villages and 50 percent of the further villages.

Figure 10: Distribution of Villages by Distance to District Capital (in kilometres)

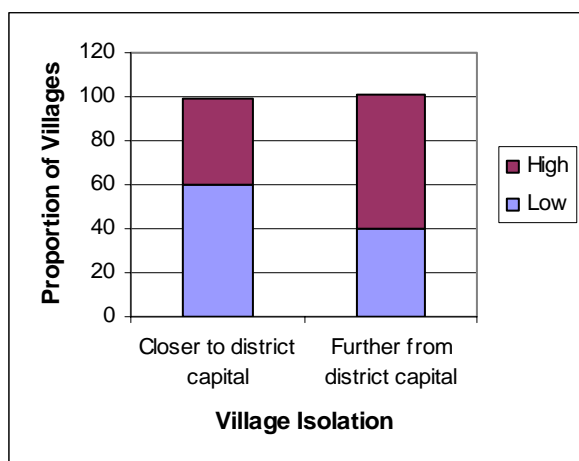




3.2.5 Fractionalisation and Isolation

There appears to be a positive relationship between levels of isolation and fractionalisation. As shown in Figure 11, more isolated villages also tend to be slightly more diverse. The majority of villages (60 percent) located closer to the district capital are more homogeneous; the same proportion of villages among those further away from the district capital are more fractionalised.

Figure 11: Distribution of More and Less Fractionalised Villages by Isolation Level



3.3 Population Characteristics

Over 207,000 people live in Monduli district; the great majority of who (86 percent) live in rural areas. Just less than 30,000 people inhabit peri-urban areas such as Monduli Mjini and, Mto wa Mbu (Table 6).

More than half of the district's population live in households characterised by consumption levels below those necessary to satisfy Basic Needs. As discussed in Chapter 2, these households are defined as poor.

Men make up a slightly higher proportion of Monduli's population than women, at 53 and 47 percent respectively.

Over 20,000 individuals in Monduli are orphans⁵. In total, orphans make up 10 percent of the population. The great majority of these orphans (91 percent) are 'single' orphans. In other words, roughly 9 out of 10 orphans had lost one parent before the age of 15 rather than both. Nearly 2,000 individuals, however, were found to be double orphans.

⁵ In consistency with the standard definition, orphans are defined as individuals who had lost one or both of their parents before the age of 15.



Roughly half of the population live in villages located closer to the district capital. Table 6 further shows the distribution of the population by the distance of their household to the centre of the sub-village (Enumeration Area). This is another isolation measurement that will be used throughout the report. Two household isolation categories will be used: “Closer to centre of EA” and “Further from centre of EA”. These refer, respectively, to 50 percent of the closer and 50 percent of the further households. Equal proportions of population live in households located closer and further from the centre of the EA. In contrast, the distribution of the population in more and less ethnically diverse villages is less even; 3 out of 5 people live in ethnically diverse villages.

Table 6: Population Characteristics

	Weighted population total	Share of population
Monduli District	207,522	100.0
Rural	179,196	86.4
Peri-urban	28,326	13.6
Poverty		
Non-poor	97,562	47.0
Poor	109,960	53.0
Gender		
Male	108,998	52.5
Female	98,524	47.5
Orphan Status		
Non-orphan	187,072	90.1
Single Orphan	18,672	9.0
Double Orphan	1,777	0.9
Village Isolation		
Closer to district capital	105,930	51.4
Further from district capital	100,266	48.6
Household Isolation		
Closer to centre of EA	102,524	49.7
Further from centre of EA	103,672	50.3
Ethnic Fractionalisation		
Low	82,284	39.7
High	125,238	60.3



The population in this district is predominantly young. Close to half of its residents are under the age of 15 and only 5 percent are aged 65 years and above. Individuals in the economically active age group (15 to 65 years) comprise 49 percent of the population. Because Monduli's population is predominantly young, the median age here is also low at 16. As the proportion of older individuals (over the age of 14) is higher in peri-urban than rural areas, the median age in peri-urban areas is higher, at 20 years.

Table 7 further shows that there are 91 dependents (people under 15 or over 65 years) to every 100 economically active individuals. The ratio is lower in peri-urban areas where there are only 82 dependents to every 100 individuals of economically active age.

Table 7: Distribution by Age, Median Age and Dependency Ratio's

	<i>Age Group</i>			Median Age	Dependency Ratio
	<15	15 to 64	65+		
Monduli District	46	49	5	16	91
Rural	46	49	5	16	92
Peri-urban	41	53	6	20	82

3.4 Household Characteristics

3.4.1 Households by Area of Residence and Household Size

There are just under 42,000 households in Monduli. Only about 6,000 of these are located in peri-urban areas; the other four fifths are based rurally. Table 8 further shows that population and household poverty rates are very similar. While, as mentioned above, 53 percent of Monduli's population live in poor households, these households comprise 51 percent of all households in the district.

The proportion of households located closer to the district capital is slightly higher than the same proportion at population level (Table 6); at 53 and 51 percent respectively. In contrast, the proportion of households located closer to and further from the centre of the EA, as well as, those in more and less ethnically fractionalised villages are equal to those of the population.

**Table 8: Households by Area of Residence**

	Weighted households total	Share of population
Monduli District	41,667	100.0
Rural	35,619	85.5
Peri-urban	6,048	14.5
Poverty		
Non-poor	20,575	49.4
Poor	21,092	50.6
Village Isolation		
Closer to district capital	22,061	53.2
Further from district capital	19,369	46.8
Household Isolation		
Closer to centre of EA	20,864	50.4
Further from centre of EA	20,566	49.6
Ethnic Fractionalisation		
Low	16,279	39.1
High	25,388	60.9

The distribution of households by household size is presented in Table 9. Average household size in Monduli district as a whole and in the rural part is 4.9 members; in peri-urban areas this figure is slightly lower at 4.4 members. Some disparity is observable between poor and non-poor households. While the average size of poor households is 5.1 members, non-poor households are slightly smaller consisting of, on average, 4.6 members. The table further shows that over half (54 percent) of non-poor households in the district consist of 4 members or less; only about a third of poor households (34 percent) are in this size-group. In contrast, 5 to 6 people households are much more widespread among poor households compared to non-poor, at 46 and 29 percent respectively. Little difference is observable in household size trends between male and female headed households.

In contrast households from different socio-economic groups vary noticeably. Households headed by employed individuals are by far the smallest in the district, with, on average, 3.9 members per household. Only 1 in 10 households in this group have more than 6 members. In contrast, households headed by self-employed individuals are, on average, made up of 5 members, with more than 1 in 5 consisting of more than 6 members. Unemployed individuals head the largest household, made up of, on average, 5.3 members.

Households located closer to the district capital tend to be smaller than those located further away, with average household sizes of 4.7 and 5 members. The same difference



exists between households located closer to and further away from the centre of the EA. Finally, households located in less ethnically fractionalised villages were found to be slightly larger than those located in more diverse areas.

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
Monduli District	8.2	35.5	37.4	18.9	100.0	4.9
Rural	7.3	34.5	38.9	19.3	85.5	4.9
Peri-urban	13.3	41.6	28.7	16.5	14.5	4.4
Poverty						
Non-poor	12.9	40.6	28.8	17.7	49.4	4.6
Poor	3.6	30.6	45.9	19.9	50.6	5.1
Gender of household head						
Male	8.2	35.4	37.1	19.3	92.3	4.9
Female	7.9	37.1	41.4	13.6	7.7	4.6
Socio-economic group						
Employed	16.0	47.7	26.7	9.6	14.8	3.9
Self-employed	7.6	34.2	37.0	21.2	75.1	5.0
Unemployed	1.7	27.2	55.7	15.4	10.1	5.3
Village Isolation						
Closer to district capital	7.4	41.1	33.9	17.6	53.2	4.7
Further from district capital	8.8	29.6	41.7	19.9	46.8	5.0
Household Isolation						
Closer to centre of EA	10.2	35.3	37.9	16.7	50.4	4.7
Further from centre of EA	5.9	36.1	37.2	20.7	49.6	5.0
Ethnic Fractionalisation						
Low	4.3	36.3	40.0	19.4	39.1	5.0
High	10.7	35.0	35.8	18.5	60.9	4.8

3.4.2 Land Holdings

The results of this survey show that 70 percent of households in Monduli own land (Table 10). Further, 53 percent of households own at least 2 acres of land; just over a fifth have 4 or more acres of land. Land ownership is more widespread in rural areas of Monduli than peri-urban ones. In fact, nearly half of the households in the peri-urban part of the district do not own land; in rural areas these households make up only 27 percent of the total. In consistency with this trend the proportion of rural households owning between 2 and 6 acres of land is more than twice as high as that of peri-urban



household, at 44 and 20 percent respectively. Large scale land ownership⁶, however, is almost as widespread in peri-urban parts of Monduli as it is in rural ones, at 11 and 13 percent respectively.

The results of the survey further suggest that poverty status and land ownership are not closely related; there is little difference in land ownership trends among poor and non-poor households. Landless households, for instance, are only slightly more widespread among poor households compared to non-poor ones. The disparity in proportions of poor and non-poor households owning land is largest in the 6+ acres group. Even in this case, however, while 15 percent of non-poor households claimed to own 6+ acres of land, this proportion was only 4 percentage points lower for poor households.

Households that do not own land tend also to not use land. In other words, the majority (73 percent) of landless households do not use land available for rent or provided for free use. Among landless households that do use land a slightly higher proportion rent land than that using land provided for free.

Unsurprisingly, households with less land tend to use land that they do not own more than households with more land. Hence, while 38 percent of households that own less than 1 acre rent land or make use of land provided for free, this proportion only makes up 4 percent of households that own 6 or more acres of land (Table 10).

Table 10: Land Holdings

	<i>Acres of land owned by the household</i>					
	None	< 1	1 - 2	2 - 4	4 - 6	6+
Monduli District	29.8	4.0	12.9	31.2	9.2	12.9
Rural	26.8	3.9	12.1	34.1	9.8	13.3
Peri-urban	47.9	4.8	17.4	13.9	5.5	10.5
Poverty						
Non-poor	28.5	4.5	14.4	29.7	7.7	15.2
Poor	31.1	3.6	11.4	32.6	10.6	10.6
Land used but not owned						
None	72.5	61.9	95.5	89.1	88.0	95.7
Paid	16.2	20.1	4.0	6.5	8.8	2.9
Free	11.3	18.0	0.6	4.4	3.2	1.4

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.

⁶ Large scale land ownership is defines as ownership of at least 6 acres of land



3.4.3 Livestock Holdings

Livestock data was collected on two types of livestock: ‘medium’ and ‘large’. Medium livestock includes goats, sheep and pigs. Large livestock refers to cattle such as cows, oxen etc. No data was collected on ownership of small livestock such as poultry.

At the time of the survey, 29 percent of households in Monduli reported that they held no livestock. Disaggregation of this data by area of residence shows a great disparity between rural and peri-urban areas. While in rural areas only a fifth of all households claim to not own livestock⁷, in peri-urban areas this proportion is as high as 82 percent. In both rural and peri-urban areas, ownership of both large and medium size livestock is more widespread than ownership of only one of these. Overall, 56 percent of households in Monduli hold both medium and large livestock, 7 percent hold large livestock only and 9 percent medium livestock only.

Livestock ownership appears to be more widespread in poor households. While almost 90 percent of poor households are livestock owners, the same is true for only just over half of the non-poor households. In the instance of both poor and non-poor households, the great majority of livestock owners hold both medium and large livestock.

Table 11: Livestock Holdings

	<i>Ownership of Livestock</i>			
	None	Medium only	Large only	Both
Monduli District	29.0	9.0	6.5	55.5
Rural	20.1	9.5	7.2	63.2
Peri-urban	81.5	5.8	2.4	10.3
Poverty				
Non-poor	47.3	10.6	6.0	36.1
Poor	11.1	7.4	7.0	74.5

3.5 Characteristics of Household Heads

3.5.1 Gender and Marital status of Household Heads

Results presented in Table 12 show that the great majority of household heads in Monduli district are male; less than one in ten households are headed by a female (8 percent). In peri-urban areas, however, this proportion is much higher; here over a fifth (21 percent) of households are headed by women. In both rural and peri-urban areas heads of household tend to be married monogamously. Overall, 52 percent of household heads are in a monogamous marriage. However, in rural areas polygamy is also widespread. In

⁷ Members of the Masai tribe are often hesitant to disclose particulars of livestock ownership, especially numbers of livestock owned as this is considered bad luck.



fact, the proportion of households headed by a polygamist is only 11 percentage points lower than that of households headed by a monogamist, at 38 and 49 percent respectively. This proportion of polygamists is substantially higher than that found in other rural areas. In the rural parts of Shinyanga Region, for instance, only 15 percent of households were headed by a polygamist in 2004⁸. These polygamous households also make up over a third of all households in the district; across Rural Shinyanga Region this proportion was less than half of that, at 13 percent. As expected, polygamy is rare in peri-urban areas of Monduli; only 5 percent of households are headed by a polygamous individual here. Divorced or separated household heads appear to be more common in peri-urban than rural areas. Households headed by single individuals are rare in both rural and peri-urban areas; this is the case in only 2 percent of peri-urban and 5 percent of rural households.

Table 12: Gender and Marital Status of Household Heads

	<i>Gender</i>		<i>Marital Status</i>					
	Male	Female	Single	Monoga mous	Polyga mous	Widowed	Divorced	Separated
Monduli District	38,444	3,223	1,724	21,544	13,719	2,802	575	1,303
	92.3	7.7	4.1	51.7	32.9	6.7	1.4	3.1
Rural	33,635	1,984	1,603	17,447	13,440	2,206	293	631
	94.4	5.6	4.5	49.0	37.7	6.2	0.8	1.8
Peri-urban	4,810	1,239	120	4,097	279	596	283	673
	79.5	20.5	2.0	67.7	4.6	9.9	4.7	11.1

3.5.2 Household Heads by Socio-Economic Group

The majority of household heads are self-employed; this result is consistent with expectations as the district under analysis is very rural with a majority of agricultural households. Three quarters of Monduli's households are headed by self-employed individuals (Table 13). Employment by another individual or organisation is not common in this district; out of over 41,500 heads of household, only 6,140 (15 percent) were employed. Finally, unemployment is least widespread; only 1 out of 10 household heads were in this position at the time of the survey.

While in rural areas employment patterns are very similar to those across the whole of the surveyed area, in peri-urban areas different trends were found. Here, a significantly smaller proportion of households were headed by a self-employed individual (55 percent). Employment, on the other hand, was much more widespread here. While in rural areas only 11 percent of households were headed by employed individuals, in peri-urban areas this proportion is more than 3 times as high, at 36 percent. Unemployment was found to be almost equally widespread among household heads in rural and peri-urban areas.

⁸ Chapter 3; *Rural Shinyanga CWIQ*; August, 2004

**Table 13: Household Heads by Socio-Economic Group**

	<i>Socio-economic group</i>		
	Employed	Self-employed	Unemployed
Monduli District	6,140 14.8	31,196 75.1	4,186 10.1
Rural	3,945 11.1	27,886 78.6	3,644 10.3
Peri-urban	2,196 36.3	3,310 54.7	543 9.0

3.5.3 Household Heads by Education

The majority of households in Monduli District are headed by individuals who have had no formal education (55 percent). The second largest group of household heads (33 percent) have completed primary school (Table 14). In total, only 5 percent of Monduli's households are headed by individuals with at least some secondary education. While this trend is representative of that found in rural areas, the situation in peri-urban areas is very different. Here less than a fifth (17 percent) of all households are headed by individuals with no formal education, while the majority of households are headed by individuals with complete primary education. The proportion of the latter group of households is more than twice as high in peri-urban than rural areas, at 60 and 28 percent respectively. Secondary education is also significantly more widespread among heads of peri-urban households compared to rural ones. The proportion of household heads with this level of education is 4 times as high in peri-urban areas as in rural ones. Lastly, none of the household heads had stopped their education at completion of secondary school. In other words, all those who had completed secondary school had continued onto higher education.

Table 14: House Heads by Education

	<i>Level of formal education</i>					
	None	Some primary	Complete primary	Some secondary	Complete secondary	University
Monduli District	23,101 55.4	3,022 7.3	13,584 32.6	1,888 4.5	0.0 0.0	72 0.2
Rural	22,063 61.9	2,384 6.7	9,950 27.9	1,221 3.4	0.0 0.0	0.0 0.0
Peri-urban	1,037 17.2	638 10.5	3,633 60.1	667 11.0	0.0 0.0	72.0 1.2



4 EDUCATION

4.1 Introduction

This chapter examines education indicators. In the first part it presents some education indicators for the adult⁹ population of the Monduli District. The indicators analysed include literacy rate, rate of participation in formal education and average number of years of schooling. The second part of the chapter focuses on selected education indicators for the primary school aged population and presents data on primary school access and enrolment rates, as well as levels of and reasons for dissatisfaction with school. Due to low secondary school enrolment rates in Monduli, only 16 individuals in the sample were attending secondary school at the time of the survey. Consequently, it is not possible to conduct as detailed a level of analysis of secondary school education indicators as that of primary. However, some secondary education indicators are presented; these include secondary school access, enrolment, satisfaction and non-attendance rates. An overview of education trends in differently structured villages, as well as, in the context of trends in other areas concludes this chapter.

4.2 Selected Adult Education Indicators

4.2.1 Literacy

Literacy rate is one of the main adult education indicators informed on by the Monduli District CWIQ. Literacy is defined as the ability to read and write in any language, as reported by the respondent¹⁰. Individuals who are able to read but cannot write are considered illiterate.

The results of the survey show that less than half of the adults in Monduli were literate at the time of the survey (Table 15). Only 45 percent of individuals aged 15 and over claimed to be able to read and write. This result is representative of rural areas, where 38 percent of adults are literate. In peri-urban areas, however, the literacy rate is much higher at 85 percent.

Adults from poor households were found to be significantly less literate than adults from non-poor households. In fact, individuals from non-poor households are more than twice as likely to be literate as those from poor households, with literacy rates of 62 and 28 percent respectively.

⁹ In this section adult population includes all individuals 15 years of age and older.

¹⁰ Note that this result is based solely on the respondents' assertions; independent tests were *not* conducted to determine literacy status.



Individuals living in households with an employed household head were found to be most literate, at 69 percent. Literacy is significantly lower in households headed by self-employed or unemployed individuals, at 42 and 35 percent respectively.

Disaggregation of the data by gender shows that, in this district, men are more likely to be able to read and write than women. Just over half of the men here are literate (52 percent), compared to only 37 percent among women.

Isolation is strongly correlated with literacy. Individuals living in villages further from the district capital and individuals living further away from the centre of the Enumeration Area show lower literacy rates. Finally, villages with low ethnic fractionalisation have lower literacy rates than villages with high fractionalisation, at 29 and 55 percent respectively.

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 received formal schooling at some point. The trends in this indicator closely resemble those of the literacy rate (Table 15).

Overall, out of nearly 113,000 adults in Monduli, just over 51,000 (46 percent) had attended school at some point. In rural areas this proportion is smaller at 39 percent; with 3 out of 5 adults here had never attended school. In contrast, only 15 percent of residents of peri-urban areas were in the same group. In each of the examined categories the formal schooling rate is nearly identical to the literacy rates.

4.2.3 Average Years of Schooling

Results of the survey further show that the individuals in the 15+ age-group who had gone to school, had, on average, only spent 3.1 years in formal education. While in rural areas this figure is even lower, at 2.5 years, in peri-urban areas it is substantially higher at 6 years.

On average, individuals from non-poor households spent more than twice as long in formal education than those from poor households. The average amount of time spent in school by an individual from a poor household who had attended school was 1.8 years, compared to 4.3 years among the same population from non-poor households.

In line with the trends found in literacy and formal schooling rates, on average, individuals from households headed by someone who is employed stay in formal education for a substantially longer amount of time than those from other socio-economic groups.



Despite the noticeable disparity in literacy and formal schooling rates between men and women in the district, men who had attended school at some point had, on average, spent only 0.4 more years in formal education than women who had done the same.

Individuals living in isolated villages and isolated households are found to have less years of formal schooling. The same difference was observed between less and more fractionalised villages; individuals from villages with higher levels of fractionalisation are found to have, on average, 3.8 years of formal schooling, which compares favourably to 1.8 years in villages with lower levels of fractionalisation.

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

	Literacy Rate ¹	Formal Schooling Rate ²	Average Years of Schooling ³	Share of Population
Monduli District	50,211	51,333	3.1	112,650
	44.6	45.6		100.0
Rural	36,083	37,202	2.5	96,059
	37.6	38.7		85.3
Peri-urban	14,127	14,131	6.0	16,592
	85.1	85.2		14.7
Poverty				
Non-poor	33,954	34,440	4.3	54,913
	61.8	62.7		48.7
Poor	16,257	16,893	1.8	57,738
	28.2	29.3		51.3
Socio-economic group				
Employed	9,354	9,284	5.1	13,572
	68.9	68.4		12.1
Self-employed	36,051	36,960	2.8	85,554
	42.1	43.2		76.2
Unemployed	4,587	4,869	2.3	13,161
	34.9	37.0		11.7
Gender				
Male	30,692	31,013	3.0	59,630
	51.5	52.0		52.9
Female	19,519	20,320	2.6	53,020
	36.8	38.3		47.1
Village Isolation				
Closer to district capital	31,691	31,721	3.7	58,699
	54.0	54.1		52.4
Further from district capital	18,069	19,211	2.3	53,264
	33.9	35.9		47.6



	Literacy Rate ¹	Formal Schooling Rate ²	Average Years of Schooling ³	Share of Population
Household Isolation				
Closer to EA centre	29,546	29,818	3.6	56,277
	52.5	53.0		50.3
Further from EA centre	20,214	21,065	2.4	55,686
	36.3	18.8		49.7
Ethnic Fractionalisation				
Low	12,741	13,043	1.8	44,536
	28.6	29.3		39.5
High	37,468	38,289	3.8	68,113
	55.0	56.2		60.5

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 Primary Education Indicators

4.3.1 Access to Primary School

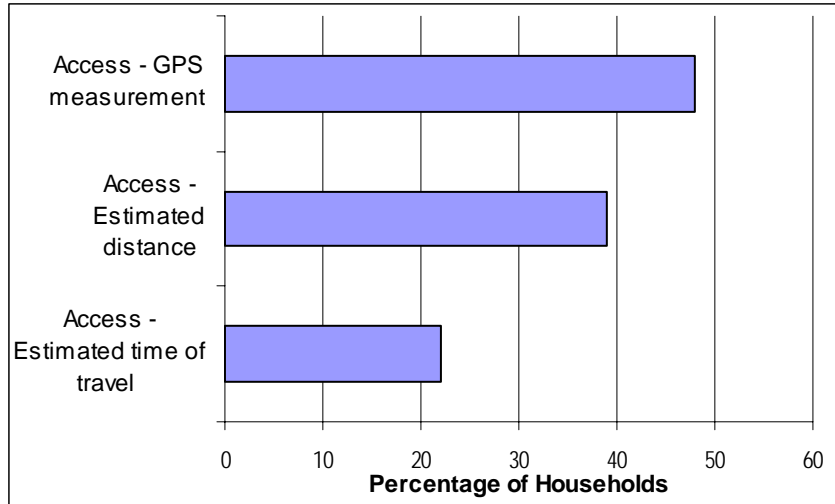
Introduction

The Monduli District CWIQ measures access to primary schools in 3 ways. Firstly, by asking the respondent how long it takes him to travel to the nearest primary school. Secondly, by asking the respondent to estimate the distance to the nearest primary school in kilometres. Thirdly, by taking GPS measurements of the location of the primary school and the respondent's residence. The first two measures take account of the terrain, but are based on the respondents' perception. In contrast, the third one is a more objective measure of distance, but does not take account of the terrain (i.e. measures as the bird flies). In addition, the two distance measures do not take account of transport available to the household, while the time estimate does. .

It is standard in CWIQ surveys to define households as having access to a facility if they report living within 30 minutes or 2 kilometres of travel. Figure 12 demonstrates levels of access to primary school in Monduli calculated using the three measurements. As can be seen, access levels are lowest when the standard CWIQ measurement is used to calculate the distances and highest when the GPS measurements are used. In fact, the access rate calculated using the former method is less than half of that calculated using the latter method, at 22 and 48 percent of households, respectively. Access rate calculated using distance estimations is closer to that derived from GPS measurements than from reported length of travel. GPS measurements showing higher access rates could be explained by the fact that it does not take account of the terrain.



Figure 12: Access Rates Using Different Measurements



This report will incorporate measurements based on GPS coordinates, as well as those based on the estimated time it takes to travel to the facility¹¹. Table 16 below shows the distribution of households in the district by distance to the nearest primary school expressed in kilometres using measurements derived from GPS coordinates. Table 17 then presents primary school access rates calculated using data on estimated amount of travel time. The use of the latter measurement is primarily dictated by other CWIQ reports, all of which use this as a measure of access. One of the main advantages of the CWIQ instrument is the comparability of results across countries, regions and districts. Therefore, it is vital to maintain consistency of data used to calculate core indicators such as access to facilities.

Distance

Just over 3 out of 10 households in Monduli are less than 1 kilometre away from a primary school. This proportion is more than twice as high in peri-urban areas as in rural areas, at 59 and 26 percent respectively.

Poor households tend to be located further away from primary schools than non-poor households. In fact, the proportion of poor households located more than 2 kilometres away from the nearest primary school is almost twice as high as among non-poor households, at 61 and 31 percent respectively.

Larger households appear to be further from primary schools than smaller households. 39 percent of households containing 1 or 2 members were less than a kilometre away

¹¹ Tabulation of distance to primary school using respondents' estimations in kilometers can be found in Annex C.



from a primary school, in contrast to a quarter of large households (over 6 household members). Large households are more evenly spread across the distance categories than smaller households. Households consisting of between 5 and 6 members are more likely to be located more than 6 kilometres away from the nearest primary school than any other group; 1 in 5 households with 5 to 6 members are this far away compared to 1 in 20 small households.

Households headed by employed individuals tend to be located closer to primary schools than households headed by self-employed or unemployed individuals. For instance, while 69 percent of households headed by employed individuals are located within 2 kilometres from a primary school, this is the case for only 50 percent of households headed by unemployed individuals.

Disaggregation of access data by location of the household in relation to the district capital shows that households in both categories are located similarly close to primary schools. The most substantial difference is observable in the category of households located 6+ kilometres from the nearest primary school; proportion of households located further away from the district capital is nearly twice as high as that of households located closer. Households located further from the centre of the EA are noticeably more remote from primary schools.

Furthermore, households in more fractionalised villages are located significantly closer to primary schools than those in more homogeneous areas. In fact, nearly half of the households in the former group are less than a kilometre away from a primary school, compared to only 12 percent of the households in the latter group.



Table 16: Distribution of Households by Distance to the Nearest Primary School (in kilometres of travel) – GPS measurement

	Less than 1 km	1 to 1.9	2 to 2.9	3 to 3.9	4 to 5.9	6+	Share of population
Monduli District	31.3	22.6	10.4	9.8	12.3	13.6	100.0
Rural	26.4	19.9	12.1	11.1	14.4	15.9	85.0
Peri-urban	59.0	37.7	0.8	2.5	0.0	0.0	15.0
Poverty							
Non-poor	38.9	29.9	11.8	7.2	8.7	3.5	50.5
Poor	23.5	15.1	9.1	12.5	15.9	23.8	49.5
Household size							
1 to 2	38.9	34.0	11.9	7.5	2.7	4.9	3.0
3 to 4	36.9	27.7	6.6	10.2	9.3	9.3	27.0
5 to 6	32.2	21.0	8.2	9.2	9.6	19.7	38.2
7+	24.6	19.1	16.3	10.5	19.0	10.6	31.8
Socio-economic group							
Employed	42.4	26.9	10.6	9.0	5.9	5.2	13.0
Self-employed	30.1	21.7	11.2	10.0	13.7	13.3	77.1
Unemployed	27.0	23.3	4.4	9.9	8.1	27.2	9.9
Village Isolation							
Closer to district capital	30.4	24.8	10.2	11.8	12.8	10.0	57.4
Further from district capital	32.4	19.6	10.7	7.3	11.6	18.4	42.6
Household Isolation							
Closer to EA centre	45.1	24.8	8.1	9.7	7.9	4.4	46.9
Further from EA centre	19.0	20.7	12.5	10.0	16.1	21.7	53.1
Ethnic Fractionalisation							
Low	11.8	10.5	14.8	12.7	21.2	28.9	44.3
high	46.8	32.2	7.0	7.5	5.2	1.4	55.7

Access

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

At the time of the survey, slightly less than a quarter (24 percent) of primary school age children in Monduli district were living in households located within 30 minutes of travel from a primary school (Table 17). The rate of access to primary schools was much greater among children of primary school age living in peri-urban areas than those in rural areas, at 58 and 19 percent respectively.



The rate of access among primary school age children living in non-poor households is significantly higher than that among the same group from poor households. In fact, at 30 percent, the access rate of the former group is nearly twice as high as that of the latter (18 percent).

Access rates vary slightly across socio-economic groups, ranging from 29 percent for primary school age children from households headed by employed individuals to 21 percent for children of the same age group living in households headed by unemployed individuals. The differences between these groups, however, are not statistically significant and may, therefore, be characteristic of the surveyed sample only.

Noticeable differences were found between access rates among girls and boys. While this trend is difficult to explain, it is statistically significant. The proportion of primary school age girls living within 30 minutes of travel from the nearest primary school is 11 percentage points higher than that of boys, at 30 and 19 percent respectively.

While household isolation from district capital has no impact on primary school access rates, household isolation from the centre of the EA is negatively correlated with access. Households located further from the centre of the EA have noticeably lower rates of access; only 18 percent of children from more isolated households are able to get to a primary school within 30 minutes of travel. In contrast, nearly a third (30 percent) of children from households located closer to the EA centre have access to a primary school. An even greater disparity in access rates is observable between children living in more and less fractionalised villages. Only 9 percent of children from more ethnically homogeneous villages have access to primary school; this rate compares unfavourably to that among the same group in more diverse villages where it is 32 percent (Table 17).

4.3.2 Enrolment

There are two main indicators that inform on school enrolment: Gross Enrolment Rate (GER) and Net Enrolment Rate (NER). In the Monduli District 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.



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.

Table 17 shows the primary school Net and Gross Enrolment Rates in Monduli District. The Gross Enrolment Rate indicates that those who were in primary school at the time of the survey made up 88 percent of all children of primary school age living in the district. The Net Enrolment Rate further shows that almost two out of three children (65 percent) between the ages of 7 and 13 were attending school at the time of the survey¹².

In peri-urban areas primary school attendance irrespective of age (GER) and primary school attendance among children of primary school age (NER) are substantially higher than those in rural areas. In fact, while in peri-urban areas nearly all (97 percent) children of primary school age were attending primary school at the time of the survey, in rural areas this proportion was only three fifths of the same population, at 60 percent. In consistency with this trend the peri-urban Gross Enrolment Rate exceeded the rural one by 53 percentage points, at 134 and 81 percent respectively¹³.

The results of the survey further suggest that children from poor households are less likely to attend primary school than children from non poor households. Hence, the NER of children from non-poor households exceeds that of children from poor households by 13 percentage points. In general, individuals from non-poor households attending primary school at the time of the survey constituted a higher proportion of the population of all 7 to 13 year olds from non-poor households, than the individuals from poor households; this difference is 12 percentage points.

In Monduli district, socio-economic group does not appear to have much impact on the GER. Variation in this indicator across the socio-economic groups does not exceed 3 percentage points. Net Enrolment Rates, however, vary by up to 18 percentage points. While almost 3 out of 4 children from households headed by employed individuals were attending primary school at the time of the survey, this was the case for fewer than 2 out of 3 children from households headed by self-employed individuals and slightly more than 1 out of 2 children from households headed by unemployed individuals.

Male primary school students make up a higher proportion of 7 to 13 year old boys in Monduli than do female students of 7 to 13 year old girls. Similarly, a slightly higher proportion of primary school age boys were attending primary school at the time of the survey compared to girls, at 67 and 62 percent of the respective populations.

¹² See end of this chapter for a comparison of these figures to other rural areas.

¹³ Note that the GER in peri-urban areas exceeds 100 percent. This means that the number of individuals attending primary school at the time of the survey (irrespective of age) exceeded the number of children of primary school age in the district.



As with access rates, the level of isolation from district capital does not have a significant impact on primary school enrolment rates. The level of isolation from the centre of the EA, on the other hand, is an important variable. Children living closer to the centre of the EA are significantly more likely to go to primary school. While more than three fourths of primary school age children who live close to the centre of the EA were attending primary school at the time of the survey, among children who lived further away from the centre of the EA this proportion barely exceeds a half, at 52 percent. Finally, it was found that primary school enrolment rates are higher in more ethnically diverse areas. For instance, the GER in ethnically diverse areas exceeds that in the more homogeneous ones by 30 percentage points, at 98 and 68 percent.

Table 17: Selected Primary Education Indicators

	Access ¹	Gross Enrolment	Net Enrolment	Satisfaction ²
Monduli District	24.1	87.7	64.6	53.2
Rural	18.8	80.6	59.5	54.3
Peri-urban	57.7	133.7	97.4	49.2
Poverty				
Non-poor	30.4	93.5	71.3	51.8
Poor	17.8	82.0	57.9	54.9
Socio-economic group				
Employed	29.3	84.6	72.6	61.9
Self-employed	23.7	87.7	64.2	48.2
Unemployed	21.1	88.4	55.2	83.0
Gender				
Male	19.0	91.6	66.6	56.1
Female	30.0	83.3	62.4	49.6
Village Isolation				
Closer to district capital	23.8	88.4	63.1	52.8
Further from district capital	23.9	86.4	65.7	53.6
Household Isolation				
Closer to EA centre	29.6	104.5	77.4	59.7
Further from EA centre	18.2	70.8	51.7	43.7
Ethnic Fractionalisation				
Low	9.0	68.3	48.7	59.9
High	32.0	97.9	72.9	50.8

1. Reporting to live within 30 minutes travel to the nearest school

2. Proportion of children at school who cited no problem with school



4.3.3 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 schools¹⁴.

Only slightly over half of the children attending primary school at the time of the survey cited no problems with the schools they were attending. Satisfaction rates were slightly higher in rural areas compared to peri-urban ones. This difference did not, however, exceed 5 percentage points and was not statistically significant. Similarly, the difference between satisfaction rates of poor and non-poor students was very small (3 percentage points). In other words, even though students from poor households appear to be slightly more satisfied with school than students from non-poor households, this difference is not statistically significant.

Disaggregation of primary school satisfaction rates by socio-economic group shows that primary school students from households headed by self-employed individuals are least satisfied with their schools. At 48 percent, the satisfaction rate in this group is closest to the district primary school satisfaction rate and is 14 percentage points lower than that among primary school age children from households headed by employed individuals. The difference between these two groups is not, however, statistically significant. Children from households headed by unemployed individuals were most satisfied with the schools they were attending; at 83 percent the satisfaction rate in this group was significantly higher than that among children from households headed by self-employed and employed individuals.

Overall, boys appear to be slightly more satisfied with their schools than girls; this difference was not found to be statistically significant. In both cases roughly half of the students expressed satisfaction with their schools.

School going children from villages located further from and closer to the capital are equally satisfied with the schools they attend. Children living in households further away from the centre of the EA, on the other hand, were significantly less satisfied with their schools than those living closer. Satisfaction rates between the two groups differed by 16 percentage points, at 44 and 60 percent. Similarly, children in less ethnically fractionalised villages were less satisfied than those from more ethnically diverse areas (Table 17).

¹⁴ As the interview was conducted with the most informed person in the household, often school going individuals were not asked directly about satisfaction with school.



4.3.4 A Closer Look at Some of the Indicators

Education data collected as part of the CWIQ survey allows more in-depth analysis of the indicators discussed above. In conclusion of the primary education indicators section, reasons for dissatisfaction as well as enrolment trends are examined in detail.

Dissatisfaction

One of the main aims of the CWIQ instrument is to inform on perceptions of the quality of services received among individuals for whom these services are provided – the client. To gain this information, primary school students who were not satisfied with their schools at the time of the survey were asked to explain their reasons for dissatisfaction¹⁵.

Roughly 3 out of 5 dissatisfied primary school students named lack of books and supplies as a problem (Table 18). Overcrowding and the condition of facilities, in contrast, were only mentioned by 1 out of 4 dissatisfied primary school students. Quality of teaching and lack of teachers were more problematic in rural areas than peri-urban ones. The proportion of dissatisfied students in rural areas complaining about the teaching exceeded that in peri-urban areas by 13 percentage points. The proportion of non-poor dissatisfied primary school students complaining about teaching was smaller than that of poor students by a similar margin.

Dissatisfaction was highest among students from households headed by self-employed individuals. At 52 percent, this dissatisfaction rate is more than 3 times as high as that among students from households headed by unemployed individuals (17 percent) and is nearly 15 percentage points higher than the dissatisfaction in the employed group.

In consistency with the district trend, primary school students from both self-employed and unemployed groups identified lack of books and supplies, as well as problems with teaching as the main causes for dissatisfaction; among the unemployed group these problems were mentioned by 73 and 87 percent of dissatisfied students respectively. Further analysis shows that the proportion of dissatisfied students on a district level, as well as, in the self-employed and unemployed groups complaining about teaching was twice as high as that complaining about facilities. In contrast, dissatisfied students in the employed group cited problems with teaching less often than with facilities.

Female students appear to be slightly more dissatisfied with the schools they attend than male students. This trend, however, is not statistically significant. The most noticeable difference in reasons given for dissatisfaction by girls compared to boys is in the facilities category. 1 in 3 female primary school students complained about the condition of the facilities and overcrowding; among boys this proportion was less than one in five (17

¹⁵ The complaints of the respondents were sub-divided into three categories:

- “Books/Supplies” refers to problems associated with shortages of the necessary school materials.
- “Teaching” refers to complaints regarding the quality of teaching and shortages of teachers
- “Facilities” refers to complaints about overcrowding and bad condition of school facilities



percent). In contrast, low quality of teaching and teacher shortages, appear to be issues affecting boys more than girls. Lack of books and other supplies, however, remain the reason why the majority are dissatisfied with school, irrespective of gender.

While primary school students living closer to and further from the district capital were equally dissatisfied with their primary schools, their reasons for the dissatisfaction were different. Children living further from the capital complained more about lack of teachers and the quality of teaching than students living closer to the district capital. Facilities, on the other hand, were referred to by a higher proportion of dissatisfied students from the latter group than the former. Lack of teachers and quality of teaching were also the main complaints among primary school students living further away from the centre of the EA, who, in general were more dissatisfied with their schools than children who were less isolated within sub-villages. Dissatisfaction rate was also higher among children living in more fractionalised villages than those living in more homogeneous areas. The main complaint among students in the former group related to lack of books and supplies. In contrast, children living in less fractionalised areas were more concerned about lack of teachers and the quality of teaching.

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

	Dissatisfac tion	<i>Reasons for Dissatisfaction</i>			
		Books/ Supplies	Teaching	Facilities	Other
Monduli District	17,023	10,407	8,493	4,177	4,859
	46.8	61.1	49.9	24.5	28.5
Rural	13,221	7,843	6,981	3,333	4,449
	45.7	59.3	52.8	25.2	33.7
Peri-urban	3,802	2,565	1,512	844	410
	50.8	67.4	39.8	22.2	10.8
Poverty					
Non-poor	9,339	6,060	4,223	2,623	1,581
	48.2	64.9	45.2	28.1	16.9
Poor	7,684	4,347	4,269	1,554	3,278
	45.1	56.6	55.6	20.2	42.7
Socio-economic group					
Employed	1,444	845	385	472	609
	38.1	58.5	26.7	32.7	42.2
Self-employed	14,437	9,088	7,332	3,500	3,723
	51.8	62.9	50.8	24.2	25.8
Unemployed	653	475	566	69	173
	17.0	72.8	86.6	10.6	26.5



	Dissatisfaction	<i>Reasons for Dissatisfaction</i>			
		Books/ Supplies	Teaching	Facilities	Other
Gender					
Male	8,941	5,179	4,883	1,539	2,480
	43.9	57.9	54.6	17.2	27.7
Female	8,082	5,229	3,610	2,638	2,379
	50.4	64.7	44.7	32.6	29.4
Village Isolation					
Closer to district capital	8,978	5,678	3,263	2,631	2,438
	47.2	63.2	36.4	29.3	27.2
Further from district capital	7,827	4,728	5,011	1,328	2,420
	46.4	60.4	64.0	17.0	30.9
Household Isolation					
Closer to EA centre	8,547	6,674	3,952	2,330	1,416
	40.3	78.1	46.2	27.3	16.6
Further from EA centre	8,258	3,732	4,323	1,629	3,442
	56.3	45.2	52.3	19.7	41.7
Ethnic Fractionalisation					
Low	3,898	1,666	2,501	847	1,541
	40.1	42.7	64.2	21.7	39.5
High	13,125	8,741	5,990	3,329	3,317
	49.2	66.6	45.6	25.4	25.3

Lagging Behind at School

Enrolment rates should be analysed in terms of two types of trends:

- Incidence of school attendance by children, who for whatever reason were unable to go to school at the correct age and are too old for the grade they are in.
- Incidence of children being 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.

Analysis of the results presented in Table 19 and Table 20 helps to investigate enrolment rates in Monduli in terms of both types of trends. A level of caution is, however, in order when disaggregating data from Monduli by age; due to the Masai tendency not to count one's age, many of the ages in the survey were estimated.



Enrolment by Age

Enrolment rates are disaggregated by age and grade in Table 19. Firstly, the results show that if a child incurs no lag, he is expected to enter standard 1 at the age of 7 and continue through to standard 7 by the age of 13. The GER shows that the intake of children from higher age categories is highest relative to the population of the correct age in Standards 2, 3, and 5. For instance, for every 100 children who are 8 years old, there are 117 children in Standard 2 and for every 100 11 year olds, there are 133 children in Standard 5.

The attendance rate shows the proportion of children of each age group receiving any formal schooling. Less than half of 7 year-olds in Monduli were receiving any formal schooling at the time of the survey. This result is consistent with Table 20, which shows that 7 year-olds make up only 30 percent of all children in Standard 1, where the rest of the children are older. A steady increase in the attendance rate is observable between the ages of 7 and 9, when it peaks at 77 percent. After some further variation, attendance rate settles at 77 percent among 13 year-olds.

Finally, the Net Enrolment Rate shows the percentage of children who are in the correct grade for their age. Hence, difference between the attendance rate and the Net Enrolment rate show percentage of children who are at school but are not in the correct grade for their age. In contrast to the trends observed in variation of attendance rates, an overall decrease is observable in the NER between the ages of 7 and 13. While nearly a fifth of all 7 year-olds are in the correct grade for their age, among 13 year-olds this proportion is only 11 percent.

Table 19: Enrolment by Age

	Age in Years	Corresponding Grade	Gross Enrolment Rate ¹	Attendance Rate ²	Net Enrolment Rate ³
<i>Primary School</i>	7	Standard 1	73.0	42.9	19.2
	8	Standard 2	117.2	63.3	21.8
	9	Standard 3	105.1	77.3	9.0
	10	Standard 4	73.7	64.3	8.5
	11	Standard 5	133.1	72.3	10.9
	12	Standard 6	58.8	70.1	11.3
	13	Standard 7	69.6	77.4	11.1

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

Age Distribution by Grade

Table 20 further shows the age distribution of children in each grade of primary school, 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 19. There is an overall downward trend in the proportion of children of the right age constituting each grade. The lowest proportions of children of the right age are found in Standards 3 and 5 (9 percent); the



great majority of children in these grades are older than the correct age for that grade. By the time children reach Standard 7, nearly a fifth of the class is of the correct age of 13 years. On average, however, by the age of 13, school-going children in Monduli lag behind by 2.1 years. By the age of 16, individuals who are still in primary school incur an average lag of 5.3 years.

Table 20: 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	31	19	9	0	0	0	0
8	0.3	23	19	15	7	5	0	0
9	0.9	22	24	9	15	4	0	0
10	1.2	15	24	24	12	6	1	0
11	1.3	2	6	12	23	9	1	3
12	1.7	3	4	8	23	26	21	3
13	2.1	3	1	5	9	14	33	20
14	2.3	0	0	8	4	19	22	37
15	4.2	1	3	8	7	13	14	30
16	5.3	1	0	2	1	4	8	7
Total	1.6	100	100	100	100	100	100	100

4.4 Selected Secondary Education Indicators

As discussed above, the sample of individuals who were attending secondary school at the time of the survey is too small to conduct an equally in-depth level of analysis of secondary education indicators as that for primary. However, the main indicators such as access to secondary school, enrolment rates and non-attendance rates are discussed below. All of these indicators include the non-school going population and can, therefore, be meaningfully analysed using the available data.

4.4.1 Distance

The measurement used to disaggregate Monduli's households by distance to the nearest primary school, is the estimate of the distance in kilometres provided by each of the surveyed households. The great majority (84 percent) of households in Monduli district are located at least 6 kilometres away from the nearest secondary school (Table 21 21). Households in peri-urban areas tend to be located closer to secondary schools than those in rural areas. Over a quarter of the peri-urban population live within 2 kilometres of the nearest secondary school, with 4 percent living less than 1 kilometre away. In contrast, 93 percent of the rural households have to travel a minimum of 6 kilometres to reach the nearest secondary school.



Poor households were found to be located further away from secondary school facilities than non-poor households. In fact, nearly all poor households (99 percent) are located 6 kilometres or more from a secondary school. Only just over two thirds (68 percent) of non-poor households are located equally far away from this facility. In fact, residents of just over 1 in 10 non-poor households have to travel less than 2 kilometres to reach the nearest secondary school.

Irrespective of household size, the majority of households in each household size category were located more than 6 kilometres away from the nearest secondary school. The proportion of smallest households (1 to 2 members) located this far from a secondary school is nearly 10 percentage points lower than that of the largest households (7+ members). Larger households, however, were also more dominant among those located close to secondary schools. At 7 percent, the proportion of large households located within 2 kilometres of a secondary school is the highest across the household size categories.

Disaggregation of this data by socio-economic group shows substantial disparities in distances to secondary schools between households headed by employees of different sectors. Households headed by employed individuals are located closer to secondary schools than households headed by self-employed or unemployed individuals. For instance, while nearly a fifth (17 percent) of the households in the former group are located within 3 kilometres from a secondary school, this is the case for only 7 percent of households headed by self-employed individuals. Further, households headed by unemployed individuals are located at least 6 kilometres from the nearest secondary school in 93 percent of cases, compared to 85 percent of households headed by self-employed individuals and 70 percent of households headed by employed individuals.

Isolation from district capital also has an impact on distance to secondary schools. All of the households located further away from the district capital, are at least 6 kilometres away from a secondary school. In contrast, a fifth of households located closer to the district capital are no more than 4 kilometres away from the nearest secondary school. Similar differences were found between households located closer to and further away from the centre of the EA.

Finally, households located in ethnically diverse areas are also closer to secondary schools. Nearly all (96 percent) households in homogeneous villages are located at least 6 kilometres away from a secondary school, compared to 77 percent of households in more fractionalised villages (Table 21).



**Table 21: Distribution of Households by Distance to the Nearest Secondary School
(in kilometres of travel) – Respondents' Estimates**

	Less than 1 km	1 to 1.9	2 to 2.9	3 to 3.9	4 to 5.9	6+	Share of population
Monduli District	0.6	4.8	2.8	2.5	5.1	84.2	100.0
Rural	0.0	2.1	0.8	2.7	1.7	92.6	85.0
Peri-urban	4.3	21.8	14.9	1.0	26.4	31.7	15.0
Poverty							
Non-poor	1.2	9.8	5.5	5.0	10.4	68.0	50.5
Poor	0.0	0.3	0.2	0.2	0.3	98.9	49.5
Household size							
1 to 2	0.0	2.3	5.0	9.9	7.2	75.6	3.0
3 to 4	0.9	4.3	6.5	1.9	9.0	77.4	27.0
5 to 6	0.0	4.5	1.7	1.1	4.4	88.3	38.2
7+	1.2	6.1	0.8	4.2	2.6	85.2	31.8
Socio-economic group							
Employed	1.9	6.9	9.5	0.6	10.9	70.3	12.4
Self-employed	0.5	4.5	1.9	3.1	4.7	85.3	77.0
Unemployed	0.0	5.0	0.0	0	1.9	93.1	10.6
Village Isolation							
Closer to district capital	0.5	9.4	5.3	4.8	9.9	70.1	51.9
Further from district capital	0.0	0.0	0.0	0.0	0.0	100	48.1
Household Isolation							
Closer to EA centre	0.5	8.9	5.1	2.8	6.4	76.2	49.5
Further from EA centre	0.0	0.9	0.5	2.2	3.9	92.5	50.5
Tribal Fractionalisation							
Low	0.0	0.0	0.6	3.2	0.5	95.7	39.0
High	1.0	7.9	4.1	2.0	8.1	76.9	61.0

4.4.2 Access

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

Table 22 below shows that across Monduli district, only 6 percent of secondary school age children have access to a secondary school. The difference in access rates between rural and peri-urban areas is large in magnitude (22 percentage points) but is not statistically significant.



The difference in access rates between poor and non-poor households, however, is statistically significant. Nearly 1 out of 10 individuals of secondary school age from non-poor households live within 30 minutes of travel from the nearest secondary school; among the same group from poor households this proportion is only 1 out of 50 individuals.

Across the socio-economic groups, children of secondary school age living in households headed by self-employed individuals were found to have the highest level of access; none of the households headed by unemployed individuals were located equally close to a secondary school.

As was the case with primary school access rates, girls of secondary school age are significantly more likely to have access to a secondary school than boys.

Secondary school age children who live nearer to the district capital appear to be over 3 times more likely to have access to a secondary school than those who live further, at 7 and 2 percent. This result, however, was not found to be statistically significant. There is an even greater and more significant disparity in access rates between secondary school individuals living closer to and further from the centre of the EA. While only half of a percent of individuals of secondary school age living further away from the centre, live within 30 minutes of travel from the nearest secondary school, this proportion is 20 times as high among individuals from households located closer to the centre of the EA.

Finally, while none of the individuals of secondary school age in homogeneous villages were found to have access to a secondary school, nearly a tenth (8 percent) of the same population live within 30 minutes of travel from the nearest secondary school in more diverse areas.

4.4.3 Enrolment

Gross and Net Enrolment Rates were much lower for secondary schools than for primary schools. At the time of the survey, only 6 percent of individuals of secondary school age were attending secondary schools in Monduli District (Table 22). All individuals attending secondary school made up a slightly higher proportion of individuals of secondary school age, at 7 percent. Enrolment rates were higher in peri-urban areas; this is consistent with the trends found in primary school enrolment rates. While in rural areas only 5 percent of individuals between the age of 14 and 19 were at secondary school, in peri-urban areas this proportion was 13 percent.

No individuals from poor households were found to be enrolled in secondary schools. While this result is likely to indicate a disparity between enrolment rates of individuals from poor and non-poor households, it should also be treated with caution due to the small size of the sample used (as discussed above). The Net and Gross Enrolment Rates among individuals from non-poor households were found to exceed the district average by roughly 5 percentage points.



Disaggregation of data by employment of household head shows that the only individuals from households headed by employed individuals were enrolled at secondary school. Enrolment rates in this group were drastically higher than the district average; both the GER and the NER were 50 percent.

The NER among females, at secondary school level, were found to be almost twice as high as that among males, at 7 and 4 percent respectively. A similar difference was observed between the female and male GER's.

Gross and Net Enrolment rates are significantly higher in areas closer to the district capital than those further away. Despite differences in access rates, however, disparity in enrolment rates among individuals living further and closer to the centre of the EA are not substantial. In contrast, the level of ethnic fractionalisation has a significant impact on enrolment rates. For instance, the proportion of secondary school age individuals attending secondary school in more fractionalised areas is nearly 4 times higher than then among the same population from more homogeneous areas, at 7 and 2 percent respectively.

Table 22: Secondary School Access and Enrolment Rates

	Access	Gross Enrolment	Net Enrolment
Monduli District	5.5	6.5	5.6
Rural	2.7	5.3	4.6
Peri-urban	24.5	14.6	12.5
Poverty			
Non-poor	8.7	12.8	11.1
Poor	2.3	0.0	0.0
Socio-economic group			
Employed	3.8	50.2	50.2
Self-employed	6.6	5.7	4.5
Unemployed	0.0	0.0	0.0
Gender			
Male	2.6	3.8	3.8
Female	7.8	8.5	7.0
Village Isolation			
Closer to district capital	7.4	12.0	10.3
Further from district capital	2.4	0.5	0.5
Household Isolation			
Closer to EA centre	9.8	7.8	5.9
Further from EA centre	0.5	5.4	5.4



	Access	Gross Enrolment	Net Enrolment
Ethnic Fractionalisation			
Low	0.0	2.4	2.4
High	8.4	8.6	7.2

4.4.4 Reasons for Non-attendance

Table 23 gives the reason for non-attendance among individuals of secondary school age. The non-attendance rate is defined as the proportion of individuals of secondary school age who had previously participated in formal education and had stopped attending school by the time of the survey. The reasons given indicate why individuals who had previously been formally educated had since stopped attending school; 43 percent of individuals of secondary school age fall into this category. Note that the sample size is small and many categories contain less than 10 observations.

Two thirds of secondary school age non-attendees, dropped out of school claiming that they were ‘too old’; this is the most common reason given for non-attendance. The second most common reason was failing an exam; nearly 1 in 5 (19 percent) gave this as a reason for leaving. The cost of school was mentioned as a contributing factor by 7 percent, while 6 percent had left school due to marriage. The rest of the categories were mentioned by a maximum of 5 percent of the reference population.

Table 23: Reasons for Non-Attendance by Age

		Non-attendance
Reference Population ¹		6,993
		42.5
Reasons not currently attending	Too old	4,587
		65.6
	Too expensive	517
		7.4
	Working (home/job)	205
		2.9
	Not interested/useless	364
		5.2
	Illness	156
		2.2
	Pregnancy	0
	0.0	
Failed exam	1,303	
	18.6	
Got married	443	
	6.3	
Other	301	
	4.3	

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



4.5 Monduli's Education Indicators in Context

It is difficult to evaluate education trends without a context. A comparison of the trends found in Monduli to similar areas is intended to provide this context. Table 24 shows the trends in main education indicators found in recent surveys. The indicators examined include adult literacy rate, proportion of adults who have had no formal schooling and Net Enrolment Rate at primary and secondary school levels. The surveys used for comparison include the *Household Budget Survey 2000/01*, and CWIQ Surveys conducted in the rural districts of Kagera and Shinyanga regions. These particular surveys were selected as they contain similar statistics on similar areas in Tanzania.

The results show that adult literacy in Monduli is lower than that found across the rural areas of Tanzania (HBS) and those found in Shinyanga and Kagera regions in particular. In fact, while in Monduli less than half of the adult population are able to read and write, in Kagera Rural, Shinyanga Rural and across rural areas as a whole, roughly two thirds of the adults are literate. In consistency with this trend, the proportion of adults with at least 1 year of education found in Monduli District is more than 20 percentage points lower than those found in other rural areas.

Net Enrolment Rates in Monduli are higher than those found in the HBS, at both primary and secondary school levels. At the time of the HBS Survey (2000/01) 56 percent of primary school aged children were in primary school across the rural areas of Tanzania. At the time of the Monduli CWIQ, this proportion was 65 percent across the district. However, trends in other rural areas that have been surveyed recently show that the increase in primary school NER there has been noticeably more substantial. In rural parts of both Shinyanga and Kagera regions, Net Enrolment Rates were found to have increased to roughly 76 percent. This drastic increase 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. It appears, therefore, that while primary school NER in Monduli has increased, the impact of implementation of the PEDP is not as noticeable here as it is in some other rural areas, such as Shinyanga and Kagera.

Table 24: Monduli's Education Indicators in Context of Rural Tanzania

	HBS – Rural Areas (2000/01)	Rural Shinyanga CWIQ (2004)	Kagera Rural CWIQ (2004)	Monduli CWIQ (2005)
Adult Literacy	67.0	66.0	69.6	44.6
Adults with at least one year of formal education	68.7	67.0	67.7	45.6
Primary NER	56.0	76.4	76.6	64.6
Secondary NER	2.3	6.5	4.4	5.6



5 HEALTH

5.1 Introduction

This chapter examines health indicators for the whole of the population in Monduli District. It is divided into five sections. To begin with, selected health indicators are examined for the whole population. 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 last; this group consists of ill individuals who had not consulted a health provider.

5.2 Selected Health Indicators

5.2.1 Distance to Equipped Health Services

A novel feature of the Monduli CWIQ is that GPS measurements of the nearest health facility with malaria testing facilities were collected. The table below shows the distribution of households in Monduli by distance to the nearest *equipped*¹⁶ health facility.

As can be seen from Table 25, half of the households in the district are located at least 6 kilometres from the nearest health facility. Less than a fifth (17 percent), are located within 1 kilometre, while over a quarter (28 percent) are less than 2 kilometres away. The proximity of households to health facilities was much higher in peri-urban than rural areas. More than 7 out of 10 peri-urban households are located less than 2 kilometres away from a health facility, compared to only 2 out of 10 rural households. Individuals from 60 percent of rural households have to travel at least 6 kilometres to reach a health facility; no peri-urban households are located this far.

The great majority (72 percent) of poor households are located 6 or more kilometres from the nearest health facility; the proportion of non-poor households in the same position is less than half of that, at 31 percent. The majority of non-poor households (58 percent) are located within 3 kilometres, compared to only a fifth of the poor households.

Disaggregation of the data by household size shows that households containing less than 3 members appear to be less likely to live within 1 kilometre of a health facility than

¹⁶ For the purposes of this report, a health facility is considered to be equipped if it has the capacity to test for malaria.



larger households. Larger households of over 6 members, on the other hand, tend to be located 6 or more kilometres away from health facility more than smaller households, at 59 percent.

Households with employed heads were found to have the best access to health facilities across the socio-economic groups; half of these households are located within 2 kilometres of a health facility. In contrast, households headed by unemployed individuals were found to have the worst access; 70 percent of these households are located 6 or more kilometres from the nearest equipped health facility.

The isolation of a household in the village is a more important determinant of distance to an equipped health facility than the isolation of the village itself. For example, the proportion of households living more than 6 kilometres from an equipped health facility does not differ greatly between villages further or nearer to the district capital, at 47 and 56 percent respectively. For a given village, however, one will find that only 28 percent of the households living close to the centre live more than 6 kilometres from the health facility, while 70 percent of the households living further away from the centre live more than 6 kilometres away. This suggests that Monduli's equipped health facilities display a reasonable geographic spread across villages, but fail to provide easy access to households that live in isolated areas within the village.

Households living in villages with low ethnic fractionalisation have noticeably worse access rates than those living in villages with high ethnic fractionalisation. In the latter, 26 percent of the households are only 1 kilometre away from the nearest equipped health facility and 35 percent are more than 6 kilometres away. In villages with low ethnic fractionalisation these numbers are 6 and 71 percent respectively.

Table 25: Distribution of Households by Distance to the Nearest Equipped Health Facility (GPS Measurements)

	Less than 1 km	1 to 1.9	2 to 2.9	3 to 3.9	4 to 5.9	6+	Share of population
Monduli District	16.9	11.4	10.9	5.0	5.0	50.8	100
Rural	14.4	6.5	8.6	5.6	5.4	59.6	85.3
Peri-urban	31.7	39.9	24.3	1.5	2.5	0.0	14.7
Poverty							
Non-poor	23.7	17.1	16.8	8.5	3.3	30.6	50.8
Poor	9.9	5.4	4.8	1.3	6.8	71.8	49.2
Household size							
1 to 2	3.9	21.5	15.6	8.5	0.0	50.5	3.0
3 to 4	17.6	14.0	12.8	9.8	5.0	40.8	27.0
5 to 6	18.0	15.3	7.6	2.3	5.8	51.0	37.9
7+	16.3	3.6	12.6	3.7	4.6	59.2	32.1



	Less than 1 km	1 to 1.9	2 to 2.9	3 to 3.9	4 to 5.9	6+	Share of population
Socio-economic group							
Employed	25.1	24.5	7.5	3.0	0.0	39.9	13.0
Self-employed	16.5	9.8	12.4	5.6	5.5	50.2	77.0
Unemployed	10.3	6.8	2.4	3.1	7.7	69.7	9.9
Village Isolation							
Closer to district capital	12.9	15.6	14.9	7.3	2.5	46.7	56.6
Further from district capital	22.2	5.9	5.6	1.9	8.3	56.2	43.4
Household Isolation							
Closer to centre of EA	21.7	19.6	19.4	7.2	3.7	28.4	46.4
Further from centre of EA	12.8	4.3	3.5	3.0	6.1	70.3	53.6
Ethnic Fractionalisation							
Low	5.9	3.8	5.3	3.7	9.8	71.4	43.7
High	25.5	17.3	15.2	6.0	1.3	34.8	56.3

5.2.2 Access to Health Services

A commonly used measure of access to health services is the respondent's self-reported time of travel to the health facility. This measure is more subjective than the GPS coordinates and leaves the mode transport, as well as the choice of the health facility open to the respondent.

As shown in Table 26, nearly a fifth (18 percent) of Monduli's households are located within 30 minutes of travel from the nearest health facility. The access rate is better in peri-urban areas, where it is 29 percent, compared to rural areas where it is 13 percentage points lower.

Non-poor households have only slightly higher access to health facilities than poor households, at 19 and 16 percent respectively. Similarly, at 1 percentage point, the difference in health facility access rates in male and female headed households is very small.

With access rates of around 17 percent, households with unemployed or self-employed household heads are worse off than those with employed household heads. The latter have an access rate of 23 percent.

Disaggregation of the data by age shows that the individuals with the highest level of access are those between the age of 50 and 64; over a fifth of this group live within 30 minutes of travel from a health facility. The lowest and the highest age groups have least access; less than 15 percent of individuals in these groups live in households that have access to health facilities.



Households located further away from the centre of the EA appear to have less access than the more centrally located ones, at 14 and 21 percent respectively. However, households located further away from the capital appear to have better access to health facilities than those closer to the capital, at 21 and 13 percent respectively. While these trends were observed in the data collected, they were not found to be statistically significant and may, therefore, be characteristic of the specific sample only.

Finally, access is substantially higher in more ethnically diverse areas, at 29 percent, than more homogeneous ones, where the access rate is only 7 percent.

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 4 weeks preceding the survey. It must be noted that need is based on self-reported occurrence of illness, rather than a diagnosis by a health professional.

A quarter of all individuals in Monduli district had been ill and required health services in the four weeks preceding the survey. The disparity between rates of need in rural and peri-urban areas was negligible.

Need was slightly higher among individuals from poor households, compared to non-poor, at 27 and 23 percent respectively. Although small, this difference is statistically significant and, therefore, characteristic of the population as a whole rather than just the specific sample.

Across socio-economic groups the need indicator varied from 24 percent in households headed by self-employed individuals to 29 percent in those headed by employed individuals. This may be due to the self-reported nature of illness, whereby the person himself is the judge of whether he was ill or not.

Although there was no difference in the incidence of illness between male and female headed households, the rate of illness was found to vary in different age groups. The elderly (65 years and above) required health services the most; in the 4 weeks preceding the survey, nearly half (45 percent) had been ill. The next highest incidence of illness was found among young children (under 5 years of age) and people between the age of 50 and 64; nearly a third of the individuals in these groups had been sick in the 4 weeks preceding the survey. Lowest rates of need were reported among children between 10 and 14 years of age; less than a fifth (18 percent) of this group had been ill in the specified time period.

While the location of the households in relation to the district capital does not have a significant impact on incidence of illness, and, therefore, rate of need, the location of the household in relation to the centre of the village does. As shown in Table 26, the proportion of individuals who had experienced illness in the 4 weeks preceding the



survey is 6 percentage points higher among those living further from the village centre than those living closer. The level of ethnic diversity within the village was not found to have any impact on rates of need.

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 4 weeks preceding the survey regardless of their health status.

The results show that 15 percent of the population of Monduli district consulted health service providers in the 4 weeks preceding the survey. The rate of need was over 10 percentage points higher than the rate of use. A slightly higher proportion of people from peri-urban areas consulted health services than those from rural areas, at 18 and 14 percent respectively.

In consistency with the finding that sickness was more prevalent among individuals from poor households, the rates of use in this group was 2 percentage points higher than that among individuals from non-poor households, at 16 and 14 percent respectively. A similar difference was found in the rates of use between male and female headed households, at 15 and 13 percent respectively.

Across socio-economic groups there is little difference in the discrepancy between need and use. In all three categories the rate of use is below that of need.

One fifth of toddlers (under 5 years of age) and the elderly (over 65 years of age) had been to see a health provider in the 4 weeks preceding the survey. At 8 percent, the lowest rates of use were found among children between the age of 10 and 14. The rate of need for health services was roughly 10 percentage points higher than the rate of use in most age groups. This gap increases in the older age groups (50 years old and above) to over 15 percentage points.

Rates of use were found to be slightly higher among individuals living in more isolated households. 16 percent of individuals living in households isolated from the district capital had used a health provider in the 4 weeks preceding the survey, compared to 14 percent of individuals from less isolated households. The same rates of use were found among individuals from households located further and closer to the village centre and a similar one in more and less ethnically diverse villages.

5.2.5 Satisfaction

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



More than half (57 percent) of those who had used health services were satisfied. Patients from peri-urban areas appeared to be more satisfied with the health service received than those from rural areas, at 64 percent and 56 percent of the respective health facility users.

Patients from non-poor households were noticeably more satisfied than those from poor households. The rates of satisfaction between the two groups differed by 10 percentage points, at 63 and 53 percent respectively.

Satisfaction rates were clearly higher for individuals living in households with unemployed heads. However, one must be careful in the interpretation of this result as at this level of disaggregation sample size becomes quite small.

Members of female headed households were slightly more satisfied with the health service received than those of male headed households. Over three quarters of individuals between the ages of 50 and 64 years cited no problems with the health service they received; this is the most satisfied group. Satisfaction in the other age-groups ranged from 50 to 60 percent.

At both village and district levels individuals who had used a health service from more isolated households appear to have been less satisfied than those from less isolated households. While nearly 2 out of 3 patients who lived close to the district capital were satisfied, this was the case among only about half of the patients from households located further from the capital. This disparity is even greater at village level. Less than half (47 percent) of health facility users living further away from the village centre cited no problems with the service provided, compared to 68 percent of individuals who live closer. In contrast, the level of ethnic fractionalisation within the village appears to have little impact on satisfaction rates; while in more diverse villages the satisfaction rate was 56 percent, it was only slightly higher in more homogeneous areas, at 60 percent.

**Table 26: Selected Health Indicators**

	Access ¹ Reports living within 30 minutes from health facility	Need ¹ Has been sick in past four weeks	Use ¹ has used a health facility in past 4 weeks	Satisfaction ² has used a health facility and was satisfied with it
Monduli District	36,214	51,976	30,744	17,591
	17.5	25.1	14.8	57.2
Rural	28,122	44,671	25,741	14,385
	15.7	25.0	14.4	55.9
Peri-urban	8,092	7,305	5,003	3,207
	28.6	25.8	17.7	64.1
Poverty				
Non-poor	18,950	22,467	13,383	8,414
	19.4	23.0	13.7	62.9
Poor	17,264	29,510	17,361	9,177
	15.7	26.9	15.8	52.9
Socio-economic group				
Employed	5,836	7,327	5,459	2,761
	22.9	28.8	21.4	50.6
Self-employed	26,524	38,423	21,348	11,686
	16.7	24.2	13.4	55
Unemployed	3,855	5,866	3,577	3,071
	17.3	26.4	16.0	85.9
Gender of household head				
Male	33,738	48,274	28,826	16,425
	17.5	25.1	15.0	57.0
Female	2,477	3,703	1,917	1,166
	16.6	24.8	12.8	60.8
Age				
0 to 4	4,596	10,487	6,674	3,853
	13.7	31.6	19.9	57.7
5 to 9	6,694	6,711	3,806	1,773
	19.6	19.7	11.2	46.6
10 to 14	4,896	4,890	2,508	1,305
	18.0	18.0	9.2	52.0
15 to 29	8,707	10,718	6,681	3,692
	16.9	20.8	12.9	55.3
30 to 49	7,040	10,307	6,771	4,156
	18.8	27.5	18.1	61.4
50 to 64	2,730	4,049	1,914	1,436
	21.0	31.2	14.8	75.0



	Access ¹ Reports living within 30 minutes from health facility	Need ¹ Has been sick in past four weeks	Use ¹ has used a health facility in past 4 weeks	Satisfaction ² has used a health facility and was satisfied with it
65+	1,552 14.6	4,815 45.3	2,390 22.5	1,375 57.5
Village Isolation				
Closer to district capital	14,398 13.6	25,552 24.1	14,470 13.7	9,113.90 63.0
Further from district capital	21,093 21.0	25,896 25.9	15,745 15.7	7,948.70 50.5
Household Isolation				
Closer to centre of EA	21,704 21.2	22,657 22.2	13,889 13.5	9,433 67.9
Further from centre of EA	13,787 13.3	28,791 27.8	16,327 15.7	7,630 46.7
Ethnic Fractionalisation				
Low	5,975 7.3	20,617 25.1	10,847 13.2	6,449 59.5
High	30,239 24.1	31,359 25.1	19,897 16	11,143 56

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

Disaggregation of the health data by illness is shown in Table 27. Illnesses reported by individuals who had been sick in the 4 weeks preceding the survey were categorised into three groups. The first of these groups contains those who had suffered from Fever/Malaria or Diarrhoea, the second is made up of sufferers of chronic disorders, while the third contains those complaining of more common and often less serious health problems, such as accidents, injuries, dental problems, skin conditions, eye problems, and ear nose and throat problems. As can be seen, the majority of those who had been ill in the 4 weeks preceding the survey had suffered from Fever/Malaria/Diarrhoea. This category contains over two thirds (67 percent) of the sick population. Chronic disorders were least widespread; out of nearly 52,000 people who had been sick, only just over 7,000 suffered from a chronic condition. Other disorders, such as dental problems, ear nose and throat problems etc. were identified by nearly a third of those who had been sick in the specified time-period.



Malaria, fever and diarrhoea were equally widespread in rural and peri-urban areas. Chronic disorders, however, appear to be much more common among residents of peri-urban areas, a quarter of whom suffered from such conditions, compared to individuals from rural areas, among whom this proportion was only 12 percent. In contrast, more minor illnesses affected twice as high a proportion of rural residents as peri-urban ones.

Household poverty status and individuals' gender do not appear to have an impact on the types of illnesses suffered. Hence, the proportions of individuals from poor and non-poor households suffering from each of the illnesses do not differ by more than 5 percentage points. In the case of the sick men and women this difference is even smaller, not exceeding 2 percentage points.

Disaggregation of the data by age, however, does suggest that types of illness suffered differ by age-group. There appears to be a negative relationship between age and incidence of malaria, and other illnesses with symptoms of fever and diarrhoea. While more than 4 out of 5 small children (under the age of 5) who had been ill in the 4 weeks preceding the survey had suffered from fever/malaria/diarrhoea, less than half of ill individuals over the age of 65 complained of the same ailment. The data suggests that while incidence of malaria and other illnesses with similar symptoms decreases with age, that of chronic disorders increases drastically. The increase in incidence of chronic disorders is particularly noticeable between the 30 to 49, 50 to 64 and 65+ age-groups. Only 18 percent of illnesses reported by individuals between the ages of 30 and 49 were associated with chronic conditions; in the 65+ group this proportion increases almost three-fold. Health problems categorised as other appear to equally affect individuals from all age-groups. There is little variation in rates of incidence of this type of illnesses

Types of illness suffered appear to differ more by how far individuals live from the district capital, than from the sub-village centre. While Malaria/Fever/Diarrhoea appears to be a more common affliction among residents of areas closer to the district capital, disorders categorised as 'Other' (skin condition, ear, nose and throat problems, etc) are much more common in areas further away from the capital. In fact, the proportion of ill individuals complaining of illness from this category from more isolated areas is more than 1.5 times bigger than that of individuals from less isolated areas, at 39 and 23 percent respectively. Finally, types of illnesses suffered are very similar in more and less ethnically diverse areas.

**Table 27: Type of Illness**

	Fever/Malaria/ Diarrhoea	Chronic Condition	Other ¹	Share of Population
Monduli District	34,695	7,288	16,429	51,976
	66.8	14.0	31.6	100.0
Rural	29,702	5,410	15,164	44,671
	66.5	12.1	33.9	85.9
Peri-urban	4,993	1,878	1,265	7,305
	68.4	25.7	17.3	14.1
Poverty				
Non poor	15,338	3,464	6,399	22,467
	68.3	15.4	28.5	43.2
Poor	19,357	3,824	10,030	29,510
	65.6	13.0	34.0	56.8
Gender				
Male	16,590	3,515	7,485	24,331
	68.2	14.4	30.8	46.8
Female	18,105	3,773	8,944	27,646
	65.5	13.6	32.4	53.2
Age				
0 to 4	8,488	215	3,107	10,487
	80.9	2.0	29.6	20.2
5 to 9	4,863	502	2,306	6,711
	72.5	7.5	34.4	12.9
10 to 14	3,478	0	1,643	4,890
	71.1	0.0	33.6	9.4
15 to 29	6,396	1,003	4,486	10,718
	59.7	9.4	41.9	20.6
30 to 49	7,066	1,860	2,127	10,307
	68.6	18.0	20.6	19.8
50 to 64	2,181	1,227	1,098	4,049
	53.9	30.3	27.1	7.8
65+	2,223	2,481	1,661	4,815
	46.2	51.5	34.5	9.3
Village Isolation				
Closer to district capital	18,501	3,959	5,928	25,552
	72.4	15.5	23.2	49.7
Further from district capital	16,029	3,135	10,176	25,896
	61.9	12.1	39.3	50.3



	Fever/Malaria/ Diarrhoea	Chronic Condition	Other ¹	Share of Population
Household Isolation				
Closer to centre of EA	14,597	3,076	7,321	22,657
	64.4	13.6	32.3	44.0
Further from centre of EA	19,933	4,018	8,782	28,791
	69.2	14.0	30.5	56.0
Ethnic Fractionalisation				
Low	14,421	2,829	6,144	20,617
	69.9	13.7	29.8	39.7
High	20,274	4,459	10,285	31,359
	64.7	14.2	32.8	60.3

¹ Other category includes: Accident, dental problem, skin condition, eye problems, and ear nose and throat problems. Disaggregation of the non-use data by each of these is impossible due to sample size constraints

5.4 Type of Health Care Provider

The Monduli CWIQ survey also collected information on the use of public and private health care facilities, as well as pharmacies and traditional healers. Public health care facilities include government and regional hospitals and health posts. Private health care providers include private hospitals, private doctors/dentists, and missionary hospitals.

Amongst those who had been sick and consulted a health provider in the 4 weeks preceding the survey, the majority (65 percent) had visited a public health facility. Private facilities were the second most commonly used type; one fifth of those who had been ill and used health services visited private health facilities. Only a small fraction of those who were ill attended a pharmacy (10 percent) or sought health care from a traditional healer (5 percent).

Public health providers were the most widely used health service among residents of both rural and peri-urban areas. The proportion of the reference population using public health facilities in rural areas, however, was substantially bigger than that in peri-urban areas, at 69 percent and 44 percent respectively. Private health service providers were the second most commonly used type of health facilities among the rural population. In peri-urban areas, use of private health facilities was as widespread as use of pharmacies. While traditional healers had been consulted by nearly 1,500 individuals in rural areas, no one in peri-urban areas from the reference population, had used this health care provider.

More than three quarters of the reference population from poor households had visited a public health care provider; in contrast, among individuals from non-poor households this proportion was much lower, at 49 percent. Traditional Healers were also a more popular



choice of health care provider among individuals from poor households compared to non-poor, at 7 and 2 percent respectively. Use of pharmacies and private health care facilities, on the other hand was more widespread among individuals from non-poor households. For instance, at 20 percent, the proportion of pharmacy users among individuals from non-poor households is 10 times greater than that among individuals from poor households (2 percent).

Public health care providers were the most popular choice across all socio-economic groups. However, there is a substantial disparity between the proportions of individuals from the unemployed and employed groups consulting this health care provider, at 81 and 57 percent respectively. Private facilities are used most by individuals from households with employed household heads followed by those from households headed by self-employed individuals. Individuals in the latter group also use pharmacies and traditional healers more than those from the other two groups, at 12 and 6 percent respectively.

The rate of use of private health facilities, such as missionary hospitals, and pharmacies decreases with increasing isolation at both district and village level. For instance, among individuals living closer to the sub-village centre, a third of health facility users had used a private hospital, compared to less than a tenth (8 percent) among those who lived further away from the centre. The use of public facilities and traditional healers, however, is more widespread in more isolated areas, again, both at village and district level. While roughly half of households from the reference population, located close to the district capital, had used public health facilities, in households located further from the district capital this was the chosen health facility in 78 percent of the cases.

Individuals living in more ethnically diverse areas are more likely to use pharmacies and public health facilities than those from more homogeneous villages, who, on the other hand, consult traditional healers 5 times as much as those in the former group.

**Table 28: Type of Health Provider Used**

	Private	Public	Traditional	Pharmacy	Other	Share of Population
Monduli District	5,867	19,257	1,429	2,893	147	29,593
	19.8	65.1	4.8	9.8	0.5	100.0
Rural	4,692	17,439	1,429	1,751	147	25,458
	18.4	68.5	5.6	6.9	0.6	86.0
Peri-urban	1,175	1,818	0	1,142	0	4,135
	28.4	44.0	0.0	27.6	0.0	14.0
Poverty						
Non-poor	3,602	6,120	191	2,543	39	12,495
	28.8	49.0	1.5	20.4	0.3	42.2
Poor	2,266	13,137	1,238	350	108	17,098
	13.3	76.8	7.2	2.0	0.6	57.8
Socio-economic group						
Employed	1,019	2,040	108	303	108	3,577
	28.5	57.0	3.0	8.5	3.0	12.7
Self-employed	4,207	13,013	1,189	2,519	39	20,967
	20.1	62.1	5.7	12.0	0.2	74.7
Unemployed	464	2,848	132	71	0	3,514
	13.2	81.0	3.8	2.0	0.0	12.5
Village Isolation						
Closer to district capital	3,809	6,698	467	2,481	147	13,603
	28.0	49.2	3.4	18.2	1.1	46.8
Further from district capital	1,796	12,371	884	412	0	15,462
	11.6	80.0	5.7	2.7	0.0	53.2
Household Isolation						
Closer to centre of EA	4,357	6,484	525	1,531	39	12,936
	33.7	50.1	4.1	11.8	0.3	44.5
Further from centre of EA	1,248	12,585	827	1,362	108	16,129
	7.7	78.0	5.1	8.4	0.7	55.5
Ethnic Fractionalisation						
Low	2,406	6,606	1,079	580	147	10,817
	22.2	61.1	10.0	5.4	1.4	36.6
High	3,462	12,651	351	2,313	0	18,776
	18.4	67.4	1.9	12.3	0	63.4



5.5 Dissatisfaction with Health Providers

An individual is classed as being dissatisfied with health services he/she receives if, having used the services, he/she cites one or more problems with them. The satisfaction rates (Table 26) and dissatisfaction rates (Table 29) add up to 100 percent as the population under consideration in both cases consists of individuals who had used a health provider 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, 43 percent of those who had consulted a health provider expressed dissatisfaction with the service received.

The population of dissatisfied health service users can be further categorised by reasons for dissatisfaction into four groups. The first of these groups - 'Facilities', contains those complaining about long waits / low levels of hygiene. Individuals dissatisfied with the cost of health services constitute the second group - 'Cost'. Those who had mentioned shortages of trained professional and unsuccessful treatment were allocated to the third group - 'Service'. Finally complaints regarding lack of supplies and medication were combined into the fourth group - 'Lack of supplies'.

Over half (56 percent) of dissatisfied health service users cited lack of supplies as a reason for dissatisfaction. Similarly, nearly half of the reference population complained about the condition of the facilities (48 percent). Another common problem highlighted by over a third (36 percent) of the dissatisfied health service users was cost. Service related problems were cited by 23 percent of the reference population.

In peri-urban areas, dissatisfaction with health facilities was more of a problem than in rural areas. 71 percent of dissatisfied individuals in peri-urban areas found the facilities inadequate. This proportion was nearly twice as high as that in rural areas, where 44 percent had similar complaints. The most common issue among dissatisfied individuals in rural areas was lack of supplies; over half cited this problem (56 percent). In peri-urban areas the proportion of individuals with similar complaints constituted nearly the same proportion of the reference population, at 58 percent. Cost and service related issues were much more problematic for dissatisfied health facility users from rural areas, compared to those from peri-urban areas.

Proportions of dissatisfied users complaining about cost and lack of supplies were very similar between groups from poor and non-poor households. Over 1 in 3 dissatisfied individuals in both groups cited cost and over half mentioned lack of supplies. Facilities, on the other hand, were more of a problem among individuals from non-poor households. 3 out of 5 dissatisfied individuals from these households mentioned facility related problems, while only 2 out of 5 people from poor households cited the same problem. In contrast, problems concerning service were more widespread among dissatisfied users from poor households (25 percent) than those from non-poor households (19 percent).

More than half, (57 percent) of people from households headed by employed individuals cited facility related issues as a reason for dissatisfaction; this is the most commonly



mentioned problem within the group. In contrast, health service users from households headed by unemployed individuals, were least concerned about the facilities. Quality of services and lack of supplies were the most commonly felt problems in this group. Finally, individuals from households headed by self-employed individuals were most concerned about the condition of the facilities, as well as lack of supplies, 48 and 60 percent of dissatisfied users from the group mentioned these issues, respectively.

Male and female health facility users were equally dissatisfied with the services received; the dissatisfaction rate in both groups was 43 percent. Compared to men, women were more concerned about the state of the facilities (waiting time and hygiene levels). Men, on the other hand, were much more unhappy about the cost of health services than women; only 29 percent of dissatisfied female health facility users found the cost problematic, compared to 43 percent of men.

The results show that individuals using public health providers were by far the most dissatisfied health facility users. Dissatisfaction rates among users of private health facilities, traditional healers and pharmacies did not exceed 20 percent; among users of public facilities this proportion was 54 percent. The second most dissatisfied group of health facility users consisted of patients of Traditional Healers; nearly a fifth (17 percent) of these individuals were dissatisfied. Public health facility users were mainly dissatisfied with the condition of facilities, as well as, lack of supplies; 49 and 64 percent of them cited these problems, respectively. Facilities were also the predominant issue among users of private health facilities; 52 percent of this group cited the issue. Service received (lack of qualified professionals and unsuccessful treatment) was the only concern among dissatisfied patients of Traditional Healers, as was cost among pharmacy users.

Individuals living in areas more isolated from the district capital, as well as those more isolated from the sub-village centre were noticeably more dissatisfied with the health services received. In both groups, cost and service received were more of an issue than among individuals living closer to the district capital and sub-village centres. The conditions of facilities, however, appeared to be more of a concern among dissatisfied users living closer to the sub-village centre, than those located further away; while 3 out of 5 individuals from less isolated households cited this as an issue, only 2 out of 5 individuals from more isolated households did so. The cost of medical service was more of a problem with individuals living in households further from the capital, 41 percent of the dissatisfied users cited the problem compared to only 29 percent from those who lived nearer. The proportion of dissatisfied users citing problems with service was almost 3 times greater among individuals living further from the district capital.

Dissatisfaction among individuals from more fractionalised areas was higher than that among individuals from more ethnically homogeneous villages in every complaint category, as was the overall dissatisfaction rate.

**Table 29: Reasons for Dissatisfaction with Health Services**

	Dissatisfaction	<i>Reasons for Dissatisfaction¹</i>			
		Facilities	Cost	Service	Lack of supplies
Monduli District	13,152	6,285	4,717	2,991	7,347
	42.8	47.8	35.9	22.7	55.9
Rural	11,356	5,009	4,438	2,751	6,311
	44.1	44.1	39.1	24.2	55.6
Peri-urban	1,796	1,277	279	241	1,036
	35.9	71.1	15.5	13.4	57.7
Poverty					
Non-poor	4,969	2,978	1,781	921	2,746
	37.1	59.9	35.8	18.5	55.3
Poor	8,184	3,307	2,936	2,071	4,601
	47.1	40.4	35.9	25.3	56.2
Socio-economic group					
Employed	1,844	1,576	575	1,473	1,370
	44.1	56.9	20.8	53.1	49.5
Self-employed	9,661	4,589	3,674	1,266	5,724
	45.3	47.9	38.3	13.2	59.7
Unemployed	505	120	181	253	253
	14.1	23.8	35.8	50.0	50.0
Gender					
Male	6,689	2,965	2,857	1,551	3,862
	42.9	44.3	42.7	23.2	57.7
Female	6,463	3,321	1,861	1,441	3,485
	42.7	51.4	28.8	22.3	53.9
Type of provider					
Private	2,198	1,138	610	477	579
	7.1	51.8	27.8	21.7	26.3
Public	10,545	5,147	3,970	2,241	6,768
	53.6	48.8	37.6	21.3	64.2
Traditional	273	0	0	273	0
	17.3	0.0	0.0	100.0	0.0
Pharmacy	137	0	137	0	0
	4.7	0.0	100.0	0.0	0.0
Village Isolation					
Closer to district capital	5,356	2,578	1,531	560	2,868
	37.0	48.1	28.6	10.5	53.6
Further from district capital	7,796	3,708	3,186	2,431	4,478
	49.5	47.6	40.9	31.2	57.4



	Dissatisfaction	<i>Reasons for Dissatisfaction¹</i>			
		Facilities	Cost	Service	Lack of supplies
Household Isolation					
Closer to centre of EA	4,456	2,731	1,310	601	13,889
	32.1	61.3	29.4	13.5	46.0
Further from centre of EA	8,697	3,554	3,407	2,390	16,327
	53.3	40.9	39.2	27.5	54.0
Ethnic Fractionalisation					
Low	4,399	1,459	1,330	792	1,799
	40.5	33.2	30.2	18.0	41.0
High	8,754	4,826	3,387	2,200	5,547
	44	55.1	38.7	25.1	63.4

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 Ill¹⁷*

In addition to data on health status and health facility use, the Monduli District CWIQ provides information regarding those who identified themselves as having been ill in the 4 weeks preceding the survey, but had not consulted a health provider. Nearly half (46 percent) of individuals reporting illness fit into this category. There appears to be a slightly higher proportion of ill individuals not consulting a health provider in rural areas than peri-urban ones.

Cost is the most common reason given for non-consultation in Monduli district, 46 percent of the reference population cited cost as a reason for not consulting a health provider when ill. The distribution of reasons given by individuals living in rural areas was similar to that of the entire Monduli district; people from peri-urban areas gave different reasons. While cost was cited equally often in rural and peri-urban areas, half of peri-urban non-users claimed that they had not consulted a health professional because they thought that there was no need to do so, compared to 36 percent of rural non-users. Distance to health facilities was not a deterrent to health facility use in peri-urban areas. In rural areas, however, this was the reason for non-use for over a third (36 percent) of the reference population.

Rates of non-use were almost equal between individuals from poor and non-poor households. A number of differences are, however, observable in the reasons for non-use between the two groups. Distance to health facilities was substantially more of a deterrent to health facility use among individuals from poor households; in fact the proportion of non-users from poor households citing distance as a reason was more than twice as high as that among individuals from non-poor households, at 42 and 16 percent respectively. Lack of need, on the other hand, deterred a noticeably higher proportion of

¹⁷ The population discussed in this section consists of individuals who had not consulted a formal health provider *or* traditional healer despite having been ill.



people from non-poor households than those from poor households, at 49 and 29 percent respectively.

The distribution of reasons for non-consultation did not vary much across the different socio-economic groups, with the exception of one trend. While the variation in proportions of individuals from different groups referring to lack of need and cost as reasons for non-use of health facilities in time of illness did not exceed 10 percentage points, the variation in proportions of individuals referring to distance was substantially greater. Distance served as a deterrent to health facility use for roughly a third of non-users from households headed by self-employed and unemployed individuals. Distance does not, however, appear to be an obstacle to health facility use among individuals from households headed by employed persons; only 3 percent of non-users in this group mentioned distance as a reason for non-use.

A higher proportion of female non-users did not visit a health facility when sick than men, at 50 and 42 percent respectively. Men appeared to be more concerned with long distances to health facilities and costs than women.

Disaggregated of the non-users by type of illness shows that the cost of services was the most dominant reason for non-use among those suffering from fever/malaria/diarrhoea and chronic conditions. Meanwhile, lack of need was the main reason why people with other disorders, such as skin, dental, ear, nose and throat problems etc. did not seek medical advice; 43 percent of people in this group explained non-use with lack of need, compared to 34 and 37 percent of, respectively, sufferers of malaria/fever/diarrhoea and chronic conditions.

Non-consultation rates were higher among individuals living in villages closer to the district capital, compared to those located further away, at 47 and 40 percent respectively. In households located in villages close to the capital, cost was by far the main deterrent to health facility use, cited by roughly half (49 percent) of the non-users. In areas further away from the capital, lack of need and cost were equally problematic, with distance posing less of a problem.

Rates of non-use did not vary substantially between groups of individuals living further away from and closer to the sub-village centre. Individuals in the former group cited cost more than any other reason as a deterrent to health facility use; this is also the case in the latter group. Distance was found to be more of an obstacle in more remote parts of the villages; hence more than a third (35 percent) of non-users from more remote locations referred to this issue, compared to a quarter of individuals living more centrally.

Individuals living in more homogenous villages appear to be more likely to not consult a health provider in time of illness. Non-consultation rate in this group was 48 percent, compared to 40 percent among ill individuals from more diverse areas. In less fractionalised areas, individuals claim to be unable to use health facilities due to the cost and the distance; lack of need was referred to by a less than a quarter (23 percent) of the



reference population. In contrast, lack of need is the main reason why non-users from more mixed areas do not consult health providers in time of illness.

Table 30: Reasons for Not Consulting a Health Provider When Ill

	Reference population ¹	<i>Reasons for not consulting health professional when ill²</i>		
		No Need	Cost	Distance
Monduli District	23,812	8,429	10,367	6,829
	45.8	37.7	46.3	30.5
Rural	20,643	6,813	8,884	6,829
	46.2	35.5	46.2	35.5
Peri-urban	3,170	1,616	1,483	0
	43.4	51.0	46.8	0.0
Poverty				
Non-poor	10,163	4,886	4,310	1,582
	45.2	49.0	43.2	15.9
Poor	13,649	3,543	6,057	5,248
	46.3	28.6	48.8	42.3
Socio-economic group				
Employed	2,026	866	830	64
	36.9	45.1	43.3	3.3
Self-employed	18,645	6,439	7,910	5,721
	48.5	36.9	45.3	32.8
Unemployed	2,484	949	1,034	806
	42.3	40.4	44.0	34.2
Gender				
Male	10,102	3,542	4,856	3,132
	41.5	37.3	51.2	33.0
Female	13,710	4,887	5,511	3,698
	49.6	37.9	42.7	28.7
Type of sickness/injury				
Fever/Malaria/Diarrhoea	16,006	5,155	7,520	5,089
	46.1	33.9	49.4	33.4
Chronic condition	3,474	1,248	1,775	1,033
	47.7	37.2	52.9	30.8
Other	6,247	2,409	1,788	1,215
	38.0	43.3	32.2	21.9
Village Isolation				
Closer to district capital	11,949	3,747	5,822	3,591
	46.8	31.4	48.7	30.1
Further from district capital	10,434	4,682	4,545	3,238
	40.3	44.9	43.6	31.0
Household Isolation				
Closer to centre of EA	10,246	3,116	4,385	2,437
	45.2	32.0	45.1	25.1
Further from centre of EA	13,488	5,313	5,982	4,393
	46.8	42.0	47.2	34.7



	Reference population ¹	<i>Reasons for not consulting health professional when ill²</i>		
		No Need	Cost	Distance
Ethnic Fractionalisation				
Low	9,801	2,256	5,457	4,515
	47.5	23.0	55.7	46.1
High	12,583	6,173	4,910	2,314
	40.1	49.1	39.0	18.4

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 Village Health Workers

Monduli District CWIQ collected information on Village Health Workers (VHWs). VHWs are individuals appointed, in some manner, by the village to provide medical assistance to the villagers. VHWs often have no formal medical training, although some initiatives have been implemented to provide some basic training.

It was found that there are very few villages in the district that have a VHW. In fact, out of the 24 surveyed villages¹⁸, only 5 rural villages had a VHW. As shown in Table 31, only 16 percent of the Monduli population are living in villages that have a VHW. None of these individuals live in urban areas; they make up nearly a fifth (18 percent) of all residents of rural areas. The proportion of non-poor individuals living in villages with a VHW is slightly lower than that of poor people, at 14 and 17 percent respectively. A much greater difference was found between areas located further from and closer to the district capital. In fact, over a quarter of individuals (29 percent) living in close proximity to the district capital have a VHW in their villages; among individuals living further away from the capital, this proportion is nearly 15 times smaller, at 2 percent. Finally, VHWs were only found in less fractionalised villages. In fact, two fifths of individuals living in more homogeneous villages had a VHWs in their village.

As can be seen, VHWs are not common in Monduli District. It also appears, however, that those present are not very active. Only 13 percent of individuals living in villages that have a VHWs, were aware of his/her presence. Awareness was noticeably higher among individuals from non-poor households; 22 percent of this group knew that there was a VHW in their village, compared to only 6 percent of individuals from poor households. Awareness was also slightly higher among individuals living in areas close to the district capital than those living further away.

¹⁸ 30 Enumeration Areas were surveyed. These Enumeration Areas were sub-villages. Consequently, while 30 sub-villages were surveyed, they were located in 24 villages. VHW data was collected at village level, hence, discussion of the results refers to 24 villages.

**Table 31: Presence and Awareness of Village Health Workers**

	Proportion of Households Located in Areas with a VHW	Proportion of Households Living in a village with a VHW that are aware of the VHW's presence	Share of Population
Monduli District	15.7	12.7	100.0
Rural	18.2	12.7	86.4
Peri-urban	0.0	0.0	13.6
Poverty			
Non-poor	14.4	21.5	47.0
Poor	16.9	6.0	53.0
Village Isolation			
Closer to district capital	28.6	13.0	51.4
Further from district capital	2.3	9.0	48.6
Ethnic Fractionalisation			
Low	39.7	12.7	39.7
High	0.0	0.0	60.3

5.8 Bed Nets

Another new variable collected as part of the Monduli CWIQ is use of bed nets. Each individual was asked if he/she slept under a bed net the night preceding the survey. Results show that less than a fifth (18 percent) of people in the district sleep under a bed net. There is a significant difference in rates of bed net use in rural and peri-urban areas. In fact, the proportion of individuals using bed nets in rural areas is more than 8 times smaller than that in peri-urban areas, at 9 and 74 percent respectively.

Similarly, bed net use is significantly more widespread among individuals from non-poor households than poor. More than 1 in 3 individuals (37 percent) from non-poor households had slept under a bed net the night before the survey, among poor people this proportion was only 1 percent.

Bed net use is most widespread in households headed by employed persons, where 35 percent of individuals sleep under bed nets. This proportion is twice as low among individuals living in households headed by self-employed individuals, at 17 percent, and 6 times as low in households headed by unemployed persons.

Literacy has a significant impact on bed net use. Literate individuals are more than 6 times more likely to sleep under a bed net than illiterate individuals. While the rate of bed net use in the former group is 37 percent, in the latter group it is only 6 percent.



Results of the survey further indicate that older people are less likely to sleep under bed nets than younger people. While this result is not statistically significant, it is true of this sample. Roughly a fifth of all individuals between the ages of 15 and 64 sleep under bed nets, compared to 13 percent of the oldest group (65+).

The level of isolation, both from district capital and sub-village centre was found to have an impact on bed net use. In fact, at 3 percent the proportion of individuals using bed nets in areas further away from the capital, is nearly 11 times smaller than that of individuals using bed nets in more nearby areas (32 percent). Although this disparity is smaller between individuals from households located closer to and further from the centre of the sub-village, the rate of bed net use in the former group is, nevertheless, 3 times higher than in the latter.

Finally, bed net use was found to be significantly more widespread in more diverse villages. Only 3 percent of individuals from homogenous villages had slept under a bed net the night preceding the survey; in more fractionalized areas this proportion was more than 9 times as high, at 28 percent.

**Table 32: Proportion of Individuals Sleeping Under Bed Nets**

	Proportion of Individuals Using Bed Nets	Share of Population
Monduli District	18.2	100.0
Rural	9.4	86.3
Peri-urban	73.6	13.7
Poverty		
Non-poor	37.1	47.1
Poor	1.4	52.9
Socio-economic group		
Employed	35.0	12.3
Self-employed	17.3	76.9
Unemployed	4.8	10.7
Literacy		
Literate	36.5	42.7
Non-literate	6.0	56.9
Age		
0 to 15	18.2	45.6
15 to 64	18.8	49.3
65+	12.9	5.1
Village Isolation		
Closer to district capital	31.7	51.4
Further from district capital	3.1	48.6
Household Isolation		
Closer to centre of EA	27.1	49.6
Further from centre of EA	8.7	50.4
Ethnic Fractionalisation		
Low	2.7	39.7
High	28.4	60.3

