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

VOL I

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TABLE OF CONTENTS

LIST OF TABLES

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
CBOs	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
KCU	Kagera Cooperative Union
KDCU	Karagwe Development Cooperative Union
MBICU	Mbinga Cooperative Union
MCH	Maternal and Child Health
MDGs	Millennium Development Goals
MMA	Mixed Method Approach
NACP	National AIDS Control Program
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
TzPPA	Tanzania Participatory Poverty Assessment
TZS	Tanzania Shillings
URT	United Republic of Tanzania
VEO	Village Executive Officer

ABSTRACT

This report is organized in 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 focuses on the Coping Strategies used in Singida and Dodoma regions. The series provide an overview of poverty status in the respective regions, objectives of the study, the methodology used in carrying out the study, including the data collection and analysis techniques. The findings of this study focus on Singida 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 sunflower, groundnuts, and tobacco as cash crops and maize, millet, sorghum, and cassava as main food crops. Production of cash crops that have reliable market such as tobacco contributes 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 INTRODUCTION

1.1 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 has been undertaking various initiatives towards poverty reduction and attainment of social and economic development. Those efforts are found within a broad policy framework, the Tanzania Development 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 the Tanzania Development 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 a three year PRS I, (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 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, and districts. It is within this context that the Economic and Social Research Foundation (ESRF) in 2005/06 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 Singida 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.

1.2 Growth and Poverty Status in Singida Region

1.2.1 Growth and non-income indicators

Since late 1990s, Singida region has been experiencing positive per capita income growth. Data from the National Bureau of Statistics show that, in early 20th century, Singida region experienced per capita income growth of about 8 percent. However, the recorded growth has not adequately translated into improved wellbeing, as indicated by the information from the Household Budget Survey (HBS) (Table 1). In comparison with other regions, the non-income indicators reveal a mixed picture as quite a number of them show that Singida region is relatively performing better than other regions, while other indicators show otherwise.

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)

1.2.2 Assessment by Human Development Index and Human Poverty Index1

The 2005 Poverty and Human Development Report classified 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. The Report shows that 5 regions with High

[1]The 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 expectance 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.

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. Singida is categorized under Medium Human Development Index (0.483) performing much better than Dodoma (0.432), however, both Singida has HDI below the average for Mainland Tanzania index of (0.495).

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 region is classified under the Medium Human Poverty Index of (21.3) performing much better than Dodoma (22.9). Again, the HPI values for Singida are worse than the average HPI for Mainland Tanzania (22.1).

1.2.3 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, Singida ranks second as the most deprived region 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
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).

[2] Rank 1 depicts the most deprived region

1.2.4 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 Singida districts, together with Mara (worst values category) and Arusha (best values category). For most of the indicators, the districts in Singida region are moderate 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								
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).

However, the assessment of this region using individual indicators reveals that poverty is still prevalent. The review of available data also suggests that some areas within the Central Tanzania 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;

where the change in economic growth since the 1990s hasn't proportionally been translated into poverty reduction.

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. This drives the study objectives underneath.

1.3 Objectives of the Study

This study aimed at deepening the understanding of the key characteristics of the poor in Singida region and the changes in the conditions and characteristics of poverty and income generation. Also, the study sheds light on barriers, shocks and opportunities that drive mobility out of poverty. The study identifies interventions of public or private for reducing household susceptibility to shocks and enhancing opportunities for economic advancement.

The study draws from 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 were the 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 Singida 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.

1.4 Research Questions

(a) 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.
(b) How risks and shocks affect moving out of poverty?
(c) What constraints and opportunities determine upward and downward mobility in rural areas?
(d) 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?
(e) What new information on poverty can be generated from Singida region?

2.0. METHODOLOGY

The study used triangulation approach that combines both quantitative and qualitative methods. It combines both qualitative and quantitative data to better capture the complexities of poverty dynamics. Both qualitative and quantitative data shown strengths and weaknesses, but each method can be strengthened by using the intrinsic qualities of the other. When quantitative data and qualitative data are integrated into a single analysis, they can complement each other, inform each other, and they can provide a more complete picture than if each were analyzed separately. Thus, in poverty analysis the issue has been how to tap the potentials of each method rather than determining which is better or more important. In several other studies where qualitative and quantitative data are integrated, the former is used to set hypotheses, which are then tested by the latter (Rao, 1998; Temu and Due, 2000). In this study, the qualitative component was crucial in identifying causes for stagnating in poverty and poverty escape routes. The quantitative part collected the household and community variables that may have had impact on mobility. The qualitative data was therefore used to corroborate the quantitative data.

Coded questionnaires were used to collect quantitative data from individual households and the community, whereas interview guides/checklists were used to collect qualitative data.

2.1 Qualitative Methods

The qualitative component of the study was designed to be exploratory. In particular, the qualitative methods at identifying factors linked to (i) the perpetuation of poverty, (ii) downward mobility and (iii) economic growth, which are known to the poor themselves but may not be fully reflected in household and community surveys. It also aimed at identifying major risks and shocks and how they relate to poverty, and identifying coping strategies adopted in the study area; as well as providing an understanding of the specific mechanisms through which poverty arises and is maintained. 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:

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 the village leaders and prominent individuals, to collect data and other information for the community profile. The team obtained a general overview characteristics and history of the village.

(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. Factors that cause or prevent movement on the Ladder of Life were explored.

(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.

Further, FGDs determined the steps at and below where a household was no longer considered poor. The FGD concluded with sorting 100 individual households in the community on the Ladder of Life according to their current status and their status ten years ago to determine the change in status over time. The FGDs explored the importance of social capital for economic progress of individuals and of the community as a whole; why certain types of social capital are feasible and others not and how social capital changes over time.

(iv) Life Histories: In each village/community at least 14-16 life history interviews were carried out. The participants were selected basing on the 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 (shocks and government services and interventions). The areas covered 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 Muhalala and Makale in Iramba district; Kidarafa and Kinalilya in Iramba district.

2.4 Profiles of the Sampled Communities

2.4.1 Muhalala Community

Muhalala Community is located about 8 kilometers from Manyoni District Headquarters, along the highway to Dodoma. At the time of survey this village had 360 households with a total population of about 2493 individuals. The dominant ethnic group in Muhalala is Wagogo, which accounts for about 70 percent of the village population. The other ethnic groups in the community are Wamang`ati, accounting for about 30 percent and Wasukuma, who account for about 10 percent of the total village population. With respect to religious beliefs, majority of the Muhalala community members belong to the Christian community, of which about 85 percent of believers are Protestants, largely Lutherans and Assemblies of God. About 10 percent of the believers are Roman Catholics, and Muslims make up for about 5 percent of the village population. The village had 2 primary schools and a dispensary. The community relies on deep well as the major water source. The main economic activities in Muhalala are crop farming and animal keeping. There is some form of "specialization" among the major ethnic groups in key economic activities in Muhalala. Wagogo and Wasukuma are predominantly crop growers, keeping livestock as well—especially cattle; while Wamang'ati are purely pastoralists.

2.4.2 Makale Community

Makale Village is located in Mgandu Ward, Itigi Division, Manyoni District, Singida Region. The village is found 112 Km South-west of Manyoni town along the main road from Dodoma to Mbeya. The village was established in 1974, with Registration Number 188, as a result of the National Villagization operation that was undertaken in the late 1960s and early 1970s. Villagers were shifted from different villages, including: Chabutwa, Ukimbu, Batala and Kilulumo. At the time of the survey, the village had 525 households with a total population of 2573 individuals. Female-headed households were about 25 percent. The inhabitants of the village are mostly the migrated Nyakyusa, who are about 75 percent of all villagers. The second most numerous ethnic group is the Nyamwezi who are about 20 percent. The rest 5 percent include the Kimbu and others. With regard to religion, the Anglicans and Moravians dominate, being about 40 percent and 20 percent, respectively. This is because most Nyakyusa (who are the majority in the village) belong to the two denominations. The Roman Catholics are about 15 percent; the Muslims are about 20 percent, and about 5 percent of the villagers have no religion.

2.4.3 Kidarafa Community

Kidarafa Village is located about 103 km from Iramba district headquarters, and therefore, as far as 200 kilometers from the Singida Regional Headquarters. The village is in Mwanga Ward, which is along the road connecting Singida and Manyara regions. The closest township to Kidarafa village is Haydom, which is in Manyara region. Haydom town is about 13 kilometers from Kidarafa village. The village is a home to about 584 households, and during the survey it had a total population of about 3484 people. The major ethnic groups in the community are Wanyiramba (the natives of Iramba district) and Wairaq (the natives of Haydom district, Manyara region). Other ethnic groups are Wabarbeigh and Wanyisanzu. This mixture of ethnicity in the community is a result of its location, at the border between Manyara region (Haydom district) and Singida region (Iramba district). Kidarafa, like many other rural societies, is an agricultural society; where both crop farming and livestock keeping are carried out. The village relies entirely on wells as the main water source. There are three primary schools in Kidarafa, but there is no any health facility. The closest health facility is in Haydom town (Manyara Region), about 13 kilometers from the village.

2.4.4 Kinalilya Community

Kinalilya village is located about 10 kilometers to the west of the small town of Kiomboi, the headquarters for Iramba district. During the time of survey, Kinalilya was a home to about 300 households. There is one primary school in Kinalilya, but the community does not have a health center or a dispensary. The main economic activity in Kinalilya is agriculture, which involves both crop farming and animal keeping. Wanyiramba are the dominant (and almost only) ethnic group in Kinalilya, making up for more than 98 percent of the village population. The other minority ethnic groups are Wanyaturu and Wanyisanzu, who are very few in Kinalilya. With regard to religion, the majority of the villagers are Christians,

with few Islam and traditional believers. The community depends entirely on shallow wells as the major water source, and there are no deep water wells in the village.

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. Purposive sampling was done to capture households that had moved out of poverty, remained chronically poor, and those that had remained chronically rich. Participants 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 10 focus groups of participants between 8 and 12 were conducted in the sampled communities.

3.0 DATA ANALYSIS

3.1 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.

3.2 Quantitative Analysis

3.2.1 Descriptive Statistics

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

3.2.2 Descriptive Statistics of the Variables Used in the Analyses3

The discussion in this subsection presents a summary of descriptive statistics of the variables used in the specified regression models. The details of the variable frequencies and other descriptive statistics for all the variables used in the regression analysis are presented in Tables A-1 and A-2 in the appendix, at the end of this report.

Although a total of 367 households were interviewed, cleaning of the variables for regression purposes resulted to only 309 households with desired data. Cleaning of the data set entailed dropping of households with incomplete data set. Of the 309 households in the larger linked data file (data file containing household and community data) 86.8 percent of the respondents were male head of households. A good number of respondents have completed primary education (56.6 percent) whereas 15.9 percent had no school and they were illiterate. Only a fraction of respondents had completed secondary education, or having university education. Majority of respondents were farmers; only 10.7 percent indicated trade as their primary occupation.

The average size of the household was found to be 5.7 (this is above the national average which stands at 5.0 individuals) but the range was as low as 1 to as high as 21 members of the household. Although there are households which do not own any land (3.5 percent of the households surveyed) majority own between 2 to 3 acres (27 percent). However, on average the size of land owned is 9.3 acres (range 0 to 127 acres).

[3] These descriptive statistics represent 309 households with complete data set, and that have been used in the analysis. Note that the total sample for other statistics reported in this report is 367.

A good number of households (46.5 percent) owned houses roofed by concrete or iron sheets. However, few of these houses were made of bricks or concrete walls (29.5 percent). The major asset owned by a large number of households is radio (64.2 percent) followed by bicycle 59 percent. The major type of toilet used by majority is pit latrine (85.1 percent).

Using the individual household placement on the ladder of life, a household was defined to be poor or non poor depending on the cut-off point (poverty line) defined by the members of the focus group discussions. For example, if the household placed itself on the 5th step of the ladder of life, and the community placed the poverty line on the 6th step of the ladder of the life, then they 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 37.1percent 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).

3.3 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. The following subsection defines the variables that were used in the regression models.

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 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 7). They are also categorized in terms of explanatory variables. 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.

3.4 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.

Therefore, Ordinary Least Square (OLS) and Logistic regression models were used to assess the effects of household and community variables on the likelihood of being non poor as follows:

Model 1:

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

Model 2:

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

Model 3:

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

Model 4:

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

Logistic regression models assessed the effects of household and community variables on the likelihood of being non poor were also specified in the same manner. For that matter the dependent variable is a dichotomous variable representing poverty of the household, that is, poor or non poor.

3.5 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 tape 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 income[4], 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

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

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 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.

4.0 COMMUNITY AND HOUSEHOLD FACTORS AFFECTING MOBILITY

4.1 Changes in Income Opportunities

The surveyed communities were requested to discuss changes in income opportunities over the 10 years period (1995 to 2005). The aim was to identify changes in income opportunities since 1995 and causes of the changes. The key informants and focus group discussants indicated that of the 4 communities surveyed 3 have experienced improvements in economic and social conditions: Makale (Manyoni District), Kidarafa (Iramba District), Kinalilya (Iramba District), whereas one community experienced a downward fall in Muhalala (Manyoni District).

Essentially, the sampled communities have remained predominantly agricultural societies, dealing largely with crop production, while animal husbandry becoming a secondary activity. Despite the fact that a diverse range of crops is found in every village, there is no significant difference on food crops grown in different villages (Table 4). Whereas tobacco is a major cash crop that contributed significantly to the well being of tobacco farmers in Makale village, other villages depend mainly on sunflower and groundnuts as major cash crops.

Table 4: Major Crops Grown in Singida Region

Name of the Village	Major Food Crops	Major Cash Crops
Makale	Maize, beans	**Tobacco, sunflower, groundnuts**
Kidarafa	Maize, millet, wheat, onions, beans, dengu	**Sunflower, groundnuts**
Muhalala	Maize, beans, sorghum, sunflower, sesame	**Sunflower, groundnuts**
Kinalillya	**Maize, beans, bulrush millet, cassava, simsim, sweet potatoes, onions**	**Sunflower, groundnuts**

4.2 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 such as extension services, availability of farm implements including 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.

In Makale village, production of tobacco and maize as well as livestock keeping were mentioned to have prospered over the period of study. This was mainly due to increased extension services, use of fertilizers, reliable market for agricultural produce, loan to purchase agricultural implements, and introduction of new tobacco and maize varieties. The

reason for more livestock production was increased due to accessibility to veterinary extension services. The on farm activities had increased villagers' purchasing capacity due to income increase.

Accessibility to loan and readily market from Tanzania Leaf Tobacco Company (TLTC) via Makale Primary Cooperative Society was mentioned as one reason that makes tobacco production attractive. The price for tobacco has increased from TZS 771 per kilogram (kg) in 1995 to TZS 1400 per kg in 2005. These observations were made from the research informants saying; "foreign companies such as DIMON, STANCOM, TLTC, and INTERBEX started supporting tobacco farmers, particularly in terms of input supply on credit. Every tobacco farmer gets the amounts of fertilizers of various types and other agrochemicals equal to what he/she applies for". In fact, about 80 percent of all tobacco growers are getting profit from tobacco farming which has helped many villagers to build modern houses. In 1995, only about 10 percent of the houses in this village had iron sheets roofs, but now (2005) about 45 percent of the houses have such roofs" (***Key Informants, Makale Village, August 2005).***

Increased Importance of Vegetable Production

Another change in activity possibility set in the villages studied was the increased importance of vegetable growing especially among youths. As a response to climatic changes that affected other cash crops, notably sunflower and wheat, Kidarafa villagers found ways to stabilize their earnings to keep the life going through vegetable growing (horticulture) because they are grown over a relatively short period of time. Onions and tomatoes have become popular cash crops in the lowland areas.

4.3 Household Mobility: The Ladder of Life

In understanding household mobility over the past 10 years, the focus groups were requested to sort a total of 100 household per village and place them on the economic ladder of life. The ladder had 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.

Different categories based on possession of economic assets (including houses, farm area, number/type of livestock, and business entities) were used to determine household mobility. However, based on experience from other studies, the study prepared other instruments to elucidate other important factors for growth such as governance issues, availability of public services, and potential for economic and social organizations. Table 5 shows 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 5: Summary of Positions of the Sample Households on the Ladder of Life

Village	Status of Households (%)			
	Chronically Poor	Downward Movers	Upwards Movers	Chronically Rich
Makale	42	17	19	**22**
Kidarafa	42	9	21	**29**
Muhalala	20	60	9	**11**
Kinalilya	**40**	**18**	**21**	**22**

It is evident from Table 5 that although upward movement was observed in all the communities surveyed, it is only at Kidarafa, Makale, and Kinalilya communities where upward movement superseded the observed downward fall. Further, majority of households in Makale, Kinalilya and Kidarafa 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 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 can be summarized as:

4.3.1 Downward Movement to 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 are another important mobility factor.

In addition, excessive drinking of alcohol also appeared as one of the critical factors that pull households down. This is because it erodes the resource base of the consumer and the cereal base of households. This has necessitated villages like Muhalala to institute by laws whereby local brewing using cereals is prohibited. Local brewers are now brewing different type of brew known as *wanzuki* that use water and sugar as main ingredients.

Theft, especially cattle rustling was mentioned to be frequent in Kidarafa village. This is among the factors that pushed the families down to poverty. In some cases falling down the ladder was due to selling of assets particularly livestock.

Households that relied entirely on agriculture moved down due to low produce prices coupled by high input prices. Laziness was also recognized as among the factors that keep households poor. Community members believe that some of the poor could change their status if only they changed their behavior towards working hard.

Bad weather (also community-wide) 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.

5.0 FACTORS FOR UPWARD MOVEMENT (POVERTY ESCAPE ROUTES)

Use of better farm tools and fertilizers was 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 for producing profitable cash crops such as tobacco and sunflower were mention as crucial means 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 money and re-investing the earned money increased chances of moving out of poverty.

Diversifying the crops, for example, growing vegetables instead of depending entirely on the traditional cash crops such as sunflower was an important factor for movement out of poverty

Remittances from relatives were also said to have moved some households up the ladder of life when the money was invested in agriculture. 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 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.

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. This is expected to enhance opportunities for participation by placing more power and resources closer to people that would in turn lead to improvement in the quality and availability of services provided by local government authorities.

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 anywhere, 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 country[5]. 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). Since then, 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 6 summarizes the various perceptions of governance by respondents.

Table 6: 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

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

Decentralization Attribute	% of Responses
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 woks in this country	55
Somewhat satisfied with the way democracy woks in this country	40
Somewhat dissatisfied with the way democracy woks in this country	4
Very dissatisfied with the way democracy woks 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 official 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

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 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. Community members had confidence in their leaders both at national and local government levels. Participation in elections, which were perceived by the majority to be free and fair, was also high, and generally, community members were satisfied with the way democracy was working. As for corruption, it was perceived by more than half of the sampled individuals that only a few government officials are involved in bribe taking and corruption.

Despite the above achievements in terms of participation in decision-making and high level of commitment on the part of local leaders, the governance weakness in the study areas centers was more evident on lack of facilities and the neglect of the local leadership by the centre. It was also evident that the working methods in the administration and management of public functions are normally unreliable and have not been adjusted to global changes. Local leaders do not have the necessary support to enable them undertake their duties effectively. Apart from the Village Executive Officers (VEOs), the rest do not get paid wages and they therefore end up misusing rent from their fellow villagers or charging for their services. As a result, such incidences push people back into poverty.

Lack of access to external information (including market information) is a critical constraint in the rural. Community members rely mostly on their leaders, relatives, friends and neighbors for update 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. 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

First, in-access to public services (including education; health; water; infrastructure particularly roads, markets and market 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; and information

particularly awareness about various community wide issues), availability of the services to the community members and gender dimensions in services were mentioned as critical bottlenecks of mobility out of poverty.

*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 f*ourth; i***nvolvement of communities and their participation in public services delivery;** with particular emphasis on the aspect of community participation as an essential element of sustainability.

5.2.1 Un-met Needs to Access to Services

With regard to health, there have also been major improvements over the past decade, but there are some gaps still to be worked out. For example some communities had health facility (dispensary) within their villages, while others 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.

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.

Transport cost was noted as a significant barrier to accessing health services in all communities, especially in the focus group discussions. The respondents indicated that, even in the cases where the household was not supposed to bear much of the treatment costs – as for the case of TB for instance, transport costs and other related costs were very significant, and were hampering access to health services.

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. Water shortage in the communities has been a contributing factor to the growing problem of trachoma in some parts of central Tanzania (FGD, Muhalala Village).

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. And when it becomes too long, men become suspicious that their wives are not just fetching water, but up to something else. The following experiences from Makale Village indicate the severity of the water problem, its gender dimension and associated domestic conflict (Zenaida, 45 years, Women FGD – Makale Village, *August, 2005)*.

Access to infrastructure and other important economic services was a serious problem in the studied communities. Due to poor roads, and limited capacity of the private sector service providers in the 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).

Another important aspect with regard to information is awareness about HIV/AIDS issues. Still, in those communities, AIDS related deaths are linked to witchcraft beliefs. The following quote from Makale community exemplifies the situation "…….Many people are not well informed about HIV/AIDS in this community. There is this belief that people dying of AIDS in this village are bewitched. Someone could die of AIDS today, and in few days, his or her spouse, who has been left behind, would be dated by some other person in the village" (FGD, Makale Village):

5.2.2 Adequacy and Reliability of Services

The major challenge that exists is the inadequacy of basic social service provision i.e quality of basic education. While there are efforts to build classrooms and desks through the Primary Education Development Plan (PEDP), there are still no enough teachers in the schools. For instance, during the study period, Kidarafa village had three primary schools, but one of the schools had only one teacher. With regard to health, it is appreciated by the communities that the government has constructed dispensaries and introduced 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. It is obvious that one major challenge in addressing the quality of health services.

5.2.3 Key Players of Service Providers

One aspect that was noted in the study is the limited number of players in the 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 school, signaling limited

participation of private providers in secondary education in the rural areas. With regard to health services, the nearest reliable health facilities to the communities were either owned by the government or religious organizations. Religious organizations have been playing important role in reducing the gap in health services between what the government delivers to the community members and the actual needs of the communities. So the same for water services, TCRS installed a windmill in Kidarafa community, the only reliable source of water in the village.

5.2.4 Community Participation in Services

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.

Table 7: Definition of Community and Household Variables

Dependent Variables	**Definition of the Variables**
Status	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 cutoff point (poverty line) defined by respondents in a focus group discussions in every community; else = 0
Independent Variables	
Household Characteristics	
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

Dependent Variables	Definition of the Variables
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
Household Shocks	
Health	= 1 if experienced a health shock; else = 0
Community Characteristics	
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

6.0 CONCLUSIONS AND POLICY IMPLICATIONS

One can therefore see clearly that poverty shocks are real factors affecting mobility of members of the communities in Tanzania. While a few shocks are desirable in that they promote community prosperity, many of them are obstacles to community economic and social development. They impose serious intricacies to development and welfare of the people. This is particularly so because most of the people in the study area were vulnerable to shocks given their limited risk management potentials. Climatic change, economic hardships, and health related problems are among the key mentioned shocks prohibiting out of poverty escape routes.

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 poverty upward mobility in the region.

REFERENCES

Economic and Social Research Foundation (ESRF) (2006). "Private Sector Development Strategy for Tanzania: Diagnostic Analysis and Outline of the Proposed Development Strategy" Draft, ESRF, Dar-es-Salaam

Hughes, D and K. DuMont. 1993. "Using Focus Groups to Facilitate Culturally Anchored Research." *American Journal of Community Psychology* 21(6):775-806.

Jahnke. H. E. (1982). *Livestock Production Systems and Livestock Development in Tropical Africa.* Kieler Wissenschaftsverlag Vauk.

Krueger, A. R. 1994. *Focus Groups: A Practical Guide for Applied Research.* SAGE Publications. London.

Laderchi, C. R., R. Saith and F. Stewart. (2003). "Does it Matter that We Do Not Agree on the Definition of Poverty? A Comparison of Four Approaches." Oxford Development Studies, 31 (3): 243-274.

Msambichaka, L. A., N. E. Mwamba and O. J. Mashindano (2005). Poverty in Tanzania: Situation, Perception and Escape Routes, Tanzania Journal of Population Studies, Vol. No. Dar-es-Salaam

Rao, V. (1998). "Wife-Abuse, its Causes and its Impact on Intra-Household Resource Allocation in Rural

Karnataka: A 'Participatory Econometric Analysis'." In *Gender, Population and Development*. Delhi: Oxford University Press.

Temu, A.E and J. M. Due.2000. "Participatory Appraisal Approaches versus Sample Survey Data Collection: A Case of Smallholder Farmers Well-being Ranking in Njombe District, Tanzania." *Journal of African Economies* 19(1): 44-62.

URT . 1998. "Participatory Poverty Assessment—Shinyanga Region." Dar es Salaam: UNDP.

URT . 1999. "Poverty and Welfare Monitoring Indicators." Dar es Salaam: Vice Presidents Office.

URT . 2000. "Poverty Reduction Strategy Paper." Dar es Salaam: Vice President's Office.

URT . 2002. "Household Budget Survey – 2000/2001." Dar es Salaam: National Bureau of Statistics and Presidents Office-Planning and Privatization.

URT . 2004a. National AIDS Control Program: HIV/AIDS/STI Surveillance Report – Report No 18. Dar es Salaam: Ministry of Health.

URT . 2004b. "Vulnerability and Resilience to Poverty in Tanzania: Causes, Consequences and Policy Implications." TzPPA Main Report. Dar es Salaam: Vice President's Office.

URT . 2004c. "Agricultural Marketing in Tanzania: Sector Position Paper", Ministry of Cooperatives and Marketing, Dodoma

URT . 2005. "Poverty and Human Development Report-2005.) Dar es Salaam: Research and Analysis Working Group.

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APPENDIX I: DETAILS OF 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

Variables	N = 309		
	Mean	Minimum	Maximum
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
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

Variables	Coefficient	Standard Error	t-statistic
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

Variables	Odds Ratio	Robust Standard Error	Z
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	-.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
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

Variables	Odds Ratio	Robust Standard Error	Z
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

ESRF is an independent, non-governmental research institute registered in Tanzania with offices in Dar es Salaam. Its operations began in April 1994 in response to the need for the development of an institutional capacity for policy analysis. The foundation conducts policy-related research, capacity building programmes and policy dialogues that enhance the understanding of policy options within the government, the business community, the donor community, civil society and the growing private sector. It also undertakes demand-driven commissioned studies that conform to its mission.

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