

**POVERTY ESCAPE ROUTES IN
CENTRAL TANZANIA:
COPING STRATEGIES IN
SINGIDA AND DODOMA
REGIONS**

VOL II

By
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LIST OF ACRONYMS

AFNET	Anti-Female Genital Mutilation Network
AMSDP	Agricultural Marketing System Development Program
ATTT	Association of Tanzania Tobacco Traders
BCU	Biharamulo Cooperative Union
CBO	Community Based Organizations
CSOs	Civil Service Organizations
FGD	Focus Group Discussion
HBS	Household Budget Survey
HDI	Human Development Index
HIPC	Highly Indebted Poor Countries
HPI	Human Poverty Index
ITI	International Trachoma Initiative
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMA	Mixed Method Approach
NPES	National Poverty Eradication Strategy
NSGRP	National Strategy for Growth and Reduction of Poverty
OLS	Ordinary Least Square
PEDP	Primary Education Development Plan
PLHA	People Living with HIV/AIDS
PRSP	Poverty Reduction Strategy Paper
SACCOS	Savings and Credit Cooperative Societies
SAFE	Surgery, Antibiotics, Facial Cleanliness and Environment
TASAF	Tanzania Social Action Fund
TCRS	Tanzania Christian Refugees Services
THIS	Tanzania HIV Indicators Survey
TLTC	Tanzania Leaf Tobacco Company
TLU	Tropical Livestock Units
TzPPA	Tanzania Participatory Poverty Assessment
URT	United Republic of Tanzania
VEO	Village Executive Officer

ABSTRACT

This report is organized into three volumes as follows: Volumes I and II examines Poverty Escape Routes and Factors Affecting Mobility in Singida and Dodoma regions respectively, whereas Volume III is about Coping Strategies in Singida and Dodoma regions. The series provide an overview of poverty status in the respective regions. The methodology used in carrying out the study, include qualitative and quantitative techniques. The findings of this study focus on Dodoma region and are divided into community and household factors affecting mobility.

Data on these volumes complement each other in the final analysis and therefore the conclusions and policy implications are combined and should be read in conjunction to reflect a comprehensive picture of poverty escape routes in the Central Zone of Tanzania. Conclusion and policy recommendations provided accentuate the importance of agriculture for both income and food poverty escape routes as it was observed that households in the study area rely on planting of groundnuts, maize, millet, sorghum, cassava, beans, peas and cassava as main food crops. Production of cash crops that have reliable market such as sunflower and tobacco also contribute to households' upward mobility. On the other hand, the role of the private sector in providing agricultural inputs, extension services, and reliable market for cash crops has been vividly portrayed as the perfect poverty escape route. In addition, formal organizations such as Primary Cooperative Societies are instrumental in providing loans for investing in agriculture.

1.0 BACKGROUND TO THE STUDY

Since independence in 1961, the Government of Tanzania has been preoccupied with combating poverty. National efforts to tackle the problem were initially channeled through centrally directed, medium-term and long-term development plans, and resulted in a significant improvement in per capita income and access to education, health and other social services until 1970s. Thereafter, these gains could not be sustained because of various domestic and external shocks, and policy weaknesses.

After a decade of preoccupation with re-establishing macro-economic stability and structural reforms aimed at creating an enabling environment, Tanzania has resumed its focus on poverty reduction. This renewal is part of a global effort for a sustained exit from the poverty trap. The Government undertook various initiatives towards poverty reduction and attainment of social and economic development. Those efforts are found within a broad policy framework, the Vision 2025, which stipulates the vision, mission, goals and targets to be achieved with respect to economic growth and poverty eradication by the year 2025. As an effort to operationalize Vision 2025, the Government formulated the National Poverty Eradication Strategy (NPES), which provides overall guidance to all stakeholders and provides a framework for co-ordination and supervision of the implementation of policies and strategies of poverty eradication.

The Poverty Reduction Strategy Paper (PRSP) was thereafter formulated as a Medium-Term Strategy of poverty reduction, in the context of the enhanced Highly Indebted Poor Countries (HIPC) initiative. Initially, the country implemented PRS I, which lasted for three years (2000/01 – 2003/04). Thereafter, the Government approved the PRS II popular by the name of MKUKUTA (National Strategy for Growth and Reduction of Poverty - NSGRP) in early 2005. The NSGRP keeps in focus the aspirations of Tanzania's Development Vision (Vision 2025) for high quality livelihood, good governance and rule of law, strong and competitive economy. It is committed to the Millennium Development Goals (MDGs), as internationally agreed targets for reducing poverty, hunger, diseases, illiteracy, environmental degradation and discrimination against women by 2015.

The implementation of NSGRP and the broader Vision 2025 at the lower level is done across sectors and regions. It is within this context that the Economic and Social Research Foundation (ESRF) in 2005/2006 conducted a study on poverty escape routes in Central Tanzania which aimed at soliciting data and information on factors for upward and downward mobility of different households and individuals in Dodoma region. The study has strong relevance for policy design and monitoring of poverty reduction strategies and policies in Tanzania because, it provides policy insights based on the experiences of those who have actually moved out of poverty and stayed out of poverty over time, those who

have maintained their wealth over time, and those who have fallen down and / or stayed trapped in chronic poverty. The study focuses on a wide range of social, political, institutional and economic mechanisms that hinder or facilitate poor people's access to economic opportunities and movement out of poverty.

1.1 Growth and Poverty Status in Dodoma Region

1.11 Growth and non-income indicators

Since late 1990s, Dodoma region has been experiencing positive in per capita income growth. Data from the National Bureau of Statistics show that, in early 20th century Dodoma region experienced per capita income growth of about 24 percent. However, the recorded growth has not adequately translated into improved wellbeing, as indicated by the information from the Household Budget Survey (Table 1). In comparison with other regions, the non-income indicators reveal a mixed picture as quite a number of them show that Dodoma region is relatively performing better than other regions in the country, while other indicators show otherwise. This region has fewer individuals who are below food poverty line (13 percent of the total regional population) compared to Singida (27 percent), Arusha (25 percent), Rukwa (19 percent) and Lindi (33 percent) regions. However, in terms of percentage of households located within 2 km of primary school Dodoma appears to be the least of the 6 regions (Table 1).

Table 1: Non Income Indicators based on 2000/01 Household Budget Survey

Indicator	Dodoma	Singida	DSM	Rukwa	Arusha	Lindi
% of Adults without education	31	27	8	30	20	44
% of Household using piped or protected source of drinking water	65	61	94	55	59	24
% of Households within 1 km of drinking water in the dry season	49	51	84	63	49	47
% of Households within 2 km of primary school	49	56	81	75	54	79
% of Households within 6 km of dispensary and/or health center	49	82	98	82	73	68
% of Individuals below the food poverty line	13	27	8	19	25	33
% of Individuals below the basic needs poverty line	34	55	18	31	39	53

Source URT (2002)

1.2 Assessment by Human Development Index and Human Poverty Index¹

The 2005 Poverty and Human Development Report classifies the Tanzania regions according to their performance based on human development index (HDI) and Human Poverty Index (HPI). The report groups the regions into three categories: High HDI regions, Medium HDI regions, and Low HDI regions. It shows 5 regions with High Human Development Index as Dar es Salaam (0.746), Kilimanjaro (0.620), Arusha (0.555), Mbeya (0.551), and Iringa (0.524). The medium Human Development Index category is occupied by ten regions, while 5 regions are classified under Low Human Development Index.

On the other hand, the HPI shows that 5 regions namely Dar es Salaam (7.9), Kilimanjaro (12.4), Mbeya (14.8), Ruvuma (18.2) and Morogoro (19.2) are best performers, followed by 10 regions with Medium Human Poverty Index, while 5 regions are classified as worst performers. Singida and Dodoma are classified under the Medium Human Poverty Index regions with Singida (21.3) performing much better than Dodoma (22.9). Again, the HPI values for Dodoma is worse than the average HPI for Mainland Tanzania (22.1).

1.3 Combining Household Budget Survey Data with Census Information

The 2005 Poverty and Human Development Report combined the 2001 Household Budget Survey with the 2002 Census data to derive new regional poverty estimates with much smaller standard errors (Table 2). The derived estimates of regional poverty were more precise than the previously available estimates. As indicated in table 2 below, Dodoma is the ninth out of the then 20 mainland regions.

Table 2: Percent of Households below Poverty Line

Sn	Region	Percent of Households Below Poverty Line	Rank ²
1	Kagera	29	11
2	Kigoma	38	6
3	Singida	49	2
4	Dodoma	32	9
5	Kilimanjaro	28	12
6	Tanga	26	13
7	Mara	50	1
8	Coast	38	6
9	Morogoro	28	12

¹The Human Development Index (HDI) is a summary measure of human development using the average achievements in three basic dimensions of Human Development namely (1) Long and Healthy life (measured by life expectancy at birth); (2) Knowledge (Measured by literacy rate) and (3) Decent Standard of Living (Measured by per capita income). On the other hand, Human Poverty Index (HPI) measures the extent of human poverty as portrayed by lack of these three dimensions of human development, i.e., lack of long and healthy life, lack of knowledge, and lack of decent standard of living.

² Rank 1 depicts the most deprived region

Sn	Region	Percent of Households Below Poverty Line	Rank ²
10	Mtwara	38	6
11	Lindi	39	5
12	Mbeya	23	14
13	Tabora	40	4
14	Mwanza	43	3
15	Shinyanga	43	3
16	Ruvuma	37	7
17	Iringa	28	12
18	Arusha	21	15
19	Rukwa	36	4
20	Dar es Salaam	19	16

Source: URT, (2005)

1.4 Assessment by District Level Poverty Estimates

Using the poverty mapping techniques, it has been possible to estimate poverty at district level. Because districts are smaller, and with corresponding smaller sample sizes than regions, standards errors are higher but, in more than 90 percent of the cases, standard errors of the resulting district estimates were below the standard errors of the HBS's regional estimates (URT, 2005). Table 3 shows selected indicators in Dodoma districts, together with Mara (worst values category) and Arusha (best values category). For most of the indicators, the districts in Dodoma regions are still in between the worst and best performers.

Table 3: Selected Poverty Estimates at District Level

District	Population per health facility (2002)	Primary Net Enrolment (2004)	Primary Pupil-Class Ratio (2004)	% of HH using Piped or Protected Water Source (2002)	% of HH Owning a Radio (2002)	% of HH Owning a Bicycle (2002)	Infant Mortality Rate (per 1,000 live births) (2002)	Under five Mortality Rate (per 1,000 live births) (2002)
Singida								
Iramba	7647	82	76	30	34	31	79	125
Singida (R)	9100	85	105	39	31	26	79	126
Manyoni	5527	82	76	36	44	28	100	165
Singida (U)	6756	98	87	61	39	23	69	108
Dodoma								
Kondoa	7381	88	72	39	45	31	70	110
Mpwapwa	6340	79	78	65	39	19	128	217
Kongwa	9209	72	87	74	49	39	116	195
Dodoma (R)	6095	66	68	51	31	22	142	299
Dodoma (U)	5869	75	88	64	60	32	94	153
Mara								

District	Population per health facility (2002)	Primary Net Enrolment (2004)	Primary Pupil-Class Ratio (2004)	% of HH using Piped or Protected Water Source (2002)	% of HH Owning a Radio (2002)	% of HH Owning a Bicycle (2002)	Infant Mortality Rate (per 1,000 live births) (2002)	Under five Mortality Rate (per 1,000 live births) (2002)
Tarime	9088	100	80	22	45	35	123	207
Serengeti	5502	-	74	47	45	36	109	181
Musoma (R)	7329	100	100	17	52	44	115	191
Bunda	8929	100	77	51	61	44	102	166
Musoma (U)	4148	100	-	92	64	41	84	134
Arusha								
Monduli	4393	71	66	49	35	15	35	48
Arumeru	7352	99	75	85	70	24	41	58
Arusha (U)	4542	93	87	99	79	19	39	55
Karatu	5932	100	69	64	44	27	61	93
Ngorongoro	7187	71	77	34	76	3	31	40

Source: URT, (2005).

In the overall, Dodoma region appears to be performing moderately. However, the assessment of the region using individual indicators reveals that poverty is still prevalent in Central Tanzania. The review of available data also suggests that some areas within the Central Region have experienced growth without a commensurate reduction in poverty, which implies that pockets of poverty persist. This is a typical scenario observed at national level in Tanzania; where the change in economic growth hasn't proportionally been translated into poverty reduction since the 1990s.

Two important lessons can therefore be drawn: Firstly, there is a notable evidence of mismatch between economic growth and grassroots changes in welfare and overall living standards, judging from individual indicators of growth and poverty. While economic growth has been positive over time, performance of most of the welfare indicators in the region does not support this trend.

It is therefore important to understand the reasons and factors behind this puzzle. It is possible that while growth is evident, equity is not guaranteed due to inefficient system and lack of infrastructure for distribution. It is also possible that the findings are premised on weak methodologies, which omit non-income variables.

1.5 Objectives of the Study

This study aims at deepening the understanding of the key characteristics of the poor in Dodoma region, and the changes in the conditions and characteristics of poverty and income

generation. Also, the study sheds light on the barriers, shocks and opportunities that drive mobility out of poverty. The study identifies interventions (public or private) for reducing household susceptibility to shocks and enhancing opportunities for economic advancement.

Also, the study sheds light on the barriers, shocks and opportunities that drive mobility out of poverty.

The study draws on earlier studies such as Kagera Health and Development Survey (qualitative component), the Ruvuma Moving Out of Poverty Study, and work carried out in the context of the Tanzania Participatory Poverty Assessment (TzPPA), which collected a great body of information about impoverishing forces including environment/weather related, macro-economic, governance, ill health, life cycle related and cultural beliefs. Relative to the TzPPA, the study takes a broader perspective by dealing with impoverishing forces and economic opportunities. The following are the specific objectives of this study:

- (a) To understand the importance of risk and shocks in relation to poverty, and the adequacy of employed coping mechanisms.
- (b) To understand the constraints and opportunities that determine upward and downward mobility in rural areas, and in particular potential routes out of poverty through farm or non-farm activities.
- (c) To assess the role and impact of basic services (health, education, water, extension, credit), public infrastructure (roads, markets) and government (and donor) programs in facilitating improvements in peoples' well-being.
- (d) To generate new information on poverty in Dodoma region in terms of (i) key characteristics of the poor and (ii) changes in the conditions and characteristics of the poor and the causes and implications of these changes.

1.6 Research Questions

The study addresses a number of questions related to the persistence of poverty, the role of shocks, possible avenues of escape from poverty and the contribution of public interventions in the two regions.

- (a) How risks and shocks affect moving out of poverty?
- (b) What constraints and opportunities determine upward and downward mobility in rural areas?
- (c) What role and impact do basic services (health, education, water, extension, credit); public infrastructure (roads, markets) and government (and donor) programs do play on peoples' well-being?
- (d) What new information on poverty can be generated from and Dodoma regions?

2.0. METHODOLOGY

A series of instruments and exercises were used to capture the views from a wide range of respondents from the sampled villages and/or communities — poor, middle income, and well-off, young and old, male and female. The instruments and techniques that were used to collect data for this study include:

2.1 Qualitative Methods

- (i) ***Interviews with Key Informant:*** Before entering the village, the study team studied the available social economic data for the respective district. Upon entry in the village, the team met with key informants such as village leaders and prominent individuals based on their information richness (Patton, 1990).
- (ii) ***Constructing the Ladder of Life:*** The study intended to understand how households in a community move out of poverty, remain trapped in chronic poverty, maintain wealth, or fall into deep poverty. The Ladder of Life was designed to anchor and facilitate this exploration. The research team introduced the top and bottom steps as the richest and the poorest respectively. Once the characteristics of the two categories at the top and bottom were defined, the respondents were asked to identify the category or step just above the bottom step, and the key features of households at that step. Then they identified each of the additional steps or categories, and their characteristics until the top step was reached.
- (iii) ***Focus Group Discussions (FGDs):*** Through focus group interviews the role of groups, associations, networks and interpersonal relationships in enhancing economic progress was investigated. Participants were asked to describe their membership in local groups, associations, to elicit joint actions that are undertaken, and to tell how these are beneficial for household well-being and income generation. Participants were also asked about other potential joint activities that are currently not undertaken but that, if carried out, would be economically beneficial to all. Subsequently the reasons for the absence of these joint activities were explored. The FGDs examined a) how important is social capital for economic progress of individuals and of the community as a whole. b) why certain types of social capital/collective action are feasible and others not? Can any factors be identified that enhance the possibility for collective action such as joint marketing? and c) how has social capital changed over time? Have new groups, organizations or collectives evolved within the village, or have some disappeared? What are the reasons for these changes?

(iv) **Life Histories**

In each village/community at least 14-16 life history interviews were carried out. The participants were selected based on their poverty status (experienced substantial upward or downward mobility, or because they were trapped in poverty over the past 10 years). The interviews sought the actual events as they have unfolded in the lives of the informants over the past 10 years, for instance, household size and composition, birth, marriage, death and migration, ownership of land, livestock and other assets, income opportunities, shocks and coping strategies. The descriptions also focused on household decision-making regarding income in the face of changes in the external economic environment. The areas of focus included; i) access to formal labor markets, ii) access to non-farm income generating activities, profitability and entry barriers, iii) marketing opportunities of livestock, food and cash crops (co-ops, traders, prices), iv) availability, use, provision and price of inputs, v) access to credit, formal and informal, vi) use of agricultural extension, vii) use, access and quality of education facilities, viii) use of health care (private, traditional and public health facilities), ix) government rules and regulations affecting household income decisions, marketing, x) land pressure, changes in land quality, environmental degradation, xi) shocks (drought, health—including malaria and HIV/AIDS, governance, conflict), xii) access, use and effectiveness of formal and informal coping mechanisms (credit, cash savings, grain stores, livestock, informal insurance networks, and xiii) evidence of poverty traps and reasons why it is difficult to escape them.

2.2 The Quantitative Survey

Quantitative data were collected using structured questionnaires. Both community and household questionnaires were administered. Both questionnaires collected data reflecting the current situation and the situation during the past 10 years. These two instruments collected detailed information on demographic characteristics; economic characteristics; access to social services such as education, health, and markets; community shocks; social capita including formation of associations; and governance issues such as security, crime, violence etc.

2.3 Sampling Frame

On the basis of community characteristics obtained from the Social Economic Profile and Census Data, the survey covered communities in two districts of Singida Region – Manyoni and Iramba. Sampling of the communities was done to include one community that is close to the district headquarters and another community that is relatively far from the district

headquarters. The villages included Chilungulu and Msanga in Dodoma rural district; Sori and Mongoloma in Kondoa district.

2.4 Profiles of the Sampled Communities

2.4.1 *Chilungulu Community*

During the survey period, Chilungulu community had a total of 524 households, making up for the total population of about 6812 people in the village. Wagogo are the dominant ethnic group in Chilungulu comprising about 99 percent of the entire village population. There are other minor ethnic groups in the village, but so far, they are very insignificant in numbers, that the village therefore remains predominantly, a Wagogo community. With respect to region, most of the people in Chilungulu - about 45 percent of the community members, are traditional believers. The remaining community members are followers of various Christian denominations - with Anglican accounting for about 20 percent, Catholics 25 percent, and Assemblies of God about 10 percent of the village population. The main economic activities in Chilungulu community are crop farming and livestock keeping. The village has one primary school, but it has no any health facility.

2.4.2 *Msanga Community*

Msanga village is located in Chamwino Ward, Dodoma Rural District in Dodoma Region in central Tanzania. The village has a total of 1,344 household, which make up for the total population of about 6,812 villagers. The dominant ethnic group in Msanga is Wagogo, who totaled at about 80 percent of the village population. The other ethnic groups in Msanga are: Wanguu who make 10 percent of the total population, Wanyamwezi, accounting for about 6 percent, Warangi – accounting for about 2 percent and Wabarbeig 1 percent and Wanyandani who make 1 percent of the village population. About 75 percent of villagers are Christians (50 percent Anglican, 5 percent Roman Catholics, 5 percent Lutherans, 5 percent Baptist, and 10 percent other protestant groups). Some 20 percent are Muslims and 5 percent are traditional believers. There is one primary school and a dispensary in Msanga Village. The main economic activity in Msanga is agriculture, which involves both crop farming and livestock keeping. The village has one primary school, but it has no dispensary.

2.4.3 *Sori Community*

Sori Community is a home to 507 households, with a total population of about 2125. The dominant ethnic group in Sori is Warangi, who account for more than 92 percent of the total village population. The other ethnic groups in the village are Waburunge and Wagogo. With respect to religion, the majority of the believers in Sori are Muslims, about 97 percent of the entire village population. The remaining few are Christians and traditional believers. The village has one primary school, but it does not have a dispensary. The nearest health facility is Kelema Health Center, which is 7 kilometers from Sori—about 60 to 90 minutes walking

distance. There is no running tap water in Sori. The villagers depend on water wells as the major source of water, and these are very unreliable especially during the dry season.

2.4.4 *Mongoroma Community*

Mongoroma village had a total of 512 households during the survey period. The village is inhabited mainly by Wairaq who account for about 50 percent of the village population. The other ethnic groups in the village are Wanyaturu who constitute about 15 percent of the total village population, and Wasandawe and Wasukuma, who account for the remaining 35 percent of the total village population. The main economic activity in Mongoroma Village is agriculture—which includes both crop farming and livestock keeping. With regard to social services, the villagers in Mongoroma rely on one deep well and two small (shallow) wells as the major sources of water. Most of the time, especially during dry seasons, villagers walk up to 4 kilometers to fetch drinking water. The village has one primary school, but there is no any health facility in the community. In 2005, part of the Mongoroma Village land was declared as a Game Reserve by the government. Two hundred and fifty households have been affected by this declaration, and they expect to be moved out of the community to some other place any time.

Selection of households was based on the sorting done by members of focus group. For villages with more than 100 households, a random sampling of about 100 households was done. FGD members then sorted these households. After the sorting exercises, purposive sampling was done to capture households that had moved out of poverty, remained chronically poor, and those that had remained chronically rich. A total of 367 households filled the household questionnaire, and a total of 93 individuals narrated their life histories. These individuals were identified from the interviewed households (to enhance comparability of qualitative with quantitative data). Efforts were made to sample both men and women, and a total of 367 households were surveyed, 93 key informants were interviewed and 24 focus groups of participants between 8 and 12 were conducted in the 4 sampled communities.

2.5 Data Analysis

2.5.1 *Qualitative Analysis*

Although focus group data can provide rich insight into the phenomena under study, coding is a time consuming and sometimes an ambiguous task (Hughes and DuMont, 1993). Coding of the focus group data was not done, but themes and transcripts obtained from respondents have been triangulated with the quantitative data. The interpretative model of analysis proposed by Krueger (1994) was adopted. This mode of analysis gives the summary description with illustrative quotes whenever necessary, followed by an interpretation.

2.5.2 Quantitative Analysis

Descriptive Statistics

Descriptive statistics such as averages, minimum, maximums, and frequencies were produced from the collected quantitative data.

Regression Analysis Models

Regression analysis has been used to quantify variables impacting poverty situation of surveyed communities. Regression analysis allows us to control simultaneously for the effect of household and community-level determinants. This is especially important when looking at the status of poverty, as there are likely many determinants of such conditions. Several variables were selected from the data sets to test the following hypotheses: i) household demographic characteristics affect the probability of being poor. We expect that big households will likely be poor because of many dependants to feed, ii) households whose heads have more human and physical capital are more likely to be non poor. Human and physical capital were proxied by education, land, and assets. We also include age and age squared as controls for life-cycle effects. Social capital was proxied by membership to organizations and availability of credit, iii) having power to decide on social and economic development issues contributes to poverty status. Some community-level determinants were collected to determine changes in poverty.

2.6. Analytic Framework

Model 1:

$$\text{StatusN} = \beta_0 + \beta_1\text{Age} + \beta_2\text{Agesq} + \beta_3\text{Sex} + \beta_4\text{Hhsize} + \beta_5\text{EdD} + \beta_6\text{Trader} + \beta_7\text{AssetD} + \beta_8\text{AssetI} + \beta_9\text{AmmenD} + \beta_{10}\text{AmmenI} + \beta_{11}\text{HealthN} + \beta_{12}\text{AssocD} + \beta_{13}\text{AssocI} + \beta_{14}\text{LivestV} + \beta_{15}\text{LivestI} + \beta_{16}\text{StatusNP} + \beta_{17}\text{StatusNH} + \beta_{18}\text{Creditcons} + \beta_{19}\text{CommV} + \mu \dots \dots \dots (1)$$

Model 2:

$$\text{StatusN} = \lambda_0 + \lambda_1\text{Age} + \lambda_2\text{Agesq} + \lambda_3\text{Sex} + \lambda_4\text{Hhsize} + \lambda_5\text{EdD} + \lambda_6\text{Trader} + \lambda_7\text{AssetI} + \lambda_8\text{AmmenI} + \lambda_9\text{AssocI} + \lambda_{10}\text{LivestI} + \lambda_{11}\text{StatusNP} + \lambda_{12}\text{StatusNH} + \lambda_{13}\text{Creditcons} + \lambda_{14}\text{CommV} + \delta \dots \dots \dots (2)$$

Model 3:

$$(\text{StatusN})_{\text{dicot}} = \beta_0 + \beta_1\text{Age} + \beta_2\text{Agesq} + \beta_3\text{Sex} + \beta_4\text{Hhsize} + \beta_5\text{EdD} + \beta_6\text{Trader} + \beta_7\text{AssetD} + \beta_8\text{AssetI} + \beta_9\text{AmmenD} + \beta_{10}\text{AmmenI} + \beta_{11}\text{HealthN} + \beta_{12}\text{AssocD} + \beta_{13}\text{AssocI} + \beta_{14}\text{LivestV} + \beta_{15}\text{LivestI} + \beta_{16}\text{StatusNP} + \beta_{17}\text{StatusNH} + \beta_{18}\text{Creditcons} + \beta_{19}\text{CommV} + \mu \dots \dots \dots (1)$$

Model 4:

the life, then the said household was categorized as being poor. Based on these criteria, 36.4 percent of all surveyed household was said to be non poor.

Community members were found to be members in different economic and social organizations. The largest number belongs to political organizations (30.4 percent) followed by Religious organizations (18.1 percent).

Access to public services was not wide with only 37.1 percent and 45.6 percent of the communities having daily and periodic markets in their communities respectively. Dispensary was located in the village in only 47.8 percent of the community and health centre in 33.7. Fifty percent of the community had a health worker based in the community.

The households owned a wide range of livestock. These include oxen, cow, goat, sheep, mules, chicken etc. As mentioned earlier, ownership of oxen was particularly important for ploughing given the fact that modern tractors are not available in the village. The maximum number of oxen owned by any particular household in the eight surveyed communities was 8. On average 100 household owned 30 oxen at the time of survey. Average number of cows owned was 2.3 (range 0 to 60). Small animals like goats and chicken were also reared in good numbers; average of 2.6 (range 0 to 32) for goats and chicken 6.3 (range 0 to 84).

Distance to the nearest hospital is considered as a facility attribute as perceived by community. This is because the reported distance is not the distance as perceived by individual households, but the distance as perceived by community knowledgeable informants, and the views of the knowledgeable informants are assumed to represent households' views. The same distance is assigned to households residing in the same village. The mean distance to the nearest hospital was 22.8 km (range 5 to 50 km). Distance to the market is another community variable defined by community key informants. The average distance to the daily market was found to be 10.0 km (range 0 to 36 km).

3.0 TRIANGULATING THE REGRESSION RESULTS WITH QUALITATIVE INFORMATION

Where the StatusN is the poverty status of the household, and the other variables remain constant (StatusN)_{dicot} in models 3 and 4 stand for sets of dichotomous variables that represent being poor or non poor (as specified in the methodology chapter, subsection 2.4.2).

The next section presents a discussion of the findings from estimation of regression models 1 to 4. The detailed and complete results for regression models 1, 2, 3, and 4 are presented in tables A-3; A-4; A-5; and A-6 in the Appendix I. For the OLS results, the coefficients show the magnitude and the direction of the impacts whereas for logistic regressions, the estimated coefficients/betas are converted to odds ratio, which shows the increase or decrease in probabilities of being non-poor due to increase/decrease in the specified variables.

Three education related variables have a positive and significant impact on the well being of households (Model 1). These are: complete primary education, complete secondary education and university education. The no school but literate variable has a weak but significant impact on the well being. This is expected given the fact that some successful businessmen in rural areas have not gone to school but they can manage business arithmetic. The university education has highest impact on the well being. This is expected given the high correlation between higher education and earning of the households. In model 3, secondary complete and university education variables maintained the positive and significant impact; no school but literate became highly significant. A continuous variable measuring the number of years of the head of the household has a positive and significant impact in model 2.

Of the household asset, only ownership of milling machine has a significant and positive impact on the well being of households (Model 1). Even qualitatively in the focus groups discussions, ownership of milling machine was mentioned as one factor for placement on higher categories on the ladder of life. This technology is important given the type of cereals produced in the study area and the old technology of grinding the cereals whereby a significant amount of women's productive time was used. Ownership of goat was also significantly important for well being of households; ownership of sheep has a significant but weak relationship. These small ruminants play crucial role in emergency situation as they are easy to sell; provide food for households; and are used in household and community ceremonies. The aggregate measure of ownership of livestock (livestock units) shows a positive and significant impact on well being of households in Models 2 and 4.

Good roof and floor have also been positively associated with well being of the household. This is corroborated with qualitative results. Results show that type of roof is one of the major criteria for placement of a household in a certain step of the ladder of life.

As portrayed above, water is one of the major social problems in the central Tanzania. Thus, having tap water in the house has a significant impact on the well being of the households. This is not only because the household becomes water secure, but because selling water in water scarce areas is a lucrative business.

On understanding that poverty means more than income³, new non-income non-conventional measures of poverty have been evolving. These include measures like governance, that is, participation in decision making at community levels, inclusiveness of all community members, etc. In capturing these, we included two variables in the regression one measuring power, whether the household head had power and rights to do things, and another one measuring happiness. In all the 4 models, both variables are highly positively related to the well being of the households. What these results entail is that measuring poverty is complex as there are several variables impacting on poverty—non-income measures being equally instrumental.

The community variables were also found to impact on the well being of the households. In Models 1 and 2, having a health centre in the community was found to be positively linked with the welfare of the households, but having a dispensary have mixed impacts (from the 4 models) which are nevertheless not significant. In the Tanzanian health care hierarchy, health centers are between hospitals and dispensaries. Health centers offer superior services to dispensaries, but fewer services compared to hospitals. Given that a nearby hospital in the survey community is located at an average of 22.8 km (range 5 to 50 km), communities expect the health centers to provide even the services that are meant to be provided by the hospital.

In all the models, distance to the market has a negative and significant impact on the well being of the households. As noted in descriptive statistics, the average distance to the nearby market is 10 km (range 0 to 36km). Thus, people have to walk long distance to the market and they have to sell on loss because the distance reduces their bargaining power, that is, they cannot carry the unsold goods back home. This finding is further substantiated with the variable measuring availability of market in the community. Results from Models 3 and 4 indicate that the presence of periodic market in the community is positively and significantly related to the well being of the households. This fact is substantiated by experiences from Mongoroma village where a daily market was closed, affecting the welfare

³ See Laderchi et al., (2003) on four approaches for measuring poverty: Monetary Approach; Capability Approach; Social Exclusion; and Participatory Methods.

of the community badly. This contributes significantly to downfall of the welfare of households.

The total land owned was found to have negative relationship with the well being of the household but the relationship is not significant. This result is counterintuitive as we expect more land to be a prerequisite for increased agricultural production given that the major occupation of majority of households in the study area is agriculture. However, the relationship is not significant. Nevertheless, in Models 2 to 4, ownership of land has a positive but insignificant impact on the well-being. We however note that in model 3, ownership of a bicycle has a negative and significant coefficient, implying that ownership of a bicycle actually leads to 'downward mobility'. The possible explanation for this seemingly unusual result could relate to the sacrifice that the households have to make to acquire the bicycle. The assessment and asset ranking in the surveyed communities show that, a bicycle is one of the important and high-ranking assets, which also take a huge proportion of the household accumulated savings. Thus, when a household buys a bicycle, it almost depletes the long awaited and gradual accumulated savings thus pushing the household back to the previous status and/or down in terms of reduced capacity to access multiple livelihood sources and other economic opportunities; and reduced ability to manage shocks.

Membership to organizations was expected to have positive impact on well-being. Nevertheless, membership to associations did not show any significant impact on the well being in all the 4 Models, whether entered as individual entry or as aggregated index. This may be associated with lack of strong associations, which can support members materially.

The availability of credit for consumption was negatively related to wellbeing in all the 4 Models although the results are not significant. What the negative sign portrays is that credit is used to finance short-term consumption instead of long-term investment on income generating activity that could yield income for credit repayment.

It is worth noting that the variables included in models 1 and 2 explain only 57 percent and 52 percent (Adjusted R-squared) respectively of the variation in poverty status of the households. Nevertheless, with cross-sectional data, that is, data from surveys these are significant results. Poverty status is affected by many factors beyond those, which were captured in the models as independent variables. The unexplained variation is therefore due to the fact that there are many factors that affect the dependent variable that were not included in the model.

3.1 Agriculture and Livestock Development

Given the underdevelopment of the infrastructure in the zone which is essential in attracting development of other livelihood avenues, respondents see agriculture as the major poverty escape route if improved. Improvement in agricultural practices was cited in the areas like extension services, availability of farm implements such as oxen, availability of farm inputs such as fertilizers and new improved seed varieties, reliable markets for agricultural produce, access to loan for agricultural production, and accessibility to veterinary services.

Booming of Sunflower Production in Msanga

Sunflower is widely grown nowadays for the sake of extracting oil. This is a result of two oil industries (Kimki and Itumba), which were built near the village. Market liberalization has also led to increased market opportunities, as more and more traders come to the village to purchase agro-products.

Table 4: Major Crops Grown in the Study Area

Name of the Village	Major Food Crops	Major Cash Crops
Msanga	Maize, beans, sorghum, bulrush millet, cassava, simsim	Sunflower, groundnuts
Chilingulu	Maize, beans, bulrush millet, cassava	Sunflower, groundnuts
Mongoroma	Maize, simsim, peas, beans, cassava, and millet	Sunflower, groundnuts
Sori	Sorghum, simsim, groundnuts, beans, peas, and cassava	Sunflower

Other Income Generating Opportunities

A small segment of the population is involved in other income generating activities/ small business, such as, small shops, small cafés, tailoring, brick making, masonry, charcoal, butchery, local brewing, salt extraction, food vending and fish mongering. Salt extraction was mentioned in Msanga village in particular. Of recent, there have been salt extractions in which some few women engage in it. This activity sustains some women in this village as it helps them earn some income apart from what is earned from farming.

3.2 Understanding Household Mobility: The Ladder of Life

In understanding household mobility over the past 10 years, members of focus group were requested to sort a total of 100 household per village and place them on the economic ladder of life. The ladder has 10 steps with the lowest step representing the poorest community groups and the highest step (step 10) representing the wealthiest group in the community. Focus group members were also requested to provide the reasons for each placement, that is, characteristics of each group on the ladder of life. Tables 5 and 6 present a sample of

placements for Msanga village⁴. There were five (5) identified categories for Msanga community, with category 1 being at the bottom, that is, the poorest and worst off, and category 5 at the top being the richest and well off.

Table 5: Ladder of Life: Msanga Village

10 Step Category & position on ladder	Characteristics
Category 5: Steps 9 and 10 on the ladder	<ul style="list-style-type: none"> • Has a nice/decent house with metal roofing, brick or concrete walls and cemented floor • Has a good number of livestock (including 300-500 cattle, goats, pigs, and poultry) • Has a major non-farm business entity (e.g. milling machine) • Has many wives • Has a big farm/land • Employs many laborers
Category 4: Step 8 on the ladder	<ul style="list-style-type: none"> • Mostly civil servants (e.g. teachers, agricultural officer) with assurance of salaries • Has a nice/decent house with metal roofing • Has a big farm/land • Has livestock including a few cattle • Eats and dresses well
Category 3: Steps 7 and 6 on the Ladder	<ul style="list-style-type: none"> • Has a house not necessarily with metal roofing • Grows food and cash crops • Might have a shop (but not necessary) • Engages in petty business • Has a small farm/land • Has livestock (including a few cattle, pigs and goats)
Category 2: Steps 5 and 4 on the Ladder	<ul style="list-style-type: none"> • Has a house (not nice/decent) • Grows food and cash crops on a small scale • Has a small farm/land • Engages in petty trade on a small scale • Has very few livestock (no cattle)
Category 1: Steps 3, 2 and 1 on the Ladder	<ul style="list-style-type: none"> • Have a house (thatched roof and walls) • No farm/land • No livestock • Sells labor to earn a living

Table 5 shows different categories which are based more on possession of economic assets (including houses, farm area, number/type of livestock, and business entities). However, based on experience from other studies, the research team prepared other instruments to

⁴ Placements for other villages are available from the authors on request.

elucidate other important factors for growth such as governance issues, availability of public services, and potential for economic and social organizations.

Based on categories in Table 5, members of focus group discussion sorted about 100 households. Further, the group determined the community poverty line now and 10 years ago. These two poverty lines have been used like cut off points on movement and thus status of the community now. Table 6 presents the mobility matrix. Households in the upper right box have moved up; upper left box have remained chronically poor; lower right box have remained chronically rich; and lower left box have moved down the ladder of life.

Table 6: Household Mobility Matrix (Msanga Village)

Steps 10 yrs ago	Now							Total HH
	1	2	3	4	5	6	7	
1	3	1						4
2		8	5	3	3			19
3			9	8	5	2		24
4		1	2	6	10	5		24
5		1	2	3	6	9		21
6				2	2	1	2	7
7							1	1
Total HH	3	11	18	22	26	17	3	100

Table 7 presents the status of households for the eight communities studied. It is drawn from eight different ladders of life constructed by members of focus group discussions conducted in eight communities.

Table 7: Summary of Positions of the Sample Households on the Ladder of Life

Village	Status of Households (%)			
	Chronically Poor	Downward Movers	Upwards Movers	Chronically Rich
Chilungulu	24	44	32	0
Msanga	34	13	53	0
Mongoroma	51	36	8	5
Sori	59	36	2	3

It is evident from Table 7 that although upward movement was observed in all the communities surveyed (albeit very small in Mongoroma and Sori) it is only at Msanga communities where upward movement superseded the observed downward fall. Further, majority of households in Sori, and Mongoroma villages have stagnated in poverty, that is, have remained trapped in chronic poverty for the past ten years, though they could have

moved one or two steps on the ladder, but they generally remained in the category considered as poor by the community members. The participants in all focus group discussions cited a number of reasons for movement up and down the ladder by the identified households/individuals over the past ten years. Some factors were related to some positive and negative exogenous shocks, which were outside individuals' capacity to contain, and some factors were actually related to the efforts made by individuals themselves, in taking the opportunities or failure to do so. The household and individual level factors and processes which are important in terms of moving out of poverty, maintaining wealth or keeping people trapped in the community were summarized as follows:

4.0 FACTORS FOR DOWNWARD MOVEMENT AND CHRONIC POVERTY

Households that were said to have moved down the ladder had lost a bread- earner either through death or divorce, or the income earners either aged or lost their productivity. Thus labor constrained households are likely to remain poor since labor is a key input in agricultural productivity and thus household mobility in rural areas.

Land disputes were mentioned as an important mobility factor. Respondents cited land critical disputes in Mongoroma and Sori villages. Households were also said to stay poor because they are forced to work outside their farmlands to earn money or food thereby perpetuating their poverty. However, others see this very factor as a one that can move up a household especially when the proceeds from farm labor are invested in other enterprises. In addition, excessive drinking of alcohol also appeared as one of the critical factor that pull households down. This is because it erodes the resource base of the consumer and the cereal base of households. Local brewers are now brewing different type of brew known as *wanzuki* that use water and sugar as main ingredients.

Households that rely entirely on agriculture moved down due to low produce prices coupled by high input prices. Furthermore, bad weather was another adverse variable leading to low agricultural output, low incomes, and food shortage in the community. For instance, the hunger that followed the late 1990s tragedies of floods and drought seriously pushed a number of households back to poverty, as the households tried to exchange anything for food, to cope.

On the other hand, some community members believe that poverty levels could change if only they change towards working hard behaviour.

5.0 FACTORS FOR UPWARD MOVEMENT (POVERTY ESCAPE ROUTES)

Some households were said to have moved up because they work hard in farm, and use of better tools and fertilizers. Success in agriculture is considered the main avenue for exiting poverty. In some cases, movement up has been a result of doing things differently in farming. For instance, using improved seeds and fertilizers, or even diversifying the crops, for example, growing vegetables as well instead of depending entirely on the traditional cash crops such as sunflower. As for the cultivation of cash crops, the most important factor for movement were; the farm size and good weather (also community-wide), and the use of better tools, for instance, oxen. Acquisition of oxen for drought power was among the most frequently mentioned factors that moved households up the ladder of life. Owing to the importance of oxen in agricultural production, its ownership alone was considered as an important factor.

Diversification of livelihood sources is considered to be a critical factor, that is, ability to diversify economic activities—largely to avoid overdependence on agriculture as the only economic activity. In this regard, those who could venture into other activities, for instance small business, are likely to make a difference. But the respondents indicate that in the end it is achievements in agriculture, which could create avenues for such diversification. One respondent lamented “Where else would you get money to start up any other business? You must work hard on the farm to come out. Unless you are an employee which we cannot name any here except teachers or you receive assistance from town in terms of remittances, farming remains the only way out” (Youth FGD, Msanga Village, 2005).

Furthermore, diversification to production of profitable cash crops such as tobacco and sunflower were also mention as crucial for upward mobility. Investing one's earnings in livestock or other income-earning assets/ventures rings through was a key factor for upward household mobility. It was also apparent that those that had a chance to earn some money in rural areas realized that without investing the earned money, their welfare status could not change.

In addition, remittances from relatives, when invested, were also said to have moved some households up the ladder of life. In some cases, it was said that children who went to school were responsible for the remittances.

5.1 Governance and Mobility

For broad based growth and improvement of quality of life to take place in rural areas, good governance has to prevail. The focus on governance centers on the political system and

democracy, public resource management and accountability, participation in decision-making such as through the decentralization process and fighting corruption.

In theory, decentralization is a means of enabling communities to take opportunity to participate in most spheres of decision-making, to enable them increase their political, social and economic citizenship and to ensure they enjoy their social, political and economic rights as subjects and not objects of governance and development. For the majority of the people, decision-making is more meaningful if it enables them to expand their scope of knowledge and information and provides them with the means to establish and maintain a stable, secure and peaceful environment. It is also more meaningful if it strengthens their institutions of power and production and enhances their rights to interact and transact equitably with other communities. Decentralization therefore, should aim at creating dynamic and participatory systems that can make a value added contribution to the systems of governance at national level.

The policy process in Tanzania has strategically gone through changes to allow for civil society participation in all aspects of creating development policies in the country⁵. These aspects include policy formulation, implementation, monitoring and evaluation. The initial steps to involve CSOs in policy dialogues began in the mid-1980s when the government started to relax the suppression of civil society. However, major changes began in mid 1990s when the civil society was for the first time recognized as the major stakeholder in policy process in Tanzania.

Since then CSOs has actively participated in different frameworks of the National Poverty Eradication Strategy (NPES), Poverty Reduction Strategy (PRS) Paper; the Tanzania Assistance Strategy (TAS); the Public Expenditure Reviews (PER). Various mechanisms have been institutionalized at different levels i.e. from the grassroots to the national level (village, municipal, district, regional and national levels) to provide room for civil society access and participation in policy process in Tanzania. During the survey, sampled households were asked to give their perceptions on some of attributes of governance as evidenced in their communities at the time of the survey (2005). Table 8 summarizes the various perceptions of governance by respondents.

⁵ It includes Community Based Organizations (CBOs) and Non Governmental Organizations (NGOs)

Table 8: Perceptions on Attributes of Governance in the Surveyed Communities

Decentralization Attribute	% of Responses
Participation in Decision Making	
Control over all decisions	47.4
Control over most decisions	41.1
Control over some decisions	6.8
Control over very few decisions	3.3
No control	1.4
Local leaders taking into account concerns of community members	
They take into account a lot more	42.5
They take into account a little	49.3
They do not take into account	8.2
Attendance to meetings, and meeting leaders	
Having attended an organized meeting of residents to discuss community issues in the past 10 years	88
Not having attended an organized meeting of residents to discuss community issues in the past 10 years	12
Having attended a neighborhood council meeting, public hearing or discussion	62
Not having attended a neighborhood council meeting, public hearing or discussion	38
Having met a local politician, called him/her, or sent a letter	48
Not having met a local politician, called him/her, or sent a letter	52
Having met a national politician, called him/her, or sent a letter	23
Not having met a national politician, called him/her, or sent a letter	77
Having signed a petition to make a demand from local or national government	6
Not having signed a petition to make a demand from local or national government	94
Participated in a protest or demonstration	9
Not having participated in a protest or demonstration	91
Participated in an information or election campaign	39
Not having participated in an information or election campaign	61
Interests of National and Local Leaders	
The county (Tanzania) is run for all the people	75
The country (Tanzania) is run by a few for their own interests	25
The local government is run for all the people	76
The local government is run by a few for their own interests	24
Democracy and Elections	
Voted in the last state/national/presidential elections	91
Did not vote in the last state/national/presidential elections	9
Perceived the elections to be fair and free	89
Did not perceive the elections to be fair and free	11
Very satisfied with the way democracy works in this country	55
Somewhat satisfied with the way democracy works in this country	40
Somewhat dissatisfied with the way democracy works in this country	4

Decentralization Attribute	% of Responses
Very dissatisfied with the way democracy works in this country	1
Corruption	
Almost no government official is involved in bribe taking and corruption	16
A few government officials are involved in bribe taking and corruption	57
Most government officials are involved in bribe taking and corruption	19
Almost all government officials are involved in bribe taking and corruption	8
Confidence with officials/leaders	
Confidence with local government officials	80
No confidence with local government officials	20
Confidence with national government officials	92
No confidence with national government officials	8
Confidence with doctors and nurses in health clinics	88
No confidence with doctors and nurses in health clinics	12
Confidence with teachers and school officials	91
No confidence with teachers and school officials	9
Confidence with the police	62
No confidence with the police	38
Confidence with Judges and staff of the court	62
No confidence with Judges and staff of the court	38
Confidence with staff of NGOs	90
No confidence with staff of NGOs	10

Field Data (2005)

Judging from the perceptions of the sampled individuals in the surveyed communities, it was evident that there has been substantial improvement in the level of participation of the people at the grassroots in decision-making. Many of the individuals interviewed believed that they had control in all or most of the decisions reached in the communities. It was also highly perceived that local leaders take into account the concerns of community members. The level of participation in meetings, and contacts between community members and their leaders was high.

Access to external information (including market information) is also a critical constraint. Community members rely mostly on their leaders, relatives, friends and neighbors (who themselves have limited access) for such information. During the survey, when asked how many times any member of the sampled households had read a newspaper in the past one month, 70 percent responded that no one had. Only about 10 percent had read a newspaper once in the entire month. As a result of poor access to information, in some cases there is a big time lag between the time when decisions are taken at the centre and when the information reaches the implementers or the people at the grassroots. An example is the decision to abolish the so-called "nuisance taxes" in June 2003. At the time of the survey,

some people in the rural areas were still being charged those taxes. In addition to information bottlenecks, there are also serious transportation problems, which constrain smooth implementation of decision reached. Thus, it seems as though, despite efforts to transfer powers to the grassroots, there has been no transfer of capabilities required to control local resources and use them to transform rural communities, and therefore, good governance that seems to prevail in the study area has yet to contribute substantially towards mobility out of poverty.

5.2 Public Socio-Economic Services and Mobility

This section deals with public socio-economic services, that include education; health; water; infrastructure particularly roads, markets and market information—information about demand for crop products, supply/availability of inputs, and prices; financial services such as banking facilities, or credit facilities (including input credit) and informal financial services; Security (police and court facilities); and information particularly awareness about various community wide issues, for instance, about HIV/AIDS, and any other economically or socially destabilizing event.

Important aspects covered four categories. *First*, access to services, under which they addressed: availability of the services to the community members, and the major changes over the past decade; proximity of the services to the community members—how far from the communities are the particular services, and how serious is the distance problem in accessing the services; affordability—how costly are the services to the community members—both financially and in terms of other barriers to access, for instance, distance (and therefore transport cost), administrative barriers, for instance, lengthy bureaucratic procedures or corrupt practices if any, in service delivery; and gender dimensions in services—whether there are any gender differentials in the above aspects, for instance, whether access is biased against women or any disadvantaged groups in the communities;

Second, reliability and adequacy of the services; largely focusing on the quality of services and effectiveness in service delivery; *third*; source/origin of services; essentially, who provides which services? Is it the government, private operators, or other non-state actors?; and *fourth*; involvement of communities and their participation in public services delivery; with particular emphasis on the aspect of community participation as an essential element of sustainability.

5.3 Access to Services

Generally, there has been an improvement in access to services in the studied communities over the past decade, though some gaps still exist. With regard to basic education, there was

a primary school in each community, and, two communities (villages) had more than one primary school – with one community having two schools and one community having three schools. For each of the studied communities, there was a secondary school near the village, and one village actually hosted a secondary school. The community with the nearest secondary school to it was only about 2.5 kilometers, and the furthest one was about 16 kilometers away from the school.

Generally, distance is a problem in accessing secondary education, especially taking into consideration the fact that secondary schools nearing the 5 communities studied were day-only schools; and only 3 communities had the nearest secondary schools which were both day and boarding. Due to limited income earning opportunities (most households depend on agriculture only) some households could not afford to pay the school fees, and other school-related costs.

Though, in general, there are no gender disparities in access to education in the studied communities, the differences in social groups resulting from inequalities in the communities were observed. These are exemplified in the focus group discussions as they said “The poorest household in this community cannot take their children to school, and if they do, the children are in very bad shape – dirty with worn out uniforms” (FGD, Sori Village, 2005).

With regard to health, there have also been major improvements over the past decade, but there are some gaps still to be worked out. While some communities had health facility (dispensary) within their villages, some villages had no health facilities within their localities. Traditional healers still play an important role in the communities, and traditional birth attendants are still popular in these communities as well. Of the 4 communities studied, it is only one community that did not have a known traditional healer. The remaining villages had at least 2 traditional healers.

The major gap identified with regard to health services in the studied communities is the issue of proximity, and affordability, which entails, not only the medication costs, but also the other related costs – particularly transport, especially where the patient has to be taken to a hospital – and not a dispensary or a health centre. About 33.2 percent of the interviewed households indicated that it was difficult for them to get the medical services because the services are too expensive. On the other hand, 28.9 percent of the respondents indicated that it was difficult to get health services because the medical facilities are too far. Only 2.7 percent of the respondents pointed to poor quality of the medical facilities in this regard.

In general, no gender disparities were observed with respect to accessing health services, but there is still a gap in maternal and child health in the studied communities. Efforts have been made to introduce mobile MCH (Maternal and Child Health) clinics in the

communities, but many women are still relying on the traditional providers, which sometimes cost human life as pointed out, "...these traditional birth attendants are actually not trained. They use just experience in attending their customers. Sometimes women die, during the process, or after, due to maternal complications, which cannot be fully addressed by the traditional birth attendants" (Women FGD, Mongoroma Village, 2005).

An important point to note from the above experience is that, even the previously conventional traditional mechanisms dealing with maternal health in the rural communities are actually becoming commercial and thus unaffordable to the most of the households in the communities, and the poorest sections are becoming more and more vulnerable.

The major problem in all the studied communities was access to clean water. The problem of water in these communities had explicit gender dimension to it, since the burden was largely born by women and children. Shortage of water affects other important economic activities in the communities, especially agriculture, by using many hours of the important labor force in the households. Besides, lack of enough water in some communities was also among the factors contributing to the problems of diseases, particularly trachoma. The problem of water was also linked to domestic violence in some communities. This is particularly the case because of the gender dimensions involved in it. Women and children are the ones responsible for collection of water, usually from long distances, and could take several hours. When it becomes too long, men become suspicious that their wives are cheating.

Access to infrastructure and other important economic services was a serious problem in the studied communities. Due to poor roads in respective villages, public transport remains one of the major constraints in the studied communities (Perhaps, the private investors are also discouraged by low effective demand by the villagers due to low incomes in these villages). For instance, in Chilungulu village, although a road connecting this village to the Ward headquarters is good, during the time of the survey there was no vehicle going to the village. Villagers had to walk 10 km to reach the Ward. It was therefore difficult for villagers to transport their crops at least to the nearest market place for sale.

Formal financial services were also missing in all the visited communities. There were no banking facilities in any of the communities. The communities relied only on the informal financial services. In most cases community members borrow from friends and relatives. Another important observation was lack of access to information. The villagers did not have the necessary information about various issues, including the demand for their crops, input supply, and prices. As a result, during the harvesting season, most farmers sell their crops at low prices to the buyers who visit them at their farms directly, or home places, taking advantage of business information gap.

While some practices could be deeply rooted in the society cultures and norms, awareness campaigns, to get the *'right information down to the right people'* could bring about changes. The following experience from Msanga community, in which Anti-Female Genital Mutilation Network (AFNET) was successful in abolishing female genital mutilation in the community as noted; ".....Female genital mutilation was quite widespread in this village. And girls were forced out of school for early marriages so frequently. But AFNET launched massive awareness campaigns in the village, getting the information down to the parents and *'ngaribas'* (the *'surgeons'* who perform the circumcisions), and things changed. More girls are now allowed to continue with their studies in this community. Generally, female circumcision practices together with early forced marriages have totally been abolished with the help of campaigns organized by AFNET" (FGD, Msanga Village, 2005)

5.4 Adequacy and Reliability of Services

The major challenge that exists in the provision of basic education in the studied communities is the issue of quality. While the efforts to build classrooms and desks through the Primary Education Development Plan (PEDP) have been very successful, there are still no enough teachers in the schools.

With regard to health, it is appreciated by the communities that the government has been trying hard to ensure that the villagers do get the basic health services, close to their localities. The efforts in this direction include among others; the construction of dispensaries, and introduction of mobile clinics to meet growing need for maternal and child health in the villages. About 53.7 percent of the interviewed households indicated that the health situation in their communities had improved whereas 32 percent of the respondents indicated that there has been no change in health situation over the past decade in their communities. Further, 13.9 percent thought that the situation had deteriorated. However, at individual level, only 30 percent of the respondents indicated that their health conditions had improved over the past ten years. About 35.7 percent of the respondents indicated that there was no change in their health conditions over the past decade, while 33.5 percent indicated that their health conditions had deteriorated.

The introduction of mobile Maternal and Child Health (MCH) clinics in the communities was cited as a major improvement in health service provision. But the functioning of these clinics is sometimes constrained by poor infrastructure, and some villages cannot get these services during the rainy seasons due to poor roads.

One aspect that was noted in the study is the limited number of players in these rural settings. Generally, most services are provided by the government, with very limited supplementation from other players particularly the private sector. For each of the studied villages, the nearest secondary school was actually a public/government school, signaling

limited participation of private providers in secondary education in the rural areas in the country.

Community participation is an important attribute for sustainability of social services projects – particularly water and education. One remarkable achievement of the Primary Education Development Plan (PEDP) was the involvement of the communities, and subsequent community participation in the actual implementation on the ground. In all the studied communities, the villagers considered themselves as the ‘effective owners’ of the schools, since they participated in the re-structuring, and had much say in the day to day running of the schools

6.0 TRIANGULATING QUALITATIVE WITH QUANTITATIVE DATA

Having discussed the results from the qualitative data in sections 3.0, this section augments the qualitative findings with quantitative results using regression analysis. Several regression analyses were executed to indicate the impact of selected independent variables on poverty variables.

There were two dependent variables: a continuous variable measuring the status of wellbeing of the household based on the 10 steps on the ladder of life, and a dichotomous variable measuring whether the household is poor or not poor. Explanatory variables include characteristics of household, household shocks and characteristics of community. The choice of household and community variables is based on their theoretical as well as practical relevance to the subject matter. Table 11 shows how the household and community variables have been defined.

The explanatory variables can be organized into the first category, as the household characteristics such as education, age, household size, assets (wealth indicators), and availability of several amenities in the households. The effect of education was examined by several dummy variables that show the level of education of head of the household. A continuous variable representing the age of the household head and the age squared variable were used to capture life cycle effects such as most productive age. Dummies of several assets and amenities were created but an aggregate index was also created for assets, amenities, and livestock unit. A variable representing the aggregate measure of wealth ranged from 0-9—zero means that the household did not have any of the nine wealth indicators and 9 means that the household had all the wealth indicators. For amenities, an index composed of 5 variables was created. Computation of livestock unit was based on tropical livestock conventions factors proposed by Jahnke, (1982) whereby different livestock are weighted depending on their usefulness in the household (Table 9), and the second category of explanatory variables as community characteristics. These include accessibility to public services such as health facilities, and markets. Accessibility is measured by availability and distance to such services. The distance variable show the extent to which appropriate package of services can be obtained by individuals in a given location.

Table 9: Definition of Community and Household Variables

Dependent Variables	Definition of the Variables
<i>Status</i>	A continuous variable measuring the poverty status/welfare of the household in relation to the step on the ladder which the household was at the time of survey
Non-poor	= 1 if the status of household is above the cut off point (poverty line) defined by respondents in a focus group discussions in every community; else = 0
Independent Variables	
<i>Household Characteristics</i>	
Age	Age of the head of the household
Agesq	The square of the age of the head of the household
Sex	= 1 if male; else = 0
Hhsize	Household size
NoschIL	= 1 if has no school and illiterate; else = 0
NoschLI	= 1 if has no school but literate; else = 0
Primcomp	= 1 if has completed primary school; else = 0
Secincomp	= 1 if has incomplete secondary education; else = 0
Seccopm	= 1 if has completed secondary education; else = 0
Univ	= 1 if has university education; else = 0
Trader	= 1 if the respondent was a trader; else = 0
Land	Land owned (acres)
Oxen	=1 if owns oxen; else = 0
Cow	=1 if owns cow; else = 0
Mule	=1 if owns mule; else = 0
Goat	=1 if owns goat; else = 0
Pig	=1 if owns pig; else = 0
Chicken	=1 if owns chicken; else = 0
Animcar	=1 if owns animal driven car; = 0
Bicy	=1 if owns bicycle; else = 0
Radio	=1 if owns radio; else = 0
Kerosene	=1 if owns kerosene cooker; else = 0
Sewing	=1 if owns sewing machine; else = 0
Tapin	=1 if have tap water connection in the house; else = 0
Privwell	=1 if have a private well; else = 0
Rooms	Number of rooms in the main house
Latrine	=1 if own a latrine; else = 0
Wall	=1 if wall made of brick or concrete; else = 0
Roof	=1 if roof made of concrete or irons sheets; else = 0
Econassoc	=1 if member of any economic association; else = 0
Creditassoc	=1 if member of any credit association; else = 0
Politassoc	=1 if member of any political association; else = 0
Religassoc	=1 if member of any Religious association; else = 0
Creditcons	=1 if received credit for consumption; else = 0
StatusNP	Step on the ladder of life in relation to power
StatusNH	Step on the ladder of life in relation to happiness
Asset	Aggregate measure of asset
Ammen	Aggregate measure of amenities
Livest	Aggregate measure of livestock measured in livestock units

Dependent Variables	Definition of the Variables
<i>Household Shocks</i>	
Health	= 1 if experienced a health shock; else = 0
<i>Community Characteristics</i>	
Dailymak	= 1 if there is daily market in the community; else = 0
Transmark	= 1 if there is transport through the daily market; else = 0
Distmark	Distance to the daily market (km)
Periodmark	= 1 if there is periodic market in the community; else = 0
Disp	= 1 if there is dispensary in the community; else = 0
HealthC	= 1 if there is health centre in the community; else = 0
Disthosp	Distance to the nearby hospital (km)
Healthworker	= 1 if there is a health worker based in the community; else = 0

7.0 CONCLUSIONS AND POLICY IMPLICATIONS

This study aims at deepening the understanding of the key characteristics of the poor in Dodoma region, and the changes in the conditions and characteristics of poverty and income generation. The study findings indicate agricultural activities as the major escape route. Some households were said to have moved up because they work hard in farm, and use better tools and fertilizers. Success in agriculture is considered the main avenue for exiting poverty. In some cases, movement up has been a result of doing things differently in farming. The use of improved seeds and fertilizers, as well as diversifying the farm activities increases chances of escaping poverty.

This implies that pro-poor policies must continue to support the agriculture sector. Expanding the subsidy programmes as well as extension services including farmers' education approach is likely to escalate poverty reduction in the central regions. The major identified gaps with regard to poverty escape routes include inadequate health services, lack of access to clean water, quality of basic education, and limited number of players in the rural settings. It is important that pro-poor policies are implemented to alleviate health service, clean water, quality of education, and transport problems. The fact that the government alone can't afford overcoming the shortcomings, other development stakeholders should consider refocusing resources in rural areas.

As part of the emerging issues, good governance was mentioned a prerequisite for sound rural development management. The devolution of power to sub-national governments has been popularized and promoted by development partners. Promoting good governance at all levels in the policy implementation will accelerate upward mobility in the region.

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APPENDIX: DETAILS OF THE REGRESSION RESULTS FOR VOL. I & II

Table A- 1: Frequencies of the Variables used in Regression Analysis

Variables	Percent (N=309)
Male head of the household	86.8
Non poor households	36.4
No school and illiterate	15.9
No school but literate	2.8
Completed primary school	56.6
Completed secondary education	2.5
University education	2.5
Trader as a primary occupation	10.7
Animal car	8.2
Bicycle	59.1
Radio	64.2
Milling machine	3.3
Kerosene	5.5
Sewing	4.6
Private well	1.2
Latrine	85.1
Flush toilet	4.6
Type of wall	29.5
Type of roof	46.5
Member to economic associations	14.9
Member to credit associations	5.2
Member to political associations	30.4
Member to Religious associations	18.1
Aggregate measure of asset	77.1
Aggregate measure of amenities	94.9
Aggregate measure of membership to associations	41.1
Health shock	51.4
Received credit for consumption	24.5
Daily market in the community	37.1
Daily transport past the market	89.3
Period market in the community	45.6
Dispensary located in the community	47.8
Health Centre located in the community	33.7
Health worker based in the community	50.0

Table A- 2: Descriptive Statistics of the Variables used in the Analysis

Variables	N = 309		
	Mean	Minimum	Maximum
Step on the ladder of life in relation to welfare	4.0 (2.1)	1	10
Step on the ladder of life in relation to power	4.9 (2.6)	1	10
Step on the ladder of life in relation to happiness	5.2 (2.5)	1	10
Age of the head of household	44.4 (13.6)	12	97
Household size	5.7 (2.7)	1	21
Land owned (acres)	9.3 (14.8)	0	127
Oxen	0.3 (1.0)	0	8
Cow	2.2 (6.5)	0	60
Mules	0.1 (0.7)	0	7
Goats	2.6 (4.9)	0	32
Sheep	0.6 (2.3)	0	27
Pigs	0.3 (1.7)	0	15
Chicken	6.3 (8.9)	0	84
Number of rooms in the main house	3.0 (1.8)	0	16
Aggregate measure of livestock/Livestock units	2.4 (5.4)	0	45
Distance to the daily market (km)	10.0 (11.6)	0	36
Distance to the nearby hospital (km)	22.8 (15.9)	5	50

(a) *Standard deviations are in parenthesis.*

Table A- 3: Regression Analysis Results (Model 1)

Variables	Coefficient	Standard Error	t-statistic
Household size	-0.025	0.044	-0.57
Sex	0.192	0.286	0.67
Age	-0.044	0.041	-1.07
Agesqr	0.000	0.000	1.25
NoschIL	0.166	0.382	0.44
NoschLI	1.385*	0.786	1.76
Primcomp	0.589**	0.293	2.00
Secincomp	0.618	0.746	0.83
Seccomp	1.431**	0.653	2.19
Univ	1.887***	0.565	3.33
Yearedu	0.026	0.057	0.46
Trader	-0.014	0.280	-0.05
Animcar	0.033	0.335	0.10
Bicy	-0.339	0.243	-1.40
Radio	0.408	0.271	1.50
Kerosi	0.388	0.413	0.94
Sewing	-0.008	0.513	-0.02
Milling	1.253**	0.557	2.25

Variables	Coefficient	Standard Error	t-statistic
Oxen	0.046	0.104	0.44
Cow	0.011	0.032	0.35
Mule	-0.088	0.160	-0.56
Goat	0.066***	0.022	2.91
Sheep	0.071*	0.040	1.76
Pig	-0.019	0.057	-0.34
Chick	-0.010	0.133	-0.81
Land	-0.000	0.007	-0.12
Tapin	2.449**	1.161	2.11
Privwell	0.118	1.319	0.09
Rooms	-0.033	0.063	-0.53
Flutoil	0.114	0.474	0.24
Latrine	0.134	0.310	0.43
Wall	0.633***	0.221	2.86
Roof	0.584***	0.208	2.80
Creditcons	-0.126	0.197	-0.64
Health	0.001	0.002	0.54
Econassoc	-0.236	0.454	-0.52
Creditassoc	-0.230	0.492	-0.47
Politassoc	0.490	0.340	1.44
Religassoc	0.386	0.289	1.33
StatusNP	0.195***	0.043	4.47
StatusNH	0.195***	0.041	4.70
Distmark	-0.035	0.016	-2.12
Periodmark	0.385	0.321	1.20
Transmark	0.468	0.677	0.69
Disp	-0.954	0.701	-1.36
HeaC	1.564***	0.501	3.12
Disthosp	-0.003	0.003	-1.07
Heaworker	-0.513	0.362	-1.42
Asset	-0.028	0.355	-0.08
Ammen	-0.325	0.494	-0.66
Assoc	0.473	0.396	1.20
Livest	0.027	0.041	0.67

R-squared = 0.65, Adjusted R-squared = 0.56, observations=309.

* shows significance at 10% level

** shows significance at 5% level

*** shows significance at 1% level

Table A- 4: Regression Analysis Results (Model 2)

Variables	Coefficient	Standard Error	t-statistic
Household size	0.005	0.039	0.14
Sex	0.245	0.290	0.85
Age	-0.058	0.041	-1.41
Agesq	0.000	0.000	1.54
Yearsedu	0.079**	0.038	2.05
Trader	0.130	0.276	0.47
Creditcons	-0.195	0.197	-0.99
Health	0.000	0.002	0.38
StatusNP	0.193***	0.042	4.53
StatusNH	0.255***	0.041	6.15
Distmark	-0.028*	0.162	-1.73
Periodmark	0.372	0.316	1.18
Transmark	0.447	0.663	0.67
Disp	-0.633	0.585	-1.08
HeaC	1.367***	0.334	4.09
Disthosp	-0.001	0.003	-0.39
Heaworker	-0.393	0.332	-1.18
Asset	0.337	0.225	1.50
Ammen	0.228	0.382	0.60
Assoc	0.084	0.231	0.37
Livest	0.068***	0.016	4.06

R-squared = 0.55, Adjusted R-squared = 0.52, observations=309;

* shows significance at 10% level

** shows significance at 5% level

*** shows significance at 1% level

Table A- 5: Regression Analysis Results (Model 3)

Variables	Odds Ratio	Robust Standard Error	Z
Household size	0.845	0.102	-1.38
Sex	0.338	0.242	-1.51
Age	0.907	0.075	-1.17
Agesq	1.001	0.001	1.38
NoschIL	0.768	0.736	-0.28
NoschLI	30.522**	40.423	2.58
Primcomp	1.768	1.185	0.85
Secincomp	8.373*	11.082	1.61
Seccomp	22.601**	26.906	2.62
Univ	57.677***	56.921	4.11
Yearsedu	1.035	0.111	0.32
Trader	0.548	0.352	-0.93
Animcar	0.843	0.912	-0.16
Bicy	0.119***	0.070	-3.61
Radio	1.673	1.242	0.69
Kerosi	1.079	0.817	0.10
Sewing	0.367	0.3555	-1.03
Milling	4.240	3.899	1.57
Oxen	0.884	0.223	-0.49
Cow	0.951	0.075	-0.64
Mule	0.413*	0.202	-1.80
Goat	1.335***	0.116	3.34
Sheep	0.898	0.160	-0.60
Pig	1.076	0.173	0.46
Chick	0.967	0.034	-0.95
Land	1.026	0.021	1.23
Privwell	9.993	25.585	0.90
Rooms	0.967	0.174	-0.18
Flutoil	0.587	0.531	-0.059
Latrine	0.487	0.489	-0.72
Wall	1.998	1.067	1.30
Roof	3.313**	1.586	2.50
Creditoons	0.981	0.459	-0.04
Health	1.007	0.005	1.32
Econassoc	0.937	1.118	-0.05
Creditassoc	4.716	7.969	0.92
Politassoc	1.290	0.912	0.36
Religassoc	1.473	0.986	0.58
StatusNP	1.278**	0.130	2.41
StatusNH	1.705***	0.207	4.39

Variables	Odds Ratio	Robust Standard Error	Z
Distmark	0.871**	0.050	-2.38
Periodmark	35.248**	44.994	2.79
Transmark	53.763	141.416	1.51
Disp	7.673	17.767	0.88
HeaC	0.898	1.272	-0.08
Disthosp	1.009	0.011	0.94
Heaworker	0.333	0.303	-1.21
Asset	1.906	1.754	0.70
Ammen	2.286	3.477	0.54
Assoc	0.623	0.639	-0.46
Livest	1.074	0.085	0.90

Pseudo R-squared = 0.51, observations=307, Log pseudo-likelihood = -97.4485;

* shows significance at 10% level

** shows significance at 5% level

*** shows significance at 1% level

Table A- 6: Regression Analysis Results (Model 4)

Variables	Odds Ratio	Robust Standard Error	Z
Household size	0.927	0.058	-1.21
Sex	0.452	0.257	-1.40
Age	0.938	0.062	-0.96
Agesq	1.001	0.001	1.10
Yearsedu	1.108	0.080	1.41
Trader	0.609	0.296	-1.2
Creditcons	0.938	0.343	-0.17
Health	1.004	0.004	1.01
StatusNP	1.197**	0.093	2.32
StatusNH	1.621***	0.134	5.85
Distmark	0.911**	0.033	-2.56
Periodmark	9.969***	7.304	3.14
Transmark	7.069	11.460	1.21
Disp	2.763	3.256	0.86
HeaC	0.983	0.619	-0.03
Disthosp	1.011	0.007	1.59
Heaworker	1.049	0.736	0.07
Asset	1.537	0.773	0.85
Ammend	1.386	0.909	0.50
Assoc	1.129	0.494	0.28
Livest	1.068**	0.032	2.18
Land	1.105	0.017	0.93

Pseudo R-squared = 0.35, observations=309, Log pseudo-likelihood = -131.2101;

* shows significance at 10% level

** shows significance at 5% level
*** shows significance at 1% level

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