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Rural Non-Farm Activities and Poverty Alleviation in Tanzania: A Case of Selected Villages in Chamwino and Bahi Districts in Dodoma Region

by

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ABSTRACT

The study assessed the role of rural non-farm activities on poverty alleviation in Tanzania. The research design adopted in this study was cross-sectional field survey in which both probability and non-probability sampling methods were employed. A number of findings have been established: first, the factors affecting the performance of non-farm activities include inadequate capital, lack of business education, poor business premises, inefficient transport to and from markets, women household gender roles, and other factors including inadequate labour and illness incidences; second, rural farm and non-farm activities are interlinked as the former in most cases provide capital for starting and running non-farm activities and the latter provide source of capital for purchasing farm inputs; and third, rural non-farm activities contribute in alleviating poverty of participating households by contributing a significant share to the income earned by participating households. The study concludes that rural non-farm activities play an important role in poverty alleviation. Therefore, efforts should be made to promote this sector so as to realize its full potential towards rural poverty alleviation.

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LIST OF ABBREVIATIONS

BDG	–	Business Development Gateway
CAP	–	Coop Africa Programme
DFID	–	Department For International Development (of The United Kingdom – UK)
FAO	–	Food and Agriculture Organisation (of the United Nations)
ILO	–	International Labour Organisation
NBS	–	National Bureau of Statistics
NGO	–	Non Governmental Organisation
NMB	–	National Micro Bank
PRIDE	–	Promotion of Rural Initiative and Development Enterprises Limited
RAWG	–	Research and Analysis Group (within Ministry of Finance)
SEDA	–	Small Enterprises Development Agency
SIDO	–	Small Industries Development Organisation
SME	–	Small and Medium Enterprises
SPSS	–	Statistical Package for Social Sciences
URT	–	United Republic of Tanzania

1.0 INTRODUCTION AND BACKGROUND

In most African countries, agriculture remains the main employer of the majority of labour force. However, in Sub-Saharan Africa, rural households that rely solely on agriculture for their livelihood are very few (Ellis, 2007; Reardon et al. 2006). Bryceson (2002) observes that between 60 to 80 percent of rural household income in Sub-Saharan Africa are derived from non-farm sources. In Tanzania, available data show that although farming remains the most important livelihood activity among rural households, non-farm sector is also a very crucial sector in income generation and poverty alleviation in general. The proportion of rural households who derive incomes from a combination of agriculture and other sources is about 65 percent and the trend is already towards increasing employment in non-farm activities in rural areas (World Bank, 2007; URT, 2005). According to the 2002/03 Agricultural Sample Census, 41 percent households had one member engaged in non-farm income generating activities, 21.2 percent had two members, and 9.1 percent had more than two members (NBS, 2005).

Low capacity of farm activities to provide sustainable livelihood opportunities to burgeoning number of poor people in Tanzania rural areas has resulted in the growth of non-farm activities (URT, 2004; Mung'ong'o, 2000). According to the Poverty and Human Development Report of 2007, poverty in Tanzania is anchored in the widespread reliance of households on subsistence agriculture which is characterized by small scale cultivation, use of hand tools, and reliance upon traditional rain-fed cropping methods and animal husbandry (RAWG and URT, 2007). Also, poor financial status of small scale farmers is one of the major constraints on agricultural production in Tanzania (NBS, 2005). World Bank (2007) observes that today non-farm activities have become livelihood diversification activities for all economic groups in rural areas. Baker (1995) in his study in Biharamulo District observed that whilst agriculture was a vital element in the village economies, the majority (83 percent) of households depended upon a variety of income-generating activities as survival and accumulation strategy.

In Tanzania, non-farm economic activities are of great importance to rural households in both economic and social terms. Income earned from non-farm activities is used to finance agricultural expansion through the purchase of farming tools such as hoes and ox-ploughs, inputs like fertilizers and pesticides, and hiring agricultural labour. Also, income earned from non-farm activities is used to pay school fees, health services, bride prices and food purchases (Mung'ong'o, 2000; Madulu, 1998; Mwamfupe, 1998; Jambiya, 1998). Moreover, according to Ellis (1998), in developing countries, income from rural non-farm activities enables poor households to overcome credit and risk constraints on agricultural innovation. Furthermore, FAO (1998) observes that rural non-farm income has potential of

preventing rapid or excessive urbanization (through youth employment) as well as natural resource degradation through overexploitation.

Despite the importance of non-farm economic activities to rural households in both social and economic terms, they lack policy, financial and promotional support from the government. According to the World Bank (2007), because of the broad sectoral diversity, from farm input supply to agro-processing, manufacturing, transport, construction, wholesaling, retail commerce and personal services, no line ministry holds clear responsibility for the rural non-farm sector activities. It also notes that non-farm economic activities have no specific regional or local government authority responsible for promoting them in particular locality because the supply chains for any given rural non-farm activity traverse broad geographic space – from rural areas to market towns and regional or export centres. As a result, the rural non-farm sector in Tanzania has largely remained a stepchild of government donor and NGO promotional efforts. Administratively, no one agency assumes responsibility for the welfare and growth of the rural non-farm sector.

The situation observed above has led to a tendency of most decision makers and development practitioners interested in rural development to neglect the rural non-farm sector. As a result, rural non-farm economic activities are not releasing their full potential benefits to the well-being of participating households.

To-date, most studies done on non-farm activities in Tanzania have focused on explaining the types of activities and expenditure patterns of income realized from the activities. The studies have not attempted to make a thorough analysis on the contribution of the activities to the well-being of participating households. This study aims at documenting the importance of rural non-farm economic activities in the development process of rural areas by testing empirically the contribution of these activities to poverty alleviation of participating households so that decision makers and development practitioners can take necessary steps towards supporting and promoting these activities.

2.0 STATEMENT AND SIGNIFICANCE OF THE RESEARCH PROBLEM

The trends of the performance of agriculture, the traditional major employer of rural population and the backbone of rural economies in Tanzania, show that the sector is under performing (URT, 2009; NBS, 2007; URT, 2005). Following this underperformance, most of rural households engage in non-farm activities so as to hedge against both income and non-income poverty (NBS, 2009). Evidence shows that rural non-farm activities have potential of absorbing a large number of would be youth migrant or youth who currently crowd the cities with under employment as they create immediate short term employment opportunities which can be more easily tapped by young people (World Bank, 2007). In Tanzania, diversification into non-farm activities in rural areas has not been very helpful since these activities are small scale in nature and they face constraints that limit them to grow. As such efforts are required to turn them into viable sources of livelihoods (NBS, 2005; Rutasitara, 2002).

However, because of limited research undertaken on the contribution of the rural non-farm activities on poverty alleviation, and therefore lack of empirical data and information on the role of rural non-farm sector, the government and other development practitioners, tend to neglect the contribution of these activities to the overall development process of rural areas (World Bank, 2007; FAO, 2002). This situation in turn has resulted in lack of clear policy on the promotion of rural non-farm activities and suffocation of these activities despite their great potential in poverty alleviation in rural areas. The neglect also cripples the likely economic linkages of these activities to the under-performing agricultural activities. These linkages which include income for purchasing agricultural inputs have big potential of boosting production in the agricultural sector.

As such the problem that this study was set to investigate is the extent to which rural non-farm activities contribute to poverty alleviation of participating households and explore the means by which the performance of these activities can be enhanced.

3.0 RESEARCH OBJECTIVES AND HYPOTHESES

3.1 Objectives

The general objective of this study was to examine the role of rural non-farm activities in poverty alleviation in Tanzania.

The specific objectives of this study included:

(i) To examine the factors affecting the performance of rural non-farm activities.

(ii) To examine the mechanism through which rural non-farm and farm activities are interlinked.

(iii) To determine the ways through which rural non-farm activities contribute to poverty alleviation.

3.2 Research Hypotheses

The study was designed to test the following hypotheses on the non-farm activities:

(i) There is a relationship between socio-economic characteristics of participating households and the performance of non-farm activities.

(ii) There is a positive relationship between the performance of non-farm and farm activities.

(iii) Non-farm activities contribute in reducing poverty of participating households.

4.0 THEORETICAL BACKGROUND AND LITERATURE REVIEW

4.1 Rural Non- Farm Economic Activities and Rural Economies

In most developing countries, the rural labour force is growing rapidly, but employment opportunities are not keeping pace (Reardon, et al. 2006; FAO, 2002; Gordon and Craig, 2001). According to Lanjouw and Sharrif (2002) and Islam (1997), as land available for expansion of agriculture becomes increasingly scarce, non-farm employment must expand if deepening rural poverty is to be avoided. The non-farm sector has great potential of increasing rural employment, contributing to economic growth, improving income distribution, and poverty alleviation (Mduma and Wobsit, 2004). It is therefore critical to determine how such activities can be promoted, given the importance of non-farm income as a mechanism whereby rural households can sustain and improve their livelihood and as a possible path out of poverty (FAO, 2002; Marsland et al., 2000).

However, in most developing countries, traditionally, agriculture has been the largest employer of population living in rural areas. This undeniable fact on rural economies and livelihood has led to the neglect of non-farm activities that play a significant role in the socio-economic development process of rural communities (Gordon and Craig, 2001). According to the World Bank (2007), the traditional image on rural households in developing countries has been that of focusing almost exclusively on farming and neglecting rural non-farm activity. Policy debate still tends to equate farm income with rural incomes. This situation has led to a tendency of most development practitioners and decision makers interested in rural development to neglect the rural non-farm sector.

Despite this tendency, there is mounting evidence that in developing countries, rural non-farm activities offer employment to a significant share of rural households and income derived from rural non-farm activities is an important resource for farm and other rural households, including the landless poor as well as rural town residents (Gordon and Craig, 2001; Newman and Canagarajah, 1999). According to Islam (1997) the share of the non-farm sector in rural employment in developing countries varies from 20 to 50 percent. Reardon (1997) notes that the typical rural household in Africa has more than one member employed in a non-farm enterprise and the average share of rural non-farm incomes as a proportion of total rural incomes is about 42 percent. Moreover, Reardon et al. (2006), note that the rural non-farm sector accounts for roughly 25 percent of full time rural employment and 32-40 percent of rural incomes across the developing world.

4.2 Rural Non-Farm Economic Activities and Poverty

Rural livelihood diversification strategies by households traditionally exclusively engaged in farming activities have been broadly classified as survival-led or opportunity-led (Jann et al. 2007). Survival-led diversification are likely to reduce poverty as it involves poor rural households with low asset endowment who are forced to diversify to ensure their survival mainly because they lack sufficient agricultural assets to sustain subsistence (Reardon and Taylor, 1996). On the other hand, opportunity-led diversification involves richer rural households with higher asset endowments who choose to diversify their livelihoods to maximize returns to their assets. Such activities exhibit entry barriers that the poor are not able to overcome and the strategy is likely to increase income inequality in rural areas (Ferreira and Lanjouw, 2001).

In Tanzania, most people live in rural areas. Therefore, changes in the head count of national poverty are almost exclusively determined by the performance of the rural economy (World Bank, 2007). Simulations suggest that rural growth has a strong effect on overall poverty (Demombynes and Hoogeveen, 2004). According to the National Household Budget Survey (HBS) of 2007, poverty has persistently remained highest in rural areas where 37.6 percent of the population falls below the basic needs poverty line as compared to 16.4 in Dar es Salaam and 24.1 in other urban areas (NBS, 2009).

Non-farm enterprises are essential for a significant proportion of Tanzania's rural population (World Bank, 2007). According to NBS (2009), rural income appears to be increasingly dependent on non-farm activities. It shows that the proportion of households' income from non-farm self-employment increased from 17.8 percent in 2000/01 to 27.3 percent in 2007. The same survey indicates that there has been a decline in the proportion of household income from agricultural sources in rural areas, from 60 percent in 2000/01 to 50 percent in 2007.

Empirical evidence shows that rural non-farm enterprises positively affect household welfare in Tanzania (World Bank, 2007). A decomposition of changes in rural consumption suggests that shifts from agriculture to non-agricultural activities have been an important contributor to poverty reduction (World Bank, 2006). Likewise, Ellis et al., (2003) in their study on livelihoods and poverty in rural Tanzania observed that non-farm activities offer an important route out of poverty.

Reasons for participating in non-farm activity in Tanzania vary. Rutasitara (2002) in his study in three administrative regions (Ruvuma, Dodoma and Mwanza) in Tanzania observed that 40 percent of sample households participated started new non-farm activities between 1992 and 1998. Of these households, 42.9 percent

participated because they considered the non-farm activity to be more profitable, 35.7 percent said they wanted to occupy themselves during the slack season, and for 7.1 percent it was because farm income was declining. Of those who did not participate in non-farm activity, 79.7 percent, cited lack of initial capital and equipment as the main constraint while the remaining section found returns from their activities dwindling and the market for their products stagnant.

A combination of factors makes agriculture no longer the only dependable economic activity in Tanzania rural areas. This situation can be attributed to several factors. First, there has been a decline in the importance of agricultural activities as the main provider of cash income. This has been caused partly by a rise in the costs of production which have in turn resulted in reduced productivity of agricultural crops (World Bank, 2007; Tacoli, 2002). Second, with the increase in population, land has become scarce and its continuous use without replenishment has contributed to a decline in soil fertility (URT, 2004; Rutasitara, 2002). Third, the integration of the local economy based on agriculture into the world economy has resulted in poor performance of the agricultural sector as in most cases cooperatives and private crop buyers have failed to pay peasants appropriate prices and promptly (Liwenga, 2005; Mung'ong'o, 2000; Mwamfupe, 1998; Madulu, 1998).

4.3 Linkages between Farm and Rural Non-Farm Economic Activities

The concept of farm/non-farm linkages is most commonly used to describe the relation between the farm and non-farm sectors (FAO, 1998). These sectors can be linked directly via production linkages, in which case the linkage occurs either "upstream" or "downstream". According to Gordon and Craig (2001), when growth in the farm sector induces the non-farm sector to increase its activities by investing in productivity or additional capacity for supplying inputs and services to the former, the linkage is upstream. It is downstream (and is often referred to as a value-added activity) in cases where the non-farm sector is induced to invest in capacity to supply agro-processing and distribution services, using farm products as inputs. Indirect expenditure linkages, on the other hand, occur when incomes generated in one of the two sectors are spent on the output of the other. Finally, there may be investment linkages between the two sectors, in which case profits generated in one are invested in the other.

There are expenditure linkages between rural non-farm and farm activities in that income generated from farm activities is spent on the output of non-farm enterprises and vice versa. Where there are constraints on access to credit, investment linkages between rural non-farm activities and the farm sector may also be very important. In such circumstances, non-farm income may be crucial for a farm household's

capacity to make farm capital investments and purchase modern inputs. Vice versa, savings generated by farm activities may be the basis of investments in non-farm activity (Gordon Craig, 2001).

According to the World Bank (2007) a virtuous cycle of development can arise through the interaction of farm and non-farm activities. Agricultural and non-farm activities are linked in several ways through consumption (demand for final products), production (backward and forward supply of inputs among businesses), finances (remittance and savings channeled through urban institutions), and labour market links.

In Tanzania, agriculture has major growth links to the non-farm sector, but almost entirely through consumption. According to World Bank (2000) and Tiffin and Irz (2006), estimated expenditure multipliers range from two to three, that is, Tshs. 1000 (US$0.77) of new household income from crop sales in a remote area can lead to a further Tshs. 2,000 in additional local employment in the production of goods and services.

4.4 Determinants of Participation and Performance of Rural Non-Farm Economic Activities

Decisions made by rural households concerning the form and extent of their involvement in rural non-farm activities generally depend on two main factors. First, incentives offered, such as the relative profitability and relative risk levels in farm and rural non-farm activities; second, the household's capacity to undertake such activities (Reardon et al. 2006; Gordon and Craig, 2001; FAO, 1998).

According to the World Bank (2007), one of the important determinants of the performance of rural non-farm activities is the investment climate. Among others, the investment climate includes factors that are incentives or disincentives for starting and running a business, including financial services, infrastructure, governance, regulations, taxes, labour and conflict resolution (Dollar et al., 2005; World Bank, 2004).

Households are motivated to undertake rural non-farm activity by either "pull" or "push" factors. According to FAO (1998) and Reardon et al. (2006), "pull" factors include better returns in the non-farm sector relative to the farm sector, and "push" factors include an inadequate farm output, resulting either from temporary events (e.g. a drought) or longer-term problems (e.g. land constraints); an absence of or incomplete crop insurance and consumption credit markets (to use as ex post measures for harvest shortfalls); the risks of farming, which induce households to manage income and consumption uncertainties by diversifying and undertaking

activities with returns that have a low or negative correlation with those of farming; an absence or failure of farm input markets or input credit markets, compelling households to pay for farm inputs with their own cash resources.

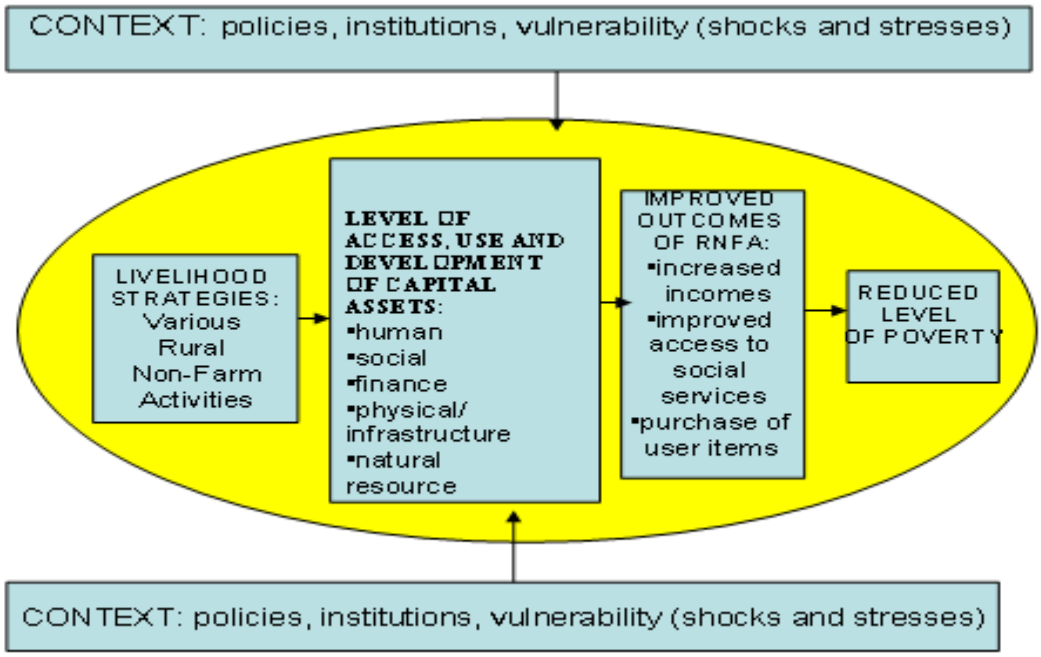
4.5 Conceptual Framework for Analyzing Rural Non-Farm Economic Activities and Poverty Alleviation

Rural households participate in non-farm activities as a strategy to increase their income by diversifying their livelihoods (Mung'ong'o, 2000). According to the Sustainable Livelihood Framework (DFID, 1999; Carney, 1998), the sustainability of livelihood diversification strategies of rural households depends on access, use, and development of different types of assets. These are considered to be stocks of different types of 'capital assets' that can be used directly or indirectly to generate livelihoods. These include human, social, financial, physical, and natural capital. The success of livelihood strategies depend on the context within which they operate which include political, institutional and vulnerability issues such as shocks and stresses. According to Scoones (1998) a livelihood is sustainable when it can utilize opportunities created by existing policies and institutions and cope with and recover from stresses and shocks, maintain or enhance its capabilities and assets, while not undermining the natural resource base (See Figure 1).

(a) Human capital

Human capital is a vital determinant of the livelihood strategy outcomes. It includes the skills, knowledge, ability to labour and good health important to the ability to pursue different livelihood strategies (Reardon, et al. 2006). Education is a key source of human capital, which offers a potentially important route into higher-return non-farm opportunities. Less-educated households rely instead on low-paying farm wage employment or very low-productivity nonfarm pursuits (Lanjouw and Shariff 2002; Hossain, 2004). Tovo (1991) in her study on women receiving small business training in Tanzania observed that extension services were particularly helpful, as evident in the success rate achieved by those who received training.

Figure1: Conceptual Framework for RNFA and Poverty Alleviation [Based on DFID (1999) and Carney (1998) Sustainable Livelihood Framework].



(b) Social capital

Social capital comprises a variety of social resources (for example, networks, membership of groups, relationship of trust, and access to wider institutions of society) upon which people draw in pursuit of livelihoods (DFID, 1999). These resources have a greater role to play as determinants of participation and performance of rural non-farm activities. According to Gordon and Craig (2001), there is ample anecdotal evidence of the evidence of the influence of social capital on access to different types of employment. Tovo (1991) found that the women she interviewed in her study in Tanzania had made some important contacts through training or extension in which they were involved. These contacts helped them to obtain scarce inputs for their businesses and to find customers. Reardon (1997), observes that larger families and those with multiple conjugal units supply more labour to the rural non-farm sector, as sufficient family members remain in the home or on the farm to meet labour needs for subsistence.

Elsewhere in Asia and Latin America, some studies have shown that social linkages can be critical to reducing transaction costs and risks for rural non-farm activity (Reardon, et al. 2006). Winters et al. (2002) for Mexico, and Zhang and Li (2003) for China, found that social capital (such as membership in organizations and “connections”) in general had important effects on rural non-farm participation. Lanjouw and Shariff (2002) study in India found that schedule caste increases probability of participation and returns from non-farm activity.

(c) Financial capital

The financial capital encompasses the financial resources which are available to people (whether savings, supplies of credit or regular remittances or pensions) and which provide them with different livelihood options (Gordon and Craig, 2001; Scoones, 1998; Carney, 1998; DFID, 1999).

Access to financial capital or credit, whether in farm or non-farm sector, is one of the principle problems of rural households and individuals wishing to start a business. Gordon and Craig (2001) observe that without start-up funds, or with only little cash available for investment, households are limited to a small number of activities which yield poor returns, partly because of the proliferation of similar low entry barrier enterprises.

Bagachwa and Stewart (1992) in their four-country study in Africa found that 30-80 percent of rural industries complained of poor access to credit. According to FAO (1998), incentives to participate in rural non-farm activities differ according to households' wealth. Poorer households are less able to tolerate or cope with negative shocks to their income and are thus more averse to this type of risk.

(d) Physical capital

Physical capital includes the basic hard and soft infrastructure (for example, transport, shelter, water, energy and communications) and the production equipment and means which enable people to pursue their livelihoods (Reardon, et al. 2006; DFID, 1999; Carney, 1998).

Proximity to towns and access to infrastructure such as roads, electricity and water are crucial capacity determinants of rural non-farm employment and income levels (Reardon, et al. 2001; Barrett, et al. 2001; Hossain 2004; Lanjouw and Shariff 2002). According to Reardon, et al. (2006), where infrastructure is good, transport costs are low, so effective output prices of non-farm products are higher. Also, roads can make it cheaper to ship the raw product to a town or city for processing. Reardon, et al. (2001) found that in Thailand, educated landless workers living in the densely populated rural zones of the Pacific region of Nicaragua, well served by roads and near major cities and ports, were top earners of rural non-farm incomes in Nicaragua. In contrast, those in the hinterland were relegated to small-scale manufactures, local stagnant markets, and low returns to labor.

Energy is another equally critical component of infrastructure. According to Gordon and Craig (2001), electricity helps to create increased rural non-farm opportunities in several ways. First, by enabling the development of enterprise for electricity is a

prerequisite; second, by reducing the costs of, for example, diesel-powered, small-scale milling to a viable level; third, by providing lighting and hence increasing the hours that can be spent in rural non-farm activities; and lastly, by releasing labour from time-consuming and low productivity chores such as manual pounding of grain.

Gordon and Craig (2001) also observe that, improvement of telecommunications reduces transaction costs, by improving information flow. They remark that, other things being equal, this should contribute to development of rural enterprise, particularly relative to the poor telecommunications access that has been the norm for many rural communities.

(e) Natural resource capital

The natural resource capital includes stocks from which resource flows which are useful for livelihoods are derived (e.g. land, water, wildlife, biodiversity, environmental resources) (Reardon, et al. 2006; Gordon and Craig, 2001; DFID, 1999).

According to the World Bank (2007) and FAO (1998), the agro-climatic characteristics of particular area, which may be favorable or unfavorable, more or less variable, influence farm households' risk motive for income diversification into non-farm activities. Households in areas with a high-risk agriculture would be more "pushed" to diversify into rural non-farm activities. A larger share of such activity would be undertaken merely to cope (ex post) with shocks to farm income (such as from drought), although one would expect diversification of income, also in "normal" years (e.g. non-drought years) so as to accumulate resources (wealth) with which to overcome negative shocks. By contrast, households in areas where agriculture is less risky might participate in rural non-farm activities mainly for the higher returns they give or in order to alleviate cash and credit constraints (FAO, 1998).

The incidence of landholdings on participation in and earnings from rural non-farm activity is complex: First, land can be collateral where credit markets function and thus increase access to credit, in turn used to invest in physical capital needed for more remunerative non-farm work; second, landholding (compared with landlessness) can be the key to enter organizations and groups and thus have social capital which aids in RNF activity; and, third, land can simply be the determinant of farm investment, access to working capital and income, and most non-farm activity investments are based on own-liquidity (Reardon et al. (2006).

However, the livelihood approach definition of assets has been criticized as being simplistic especially when it comes to the question of land to rural households. According to Giddens; in Bebbington (1999, pp. 2022), "A person's assets, such as

land, are not merely means with which he or she makes a living: they also give meaning to that person's world. Assets are not simply resources that people use in building livelihoods: they are assets that give them the capability to be and to act. Assets should not be understood only as 'things' that allow survival, adaptation and poverty alleviation. They are also the basis of an agent's power to act and to reproduce, challenge or change the rules that govern the control, use and transformation of resources"

4.6 Policy Considerations

A number of national policies provide policy context within which rural non-farm activities operate. The *National Micro Finance Policy* (URT, 2000) recognizes the contribution of small and micro enterprises in reducing income poverty of households in rural and urban areas. It outlines the importance of providing financial services to small and micro enterprises in rural as well as urban areas so as to promote their performance.

The *Small and Medium Enterprise (SMEs) Development Policy* launched is probably the main policy on rural and urban small enterprises in Tanzania. It spells out that SMEs by definition which is used to mean micro, small and medium enterprises cover non-farm economic activities mainly manufacturing, mining, commerce and services, contribute significantly to jobs creation, income generation and simulation of growth in both urban and rural areas (URT, 2003b). According to this policy, the enterprises are very important to the country as well as household economies as it is estimated that about a third of the GDP originates from the SME sector. The policy SMEs tend to be labour-intensive, they create employment at relatively low levels of investment per job created and absorb most of the new entrants into the labour market, mostly in the informal sector, the policy outlines a number of strategies that can help to promote the enterprises.

The *National Employment Policy* recognises that the private sector including SMEs is the major source of employment in Tanzania and outlines strategies that will contribute to the creation of an enabling environment for the sector development (URT, 2008). Specifically, the policy specifies that currently the proportion of rural households who derive incomes from more than three sources is on the increase. However, the policy spells out that employment in non-farm activities in rural areas is growing at a very slow pace and without coordination and support. As such, non-farm earnings need support from both the agricultural sector and other dynamic rural sectors such as forestry, wildlife, fisheries and tourism in order to increase opportunities for earning incomes in rural areas from environment friendly non farm activities.

5.0 METHODOLOGY

5.1 The Study Area

This study was carried out in Mvumi Mission and Bahi Sokoni villages which are located in Chamwino and Bahi Districts, respectively. The districts formerly constituted Dodoma Rural District before it was split to form the new districts in 2005. According to the information from the respective village offices, the villages have the population of 12,421 and 11,197 respectively. The two districts are located in Dodoma Region which is predominantly semi-arid in nature. The districts experience low and erratic rainfall which starts from mid-November to mid-April. Rainfall ranges between 500 mm to 650 mm per annum. Soil in the districts is generally characterized by shallow depth, moderate organic matter content, salinity in some parts and poor permeability that lead to higher surface run-off. All these physical and climatic factors combine to affect crop farming which is the major economic activity in the districts. The districts are dominated by rural economy which is based on subsistence rain-fed agriculture (URT, 2003). The selection of Dodoma Region to be the study area is based on two facts. First, it is one of the regions with low agricultural production levels, the fact which cause rural non-farm activities to be important economic activities to participating households. Second, the region is one of the areas with higher poverty levels in Tanzania (NBS, 2006a).

5.2 Data Types and Sources

The major research method used in this study is cross-sectional field survey which was supplemented by review of existing literature. The main reporting unit in this study was a household as such most of data collected and analyzed are household based. The main target population was households participating in non-farm economic activities.

Data collected are divided under four categories as follows:

The first set of data was on household socio-economic characteristics that allowed for analysis of non-income poverty issues on survey population. This was gathered from both households involved in non farm activities and those which are not. It included demographic data, that is, sex, age, marital status, education and migration; housing; ownership of productive resources such as land and working tools; and livestock.

The second set of data was on household income. This included earnings of households from economic activities. These included amount of earnings from self-employment and wage employment in a reference one year period. Income earned

from farm and non-farm activities, and other sources were segregated. This set of data allowed for analyzing issues of income poverty of households participating and those not participating in non-farm economic activities.

The third set of data included items on which household income earned from different sources is used. This assisted further analysis of the contribution of non-farm activities on household poverty alleviation.

The fourth set of data collected was on the factors that determine household members to participate in farm and non-farm activities, and the performance of these activities. These included initial capital required to engage in particular economic activity, and skills and knowledge required. This set of data involved data on the type of economic activities; and ability to access financial and produce markets.

5.3 Sample Size and Sampling Procedure

5.3.1 Sample size

The sample size for this study was determined by the number of both households participating and not participating in non-farm activities in each of the two villages selected for this study. The sample size aimed at having a representative sample from these two villages. A total of 341 households were interviewed: 175 households in Mvumi Mission village and 166 households in Bahi Sokoni village. The number of households interviewed in each selected village was about 6 percent of total households. This percentage was considered a representative sample given time and resources that were available to the researchers.

5.3.2 Sampling procedure

Purposive sampling method was used to select the two sample villages, namely Mvumi Mission and Bahi Sokoni, for this study. The criteria employed included presence of a significant number of non-farm activities and geographic location aspects. The discussion with district council officials indicated that the selected villages had a significant number of non-farm activities compared to other villages in the districts. Bahi Sokoni village is located along the main road and the second village is located far from the main road. This kind of purposive village sampling was done so as to capture the influence of accessibility and transportation to and from the markets on the levels of participation in non-farm activity and performance of non-farm activities in the respective villages.

Systematic random sampling procedure was used to sample households for interviews in the sample villages. This was based on sub-villages (vitongoji) forming the villages. Guided by the sub-village leader (who knows the physical boundaries of the sub-village), every fourth house was visited until the number of required households previously determined was obtained. The sample selected included households who are participating and those not participating in non-farm activities were undertaken.

Purposive sampling method was used to select key informants in the study area. These included community leaders at regional, district, ward and village levels. Also, microfinance institutions were included in this sample. Microfinance institutions interviewed are those based in Dodoma. They include SEDA, FINCA, PRIDE and SIDO.

5.4 Data Collection Methods

Data collection involved three major methods, including documentary review, interviews and discussion with key informants (See Plate 1). Interviews to households were done using a semi-structured questionnaire, while interviews to key informants were conducted using an unstructured open ended checklist (See Appendix 4).

Documentary review was used to collect secondary data. The documents reviewed are those considered more relevant and pertinent to the research problem. They included books, journals, manuscripts, and research and official reports.

Plate 1: Researchers in discussion with key informants in the study area

5.5 Data Analysis

Analysis of data collected from the field started immediately after field work. It involved compilation and processing of data collected from the field. Data processing involved editing, coding, classifying and entering collected data into the Statistical Package for Social Sciences (SPSS) computer software.

Quantitative and qualitative data were generated and presented via frequencies, descriptive and multi-responses statistics in SPSS. Frequency distribution tables, cross-tabulation and regression analysis were used to examine the relationship between variables.

6.0 FINDINGS

6.1 Socio-Economic Characteristics of the Study Population

6.1.1 Demographic Characteristics

Several reasons lead to a need for a brief discussion on the demographic factors of the survey population. Such factors as age-sex composition and amount of labour available in the household influence the household activity choice and could lead to an expanded range of activities engaged in by the household (Winters et al. 2009).

Table 1 shows that the surveyed population in Mvumi Mission village was 935 (481 males and 454 females) and Bahi Sokoni village was 872 (396 males and 476 females). This makes a total survey population 1,807 of which 877 were males and 930 were females. It shows that people in the young age groups dominate the population in the study villages with higher concentration at the age cohorts 10-14 and 20-24. This can be attributed partly to higher fertility levels which are normally predominant in rural areas but also mainly due to the fact that these young age groups are not affected by out migration.

Table 1: Age-Sex Distribution of Study Population

Age	Mvumi Mission			Bahi Sokoni			Total		
	Male (n=481)	Female (n=454)	Tota (n=935)	Male (n=396)	Female (n=476)	Total (n=872)	Male (n=877)	Female (n=930)	Total (n=1807)
0-4	5.1	3.7	4.4	4.9	3.2	4.0	5.0	3.8	4.2
5-9	6.8	7.4	7.1	8.8	6.7	7.8	7.8	7.1	7.4
10-14	12.4	10.6	11.5	16.2	21.0	18.6	14.3	15.5	15.1
15-19	14.7	12.5	13.6	12.1	14.2	13.1	14.1	13.4	13.7
20-24	10.1	10.1	10.1	12.8	11.9	12.4	14.8	11.0	12.9
25-29	6.0	10.5	8.3	10.0	8.8	10.8	8.0	9.6	8.8
30-34	8.5	9.2	8.9	6.1	5.2	5.7	8.1	7.2	7.6
35-39	6.1	6.6	6.4	5.5	5.7	5.6	7.5	6.2	6.9
40-44	6.0	8.4	7.2	6.8	5.4	6.1	6.4	6.9	6.6
45-49	6.6	5.7	6.1	5.1	4.4	6.4	5.8	5.1	5.5
50-54	5.4	5.7	5.5	2.1	2.5	2.3	3.7	4.1	3.9
55-59	4.9	3.9	4.4	3.0	3.3	3.1	3.9	3.6	3.8
60-64	3.1	2.2	2.6	1.9	2.3	2.1	2.5	2.2	2.3
65+	4.3	3.5	3.3	4.7	5.2	4.9	4.5	4.4	4.4
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Field Survey, October, 2010

Generally, the analysis of the age-sex composition of the survey population shows that the distribution of population by age and sex is similar to that found in several developing countries which have a broad based population pyramid depicting the prevalence of high fertility levels in rural areas (NBS, 2006).

6.1.2 Household Size

The term “household” is generally used to refer to a social group of people who live, work, and eat together (Siegel and Swanson, 2004; Shryock and Siegel, 1976). For the purpose of this study, the term “household size” has been used to refer to the number of persons who usually reside in the household and share household expenses (‘common’ kitchen) (Kamuzora, 2002). This definition puts together people like parents, children, and any other person who cooperate in the daily economic and social life.

Information in Table 2 shows that the household size in the study villages ranged from 1-2 up to 9 and above members. Most of households (52.8 percent) had 5-6 members. This was followed by households with 3-4 members (23.5 percent). The third group was that with household size of 7-8 members (15.8 percent). The average household size of the surveyed population was 5.2 persons per household. The observed household size is more or less similar to that of the national average household size in rural areas of 4.9 persons (NBS, 2006). Analysis of the household size was considered important in this study as is a vital factor in determining the characteristics of labour supply in household economic activities, production patterns, consumption levels within the household, pressure on land and other productive resources owned by the household (Winters et al. 2009; Mwisomba and Kiilu, 2002). In this study the household size has been found to influence significantly the household income realized from non-farm activities.

Table 2: Household Size by Study Village

Household Size	Name of the village		Total (n=341)
	Mvumi Mission (n=175)	Bahi Sokoni (n=166)	
1-2	3.4	6.0	4.7
3-4	18.9	28.3	23.5
5-6	59.4	45.8	52.8
7-8	14.3	17.5	15.8
9+	4.0	2.4	3.2
Total	100%	100%	100%

Source: Field Survey, October, 2010.

6.1.3 Education Levels

Education is a very important characteristic of a person as it determines his/her level of understanding and interaction with the surrounding environment (URT, 2003a). Also, education is the most important tool for developing human skills, knowledge and liberating people from poverty (URT, 1999). As indicated in the conceptual framework of this study which is based on DFID (1999) and Carney (1998) Sustainable Livelihood Analysis Framework, analysis of education level of the survey

population in the study of rural non-farm activities is of particular importance as it increases skills levels which are required for some rural non-farm activities and can set in train processes that increase confidence, establish useful networks or contribute to productive investment.

This study found that 85.0 percent of the survey population of 15 years and above in both study villages had attained primary education, 2.6 percent had non-formal education and 12.3 had attained post primary education (See Table 3). Other people in this category had non-formal education (12.3 percent), and 2.6 percent had attained post primary education. Non-formal education captures all people who did not have a chance of passing through formal education. These data has the direct relevance to this study as the education level of household heads has been found as one of the factors influencing the performance of non-farm activities at household level.

Table 3: Education Levels of Study Population (15 years and above)

Education Level	Village		Total (n=1,326)
	Mvumi Mission (n=720)	Bahi Sokoni (n=606)	
Non-formal	10.7	14.1	12.3
Primary education	86.4	83.5	85.0
Post primary education	2.9	2.4	2.6
Total	100%	100%	100%

Source: Field Survey, October 2010.

6.1.4 Land Ownership

The major asset of households in the study village is land. The study found that most of households who participate in non-farm activities own land between 1-2 acres (33.8 percent) and 3-4 acres (31.6 percent). Table 4 shows the acreage of land owned by households participating in non-farm activities in the study area. According to NBS (2003) the major limitation on land holding size and production levels in Dodoma Region is the use of hand hoe as a major cultivating tool. Gender-wise most (41.0 percent) of female households who participate in non-farm activities own land size of between 1-2 acres while most (37.5 percent) of male headed households own land of the size between 1-2 acres.

Table 4: Distribution of Size of Land Owned by Households Participating in Non-Farm Activities

Land size(acres)	Village						Total		
	Mvumi Mission			Bahi Sokoni					
	Male (n=103)	Female (n=31)	Total (n=134)	Male (n=73)	Female (n=30)	Total (n=103)	Male (n=176)	Female (n=61)	Total (n=237)
1-2	36.9%	22.6%	33.6%	38.4%	23.3%	34.0%	37.5%	23.0%	33.8%
3-4	22.3%	38.7%	26.1%	37.0%	43.3%	38.8%	28.4%	41.0%	31.6%

Land size(acres)	Village						Total		
	Mvumi Mission			Bahi Sokoni					
	Male (n=103)	Female (n=31)	Total (n=134)	Male (n=73)	Female (n=30)	Total (n=103)	Male (n=176)	Female (n=61)	Total (n=237)
5-6	24.3%	19.4%	23.1%	15.1%	16.7%	15.5%	20.5%	18.0%	19.8%
7-8	10.7%	9.7%	10.4%	5.5%	13.3%	7.8%	8.5%	11.5%	9.3%
9+	5.8%	9.7%	6.7%	4.1%	.3%	3.9%	5.1%	6.6%	5.5%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%
	76.9%	23.1%	100%	70.9%	29.1%	100%	74.3%	25.7%	100%

Source: Field Survey, October, 2010.

In both villages of study, the system used to acquire and own land is that of customary land tenure. Under this system the major means of land acquisition and ownership is through inheritance, although some households acquire land by purchasing, renting, no man's land clearing or other means such as borrowing from relatives or neighbours. Table 5 shows the methods used to acquire land by households in the study villages.

Table 5: Land Acquisition Methods by Households Participating in Non-farm activities in the Study Villages

Land Acquisition Method	Village		Total
	Mvumi Mission (percent) (n=134)	Bahi Sokoni (percent) (n=103)	
Inheritance	78.1	69.3	73.7
Purchasing	23.6	18.7	21.3
Renting	5.2	13.3	9.3
Land clearing	14.8	7.2	11.0
Others	3.1	4.3	3.7

N.B. Total exceeds 100 percent due to multiple responses.
Source: Field Survey, October 2010.

The traditional land ownership system as that observed in the study villages hamper the possibility of modernizing farming practices which can raise productivity levels of rural households. This is because under this system, land owners have no legally recognized right of occupancy over land they occupy which could be used as collateral to access credit from financial institutions.

6.1.5 Economic Activities of the Survey Population

Households in the study villages perform a variety of economic activities including crop farming, livestock keeping, non-farm, bee-keeping and other activities. Table 6 shows that the majority of households are engaged in agricultural activities including crop farming (96.5 percent) and livestock keeping (17.6 percent). It also shows that non-farm activities are practiced by a sizable number of households (69.5 percent). Only 1.2 percent of responses indicated that households practice bee-keeping.

Other economic activities which include labouring and fishing are practiced by only 0.9 percent of households.

Table 6: Distribution of Economic Activity by Study Villages

Major economic activity	Village		Total (n=341)
	Mvumi mission (n=175)	Bahi (n=166)	
Crop farming	99.4	93.4	96.5
Non-farm activity	76.0	62.7	69.5
Livestock keeping	19.4	15.7	17.6
Bee-keeping	1.7	0.6	1.2
Others	1.1	0.6	0.9

N.B Total percent exceed 100 percent due to multiple responses.
Source: Field Survey, October, 2010.

The study on various economic activities performed by the study population is crucial in the study of non-farm economic activities. This is because various economic activities performed by rural households interact and support each other in terms of inputs or source of capital (Reardon et al. 2006; Lanjouw et al. 2002).

In both villages studied, farming is dominated by small scale and rain-fed subsistence farming of food and cash crops. Food crops include maize, millet, sorghum and paddy. Crops cultivated for generating income include simsim, groundnuts, sunflowers, grapes and simsim. Other food crops include cassava, potatoes, legumes and peanuts.

The majority of households use traditional farming technology. The hand-hoe is used by most households (77.8 percent) as a main tool for land cultivation. Table 7 shows that other tools used by few households in land cultivation include ox-plough (14.8 percent) and tractor (7.4 percent). The findings are more or less similar with the findings by NBS (2006a) which observed that about 66 percent of planted land in Dodoma Region was cultivated using the hand-hoe, ox-ploughs (24 percent) and the tractor (10 percent).

Table 7: Main Types of Tools used in Land Cultivation by Households

Tools	Village		Total
	Mvumi Mission (n=175)	Bahi Sokoni (n=166)	
Hand-hoe	75.3	80.2	77.8
Ox-plough	16.4	13.3	14.8
Tractor	8.3	6.5	7.4
Total	100.0	100.0	100.0

Source: Field Survey, October, 2010.

Livestock keeping is another economic activity practiced by a significant number of households (17.6 percent) (Table 6). Types of livestock kept include cattle, goats, sheep, donkey and chicken and small number of poultry which include chicken and

ducks. The method of livestock keeping used by households in the study villages is agro-pastoralism under which livestock keeping practice is free grazing combined with crop cultivation.

The discussion with households practicing livestock keeping revealed that livestock have an important social and economic role in the society. They are sources of income, security, insurance and prestige. Livestock is also used as a valuable resource when it comes to pay for bride price. Donkeys are mainly used for transportation of farm harvests and water.

Non-farm activities are second ranked in terms of economic activities engaged in by households in the study villages (See Table 6). Section 6.2 discusses the characteristics of these activities.

6.2 Characteristics of Non-Farm Economic Activities

6.2.1 Types of Non-Farm Activities

The study found that about 237 households (69.5 percent) engage in a variety of non-farm activities in the study villages. The non-farm activities carried out can be grouped into three main categories – production, trade and services. Table 8 shows the distribution of households participating in main categories of non-farm activities. It shows that non-farm activities under production category are practiced by about 24.2 percent of households. These activities include welding, carpentry, masonry, local brewing, masonry, weaving, knitting and pottery. Gender analysis shows that in Mvumi Mission village only 11.5 percent of female headed households participate in production activities compared to 23.9 percent of male headed households. The situation is different in Bahi Sokoni village where 31 percent of female households participate in production activities compared to only 19.7 percent of male headed households.

Table 4: Types of Main Non-farm Activity Engaged in by Sampled Households by Study Village

Category of Non-Farm Activity	Village						Total (n=237)		
	Mvumi Mission			Bahi Sokoni					
	Male (n= 92)	Female (n= 42)	Total (n=134)	Male (n= 61)	Female (n=42)	Total (n=103)	Male (n= 153)	Female (n=84)	Total (n=237)
Production	23.9	11.5	17.7	19.7	31.0	25.3	21.8	21.2	24.2
Trade (commercial exchange)	34.9	40.5	37.7	50.8	52.3	51.6	42.9	46.4	49.9
Service	41.2	48.0	44.6	29.5	16.7	23.1	35.3	32.4	25.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Field Survey, October, 2010.

Also, it shows that activities under trade category are practiced by 49.9 percent of participating households. These activities include selling consumer items at village market place, food vending, second hand clothes selling, butchery, stationery shop, retail shop, medical store, charcoal selling and maize and rice selling. Gender analysis shows that in Mvumi Mission about 40.5 percent of female households participate in trade activities, while 34.9 percent of male households participate in these activities. In Bahi Sokoni village the analysis shows that trade activities are practiced by 52.3 percent of female households while 50.8 percent male households participate in these activities.

Moreover, it shows that service activities are engaged in by 25.9 percent of households practicing rural non-farm activities. The activities under this category include tailoring, tea room/kiosk, bicycle repair, garage (vehicle and motor cycle repair), milling, guest house, hair dressing salon/cutting salon, glossary, bar, shoe repair and driving. Gender analysis shows that most of both male and female headed households in the service sector non-farm activities. Gender analysis shows that in Mvumi Mission more female headed households participate in these activities compared to Bahi Sokoni village. Generally, the study observed that activities in the services category are practiced almost equally by both male and female headed households.

Appendices 1 and 2 show in detail the distribution of activities by sex by study village. Also, Plates 1-4, show some of non-farm activities in the study villages.

Plate 2: Carpentry in Mvumi Mission village

Plate 3: Tailoring in Bahi Sokoni village

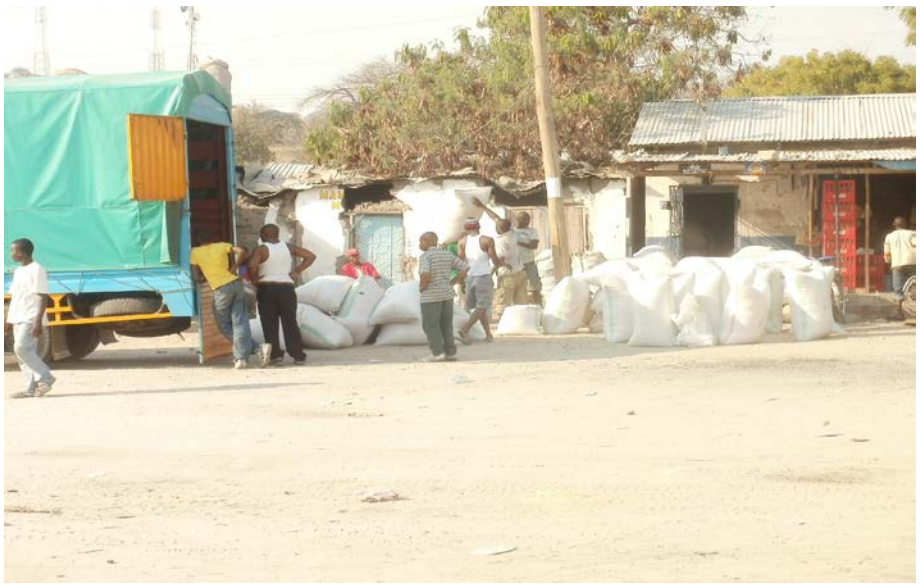


Plate 4: Maize trading in Bahi village

Plate 5: Tea room in Mvumi Mission village

The discussion with respondents revealed that the main factor behind the decision to engage in a particular non-farm activity include availability of customers, raw materials and transportation services to and from the markets. However, further discussion revealed that the availability of some of consumer items sold by respondents depend on the season of the year. For example, availability of fruits such as mangoes, grapes and oranges vary season by season.

Moreover, the number of customers for particular types of services such as guest house, restaurants, and food vending vary season after season. For example in Bahi Sokoni, the discussion revealed that the period from November to April is the peak season in terms of number of customers. During this season, farmers from neighboring urban centers including Dodoma and Manyoni, who own farms in 'Bahi rice fields', and laborers from neighboring villages, come and camp in the village to cultivate land and carry out other activities associated with paddy farming. It is during this season when most non-farm activities become more dynamic and make profit due to increased customers

6.2.2 Factors Influencing Household Participation in Non-Farm Activities

Participation by households in non-farm activities by rural households is caused by many factors. According to Ellis (2007) rural households may decide to participate in non-farm activities in response to economic hardship or in response to emerging economic opportunities. Table 9 shows the factors that lead to households to decide to participate in the non-farm activities in the study villages. It shows that about 89.5 percent of households decide to engage in non-farm activities so that they can supplement low income earned from farming activities. Other factors include land

inadequacy (40 percent), to minimize risk of crop failure due to unreliable rainfall (31.3 percent), increased opportunities (9.8 percent) and other factors (2.9 percent). These include issues of lack of land and other reliable means of survival.

Table 5: Factors that Cause Households to Participate in Non-Farm Activities

Factors for Participation in Non-farm Activities	Village		Total
	Mvumi Mission (n=134)	Bahi Sokoni (n=103)	
	%	%	%
Low income from farming activities	95.8	83.2	89.5
Land inadequacy	33.3	47.1	40.2
Minimize risk of crop failure due to unreliable rainfall	34.2	28.4	31.3
Increased opportunities	6.4	13.3	9.8
Others	3.3	2.4	2.9

N.B. Total exceed 100 percent due to multiple response
Source: Field Survey, October

A discussion with non-participating households revealed that main factors which limit households not to participate in non-farm activities include lack of initial capital, limited number of family labour to serve in both farm and non-farm activities, inability to access financial credits and aversion of risks involved in investing in non-farm activities. Moreover, the discussion with key informants revealed that some non-farm activities such as welding, carpentry, tailoring and masonry require requisite skills, as such not all households or individuals can engage in such activities.

6.2.3 Duration of Existence of Non-Farm Activities

Analysis of length of time that non-farm activities have existed in operation is important in the study of rural non-farm activities as it provides information on the history of non-farm activities, growth and sustainability in the study area (Bryceson, 2002; Mwamfupe, 1998).

The study found that the majority of non-farm activities in the area have been in existence for the period of between five to twelve years (see Table 10). It shows that about 30.8 percent of non-farm activities are young with time of existence of less than 4 years. Only 5.5 percent of activities have more than 21 years of existence. However, there are observable variations between the two study villages. For example, Bahi Sokoni village has more recently established non-farm activities (37.9 percent) as compared to Mvumi Mission which has only about 25.4 percent of non-farm activities in this category.

Table 6: Duration of Existence of Household Main Non-Farm Activity

Years of Existence	Village		Total (n=237)
	Mvumi Mission (n=134)	Bahi Sokoni (n=103)	
	%	%	%
≤4	25.4	37.9	30.8
5-8	22.4	20.4	21.5
9-12	31.3	29.1	30.4
13-16	7.5	5.8	6.8
17-20	7.5	1.9	5.1
21+	6.0	4.9	5.5
Total	100.0	100.0	100.0

Source: Field Survey, October, 2010.

The discussion with respondents in the study area revealed that several factors have contributed to the observed variations in length of time of non-farm activities. These factors include natural population growth which has increased pressure on land which is the most important productive resource in the study villages and the increased number of customers which has increased demand of goods and services produced by non-farm activities. Bahi Sokoni village population, in particular, has increased rapidly in the recent period of time due to the construction of tarmac road that run from Dar es Salaam to Mwanza and other towns around Lake Victoria and neighbouring countries including Burundi, Rwanda and Democratic Republic of Congo (DRC). This has resulted in Bahi Sokoni village centre which is located along this main road to become a stopover of most long safari trucks and buses that make trips along this road.

In the case of Mvumi Mission the discussion with respondents indicated that the emergence of institutions such as Mvumi Secondary school and expansion of Mvumi Hospital and Mvumi Nursing School has contributed remarkably in the recent growth of population. Another factor mentioned to contribute to the growth of non-farm sector in recent years is the improvement of the road between Dodoma town and Mvumi trading centre which has relatively reduced transportation costs to and from the village.

6.2.4 Sources of Capital for Non-Farm Activities

Rural households participating in non-farm activities obtain initial capital from a variety of sources (World Bank, 2007). This study found that sources of capital for starting a non-farm activity in the study villages to be heterogeneous. Table 11 shows that most households (64.1 percent) obtained start-up capital from savings from crop sales, and borrowing from relatives and friends (18.5 percent). Other sources include loans from financial institutions (3.3 percent) and remittances from relatives living in urban areas (3.9 percent), loans from local money lenders (5.8

percent), and from other sources such as selling livestock and bee products. Respondents remarked that after establishing the non-farm activity, the funds for running the business came from various economic activities the owner engaged in at the material time.

Table 7: Source of Capital for Establishing Non-Farm Activities by Sex of Owners

Source of Capital	Village		Total (n=298)
	Mvumi Mission (n=174)	Bahi Sokoni (n=124)	
Savings from crop sales	58.6	71.8	64.1
Borrowed from relatives/friends	24.1	10.5	18.5
Loan from micro-finance institution	1.7	4.8	3.3
Remittances from relatives	4.6	3.2	3.9
Loan from local money lenders	6.9	4.8	5.8
Others	4.0	4.8	4.4
Total (responses)	100.0	100.0	100.0

Source: Field Survey, October, 2010

The discussion with respondents in the study area revealed that getting capital for starting non-farm enterprises is the most limiting factor for households to participate in non-farm activities. This is caused mainly by the fact that most households get inadequate funds from their traditional occupations in agriculture and livestock keeping. This situation is exacerbated by the fact that households have limited chances of accessing credit from financial institutions. Currently there are only three micro-financial institutions operating in the study villages. These institutions which are based in Dodoma town include Small Enterprise Development Agency (SEDA), FINCA Tanzania and CARE Tanzania. However, these institutions are relatively new in Dodoma, therefore their operations have to this time benefited few individuals, mostly women who have formed economic groups through which they provide loans to individual members. The group members act as collateral for loan provision as they are forced to pay back the loan in case their fellow group member fail to repay back the loan.

Also, in each village there is one Savings and Credit Cooperative Society (SACCOS), namely, MKULIMA in Mvumi Mission and MSHIKAMANO in Bahi Sokoni. In general the two SACCOS are not performing well. A discussion with the manager of WAKULIMA SACCOS[1] revealed that her organization is not performing

[1] Ms. Mariam Dickson, personal communication on 2nd October, 2010.

well due to low capital which makes the SACCOS not to afford to provide credit to all members who are in need due to limited capital.

A discussion with one of the beneficiaries of the services of CARE (Tanzania) in Bahi Sokoni village revealed that loan recipients who are serious in their business make success in their life and alleviate poverty.

> *"I am a member of ZINDUKA women group in the village. My group received loan from CARE (Tanzania). The group members obtained training from CARE (Tanzania) on how to run business profitably and repay credit. I borrowed a total of TShs. 60,000/= which I invested in the business of running food vending kiosk. After one year of operation, I managed to get profit and raise my capital which enabled me to use part of my profit to start building a house up to this time. I am about to put a roof on this house by roof corrugated iron sheets (CIS). Also, the business is continuing well and the income from is enabling me to buy inputs to farm, hiring tractor and paying labourers".*[2]

The only state owned institution which deals with promoting micro-enterprise in the study area is the Small Industries Development Organisation (SIDO). The organization was established in 1973 as a parastatal organization under the Ministry of Trade, Industry and Marketing. Its objective was to develop the small industry sector in Tanzania. It was expected to fulfill a very wide range of functions, from policy formulation to direct support to industries, to hands-on investment in the establishment of SMEs in both rural and urban areas. The organization has managed to open one branch in each region in the country. In 2002, SIDO's role as the Government's instrument for small-scale industries was redefined to respond to the political and economic changes. SIDO role was scaled down and redefined to be an organization for creating and sustaining indigenous entrepreneurial base through the promotion and support to the development of SMEs by providing them with business development services and specific financial services (URT, 2005a).

In Dodoma Region continuing to operate based on the redefined role of SIDO. According to the discussion with SIDO officials, one of the recent activities accomplished in the study area, in November 2010 it conducted training to ten millet farmers from Bahi District on Entrepreneurship and use of Millet Thrashing Machine. The training was done in collaboration with Bahi District Council which purchased the machine.

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[2] Ms. Bora Mwasoma, personal communication on 11th October, 2010.

Also, the discussion revealed that SIDO in collaboration with the International Labour Orgnisation (ILO) through Coop Africa Programme (CAP) has trained a total of 30 bee keepers from Bahi District on quality production of honey and bee-wax. The programme also is conducted to individuals at the cost of 50 percent cost sharing. SIDO is also currently operating the JUHUDI Loan Scheme in collaboration with the National Micro Bank (NMB), Business Development Gateway (BDG) and Enablis Tanzania. Through this programme, eligible SIDO borrowers requiring loans bigger than what SIDO can provide are recommended by SIDO for larger loans from NMB. The Scheme extends working and investment loans to SMEs ranging from Tanzanian shillings 5 million to 500 million at 15 percent interest per annum and tenor of to thirty six months. Despite these achievements, the discussion revealed that the number of loan seekers, especially from urban areas, is exceeding the capacity of SIDO to provide loans.

The discussion with village leaders on the activities of microfinance institutions in the study villages revealed that they appreciate the efforts being done by these institutions that aim to alleviate poverty in their villages. However, they remarked that the number of beneficiaries is still very small compared to the number of people who will like to benefit from their services. They pointed out that it is better if they can reduce the conditions for obtaining credits and extend training on business skills to all interested individuals in the villages instead of concentrating only to few groups which are already their customers. By doing this more villagers are likely to join services provided by these institutions.

On the services provided by SIDO they remarked that it is better if SIDO can decentralize its services to lower levels such as district head quarters or even at ward and village levels so that it can be near to the needy in rural areas instead of remaining only at Regional headquarters. The also cited that it is better if it can soften loan conditions so that poor peasant can also afford to access loans it provides. They cited one condition, for example, which requires individual loan applicants to have two guarantors, and collateral to the tune of of 125 percent of the value the loan as not affordable to the majority of rural citizens.

On the services provided by private money lenders in the study villages, village leaders acknowledged their existence but remarked that it is difficult to know exactly the in-depth of their operations as they operate in secret mode. The amount of interest they charge and collateral needed is always confidential between the money lender and the loan recipient. However, the discussion with respondents who obtained loan from private money lenders revealed that the system is very exploitative as the interest involved is very high and the collateral needed by money lenders is always in terms of land or cattle.

In depth discussion revealed that in practice, usually private money lenders' interest rates are very high. For example when you borrow TShs. 100,000/= from the private money lender, you are required to pay Tshs.10,000/= per month until when the period you agreed to return the money you borrowed is reached. When this time is reached, say six months, you are required to return in cash, the same amount of money you borrowed. As such the borrower end up paying a total of 160,000/= in the period of six months. These remarks show that the system is not the one to bank on as a strategy of promoting non-farm activities in the study villages.

6.2.5 Labour and Education in Non-Farm Activities

Family size and structure affect the ability of a household to supply labour to the non-farm sector as larger families with sufficient family members are able to remain in home or on the farm with some members to meet labour needs for subsistence (Reardon, 1997). This observation signifies the importance of household labour in the operations of rural non-farm activities.

The study found that most households use their members, both adult and children, in the non-farm activities they engage in. Table 12 shows that most households (79.0 percent) use adult members in non-farm activity operations. Households that involve children labor are 18.2 percent and only 2.8 percent of households use hired labor.

Table 8: Type of Household Labor used in Non-Farm Activity

Type of Labour Used	Village		Total
	Mvumi Mission	Bahi Sokoni	
Adult Labour	80.7	77.3	79.0
Children Labour	17.2	19.4	18.2
Hired Labour	2.1	3.6	2.8
Total	100.0	100.0	100.0
Total (Responses)	154	132	479

Source: Field Survey, October 2010

A discussion with respondents revealed that children are involved in non-farm activities mostly during weekends and week days after coming from school in the evening. It also revealed that hired labor is used seasonally usually during peak period of business operations and they mostly range from one to two in number.

Education level of participating in rural non-farm activities is a key factor in the performance of the activities in this sector at household level (Gordon and Craig, 2001). According to Ibekwe et al. (2010) the education level of household head significantly influences positively the performance of rural non-farm activities.

This study found that most (88.5 percent) heads of households participating in non-farm activities in the study villages had attained primary school education (See Table 13). Few heads of households (7.2 percent) had attained secondary education and 4.3 percent had non-formal education. A discussion with respondents revealed that most of non-farm activities are small in nature and do not need higher education levels in most cases.

Table 9: Education Level of Heads of Households Participating in Non-Farm Activities in the Study Villages

Education Level	Village		Total
	Mvumi Mission	Bahi Sokoni	
Non-formal education	3.7	4.9	4.3
Primary education	89.6	87.3	88.5
Secondary school education	6.7	7.8	7.2
Total	100.0	100.0	100.0
	134	103	237

Source: Field Survey, October 2010

However, in depth discussion with non-farm operators especially in the production sector such as hand crafts, welding, carpentry and masonry and some service activities such as hair saloon indicated that they highly need specialized training in their activities so that they can acquire necessary skills that could enable them to master their business and therefore increase efficiency and productivity levels. This discussion tallies with observation by Carney (1998) that education is a key factor that determines the quality and productivity of human resource participating in rural non-farm activities.

6.2.6 Constraints to Performance of Non-Farm Activities

A variety of factors affect operations and growth of rural non farm activities. According to the World Bank (2007) the most important factors that constrain rural entrepreneurs are capital and basic infrastructure. This study found that in the study villages inadequate capital for running non-farm activities once started is the most constraining factor affecting the performance of these activities. This was mentioned by about 54.2 percent of respondents (See Table 14). Lack of relevant business skills ranked second with 18.3 percent of respondents. Other cited constraining factors include women household gender roles (5.2 percent), poor business premises (11.8 percent), inefficient transport to and from markets (3.9 percent) and others which include inadequate labor and customers, and incidences of illness to business operators.

Table 10: Factors Affecting the Performance of Non-Farm Activities by Sex of Owners

Factors Affecting Performance	Mvumi Mission			Bahi Sokoni			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Inadequate capital	50.3	58.7	52.6	54.4	55.9	55.0	51.9	57.3	53.6
Lack of business education	18.0	17.5	17.8	17.5	20.6	18.7	17.8	19.1	18.2
Unreliable Transport	5.4	3.2	4.8	5.8	1.5	4.1	5.6	2.3	4.5
Gender roles	9.6	3.2	7.8	7.8	10.3	8.8	8.9	6.9	8.2
Poor business premises	6.0	3.2	5.2	5.8	2.9	4.7	5.9	3.1	5.0
Others	10.8	14.)	11.7	8.7	8.8	8.8	10.0	11.5	10.5
Total responses	100.0 (167)	100.0 (63)	100.0 (230)	100.0 (103)	100.0 (68)	100.0 (171)	100.0 (270)	100.0 (131)	100.0 (401)

Source: Field Survey, October 2010

The incidence of ranking high inadequate capital for running the non-farm activities by respondents is not surprising as dominance of income poverty in rural areas of Tanzania is very well documented (NBS, 2009). This problem can be attributed to low productivity in the traditional sector of agriculture and lack of reliable financial services in the study villages.

Lack of business skills can be attributed to lack of institutions with the obligation of providing training on business in the study villages. A discussion with the District Planning Officers in both districts where the study villages are located (Bahi and Chamwino) revealed that although this kind of task is supposed to be accomplished by the “Community Development” departments in the Local Government Authorities, no fund is ever allocated for this kind of activity in the district authority.

In the case of poor premises problem which is ranked second, it can be clearly observed when one visits most of non-farm activities. For example, the market places in both villages and premises of most non-farm activities are non-permanent in nature and of less hygiene. Women household gender roles effect on non-farm activities operations was mentioned mainly by women participating in these activities. They remarked that household obligations such as cooking, looking after

children, especially when they are ill, and fetching water, affected their levels of concentration in non-farm activities.

6.3 Contribution of Non-Farm Activities to Poverty Alleviation

6.3.1 Income Obtained from Rural Non-Farm Activities

Various studies in Sub-Saharan Africa concur that a substantial part of rural household income is generated from engagement in non-farm activities (Reardon, 1997; Ellis, 2000; Ellis & Freeman, 2004).

This study collected information on household income by asking respondents to estimate the amount of income earned from non-farm and other activities engaged in with reference to the previous year. Despite the poor records of earnings by the surveyed households, Table 15 shows the estimated annual earnings from non-farm activities. It shows that the majority of households earned income between TSh 100,001-200,000 (37.6 percent) and TSh 200,001-300,000 (20 percent). These levels of earnings in the study villages are slightly higher than the reported average annual rural household income from rural non-farm enterprises of about TSh 145,431 in Tanzania (World Bank, 2007).

Table 11: Annual Household Income from Non-Farm Activities

Annual Earnings	Village		Total (n=237)
	Mvumi Mission (n=134)	Bahi Sokoni (n=103)	
≤100,000	21.6	9.7	16.5
100,001-200,000	36.6	38.8	37.6
200,001-300,000	23.1	17.5	20.7
300,001-400,000	11.9	23.3	16.9
400,001-500,000	1.5	2.9	2.1
500,001-600,000	1.5	3.9	2.5
600,001+	3.7	3.9	3.8
Total	100.0	100.0	100.0

Source: Field Survey, October, 2010

Income from non-farm activity is influenced by a number of factors. This study applied linear regression analysis to test household socio-economic characteristics that influence earnings from non-farm activities in the study area. Table 16 shows that three variables income from farm activities, size of land owned and duration (years) non-farm activity has existed are strongly positively associated with levels of income from non-farm activity at one percent level of significance. Other variables that have positive relationship with non-farm activity income but with no significant effect include sex of household head, household size and education level of household head.

Table 12: Linear Regression Analysis for Factors Influencing Income from Non-Farm Activities in the Study Area

Independent Variables	Unstandardized Coefficients		Standardized Coefficients*	t-value	Significance level
	B	Std. Error	Beta		
(Constant)	**-.143**	**.519**		**-.276**	**.783**
Sex of household head	.299	.181	.093	1.652	.100
Household size	.092	.053	.100	1.738	.083†
Land size owned	.147	.035	.236	4.182	.000††
Duration of non-farm activity	.042	.015	.176	2.858	.005††
Household head education	.151	.405	.021	.372	.710
Income from farm activity	.463	.090	.318	5.163	.000††

*Dependent variable: Total earnings per year

† Sinificant at 10 percent level

†† Significant at 1 percent level

This study attempted to estimate the contribution of income earned from non-farm activities to total household annual earnings. It shows that the percentage share of income earned from non-farm activities to total household earnings increased in most households ranges from 41-50 percent to 51-60 percent, respectively.

Table 13: Share of Earnings from Non-farm Activities to Total Household Earnings

Share (percent)	Village		Total
	Mvumi Mission	Bahi Sokoni	
11-20	0.7	0.0	.4
21-30	6.7	2.9	5.1
31-40	23.1	15.5	19.8
41-50	26.1	43.7	33.8
51-60	23.9	23.3	23.6
61-70	9.7	5.8	8.0
71-80	3.7	7.8	5.5
81-90	6.0	1.0	3.8
	100.0	100.0	100.0
Total	134	103	237

Source: Field Survey, October, 2010

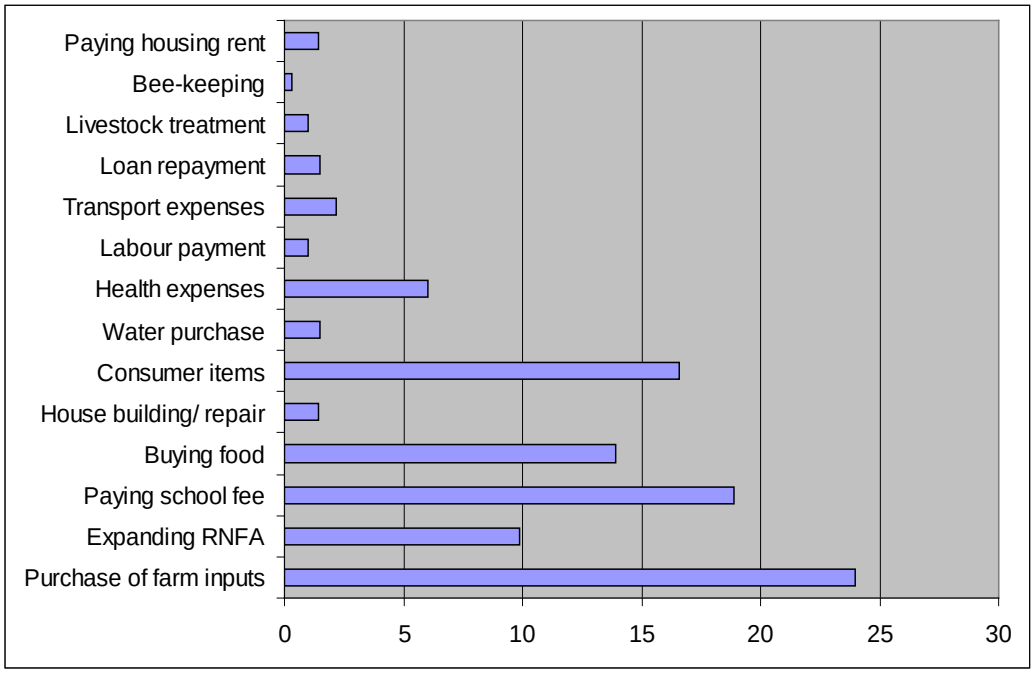
The observed share of income from non-farm activities to household income compares well to that observed in other Sub-Saharan Africa which is estimated to range from 30 to 60 percent (FAO, 1998; Islam, 1997).

6.3.2 Use of Income from Rural Non-Farm Activities

Livelihood diversification in non-farm activities not only provides rural dwellers with greater livelihood security, but also potentially opens up non-farm pathways to improving standards of living (Ellis, 1998; Gordon and Craig, 2001: FAO, 1998).

This study found that income obtained from non-farm activities is used in a variety of ways by participating households. Figure 2 shows that households use a large proportion of non-farm income on purchasing farming inputs (24 percent), paying children school fees, buying food items (13.9 percent), purchasing other consumer items such as clothes, sugar and soap (16.6 percent) and expanding non-farm activity (9.9 percent). Other uses include house building and/or repair, paying for health services, paying for water, hiring labour, loan repayment, livestock medicines and vaccines, bee-keeping and paying for housing/ accommodation.

Figure 2: Use of Income from Rural Non-Farm Activities



Source: Field Survey, October, 2010

The analysis in this section has shown that rural non-farm activities plays a great role in alleviating income and non-income poverty of participating households by contributing a significant share to household income and enabling these households to purchase food and consumer goods, house building and repair, paying for medicine and health care, paying for education of the young as well as in investing in enhancing production activities such crop farming and livestock keeping. The observation confirms the observation by various studies on Sub-Saharan Africa non-farm activities that generate earnings that alter the options open to the household by providing it with cash resources that can be flexibly deployed and contribute to lessening vulnerability by ameliorating risk and reducing the adverse consumption effects of seasonality (Ellis, 2007; Liwenga, 2003; FAO, 1998).

7.0 CONCLUSION AND POLICY IMPLICATIONS

7.1 Conclusion

The main objective of this study was to examine the role of rural non-farm activities in poverty alleviation. The study has established that different factors lead households to participate in non-farm activities. They include low income from farming activities, land inadequacy, the need to minimize risk of crop failure due to unreliable rainfall, increased opportunities and other factors such as lack of land and other reliable means of survival. The study also found that number of factors affects the performance of non-farm activities including inadequate capital, lack of business education, poor business premises, inefficient transport to and from markets, women household gender roles, and other factors including inadequate labour and illness incidences. These observations have confirmed the first hypothesis for this study which presupposed that there is a relationship between socio-economic characteristics of participating households and the performance of non-farm activities

The study has also established that rural non-farm and farm activities are interlinked. First, most participating households obtain capital for starting and running non-farm activities from selling crops, and livestock and bee products. Second, most households invest income obtained from non-farm activities in farm activities including crop farming and livestock keeping. The linear regression analysis test showed that there is a significant positive relationship between the performance of non-farm activities in terms of income earned from these activities and that earned from farm activities. The analysis confirmed the second hypothesis which stated that there is a positive relationship between the performance of non-farm and farm activities.

Moreover, the study has established that rural non-farm activities contribute in alleviating poverty of participating households in two ways. First, by contributing a significant share to the income earned by participating households, and secondly, the income earned from non-farm activities is used by participating households in a variety of ways, including purchasing inputs to agricultural activities such crop farming and livestock keeping, investing in non-farm activities and accessing social services such as health and education services. The analysis confirmed the third hypothesis for this study which stated that non-farm activities contribute in reducing poverty of participating households.

7.2 Policy Implications

The study has observed various pertinent issues which have various policy implications for promoting the role of rural non-farm activities on poverty alleviation in Tanzania.

1) Provide education and training aimed at building confidence and specific skills needed to promote the performance of particular non-farm activities by establishing participatory discussion groups based on households participating in similar non-farm activities. These groups should form the platform for providing training and sharing experiences among group members. These needs can be technical, business skills, including book-keeping.

2) Promote innovations and improvement of rural micro-credit schemes so as to promote participation and performance of rural non-farm activities. To achieve this goal effectively, more emphasis should be placed on promotion of savings and credit schemes so as to build on the fact that most of participants in non-farm activities obtain their start-up capital from their own savings.

3) Promote farm activities as they form a base for household food supply and through farm and non-farm activities inter-linkages, provide source of capital for starting and running non-farm activities. Efforts should include provision of effective farm input packages subsidy to farmers and improved extension services.

4) Improve the rural land tenure system which is still largely traditional and customary in nature so that households get legal rights of tenure (title deeds) which they can use to access financial credit from financial institutions.

5) Increase investment in rural infrastructure, including roads, electricity and water supply, which are of paramount importance in the performance of rural non-farm activities.

6) Create a state organ or institution with branches at lower government levels, (that is ward and villages) which is directly responsible for promoting rural non-farm activities.

7.3 Areas for Further Research

This study suggests two areas for future research:

First, the study has observed that despite their importance in poverty alleviation, the rural non-farm activities are starving. They do not have any particular ministry or national institution responsible for their development, growth and promotion. This

has caused them to be like a step child to any institution they try to seek assistance so that they can gain ground for growth. This has been caused by the policy and decision makers' belief that the only appropriate and viable economic activity for rural areas is agriculture despite the fact that all the national indicators are showing that the productivity levels in this rural traditional sector is declining while employment levels in rural non-farm activities are on the raise. As such there is need to conduct a research on the mechanism through which rural non-farm activities can be streamlined in national policies and development plans, and instutionalised in government administration structures so that they get requisite support and unleash their potential in poverty alleviation.

Second, the study has observed the rural citizens who are engaged rural non-farm activities are facing the problem of inadequate funds for starting and running viable business in this sector. This is forcing them to rely mostly on meager funds they get from their savings from farm activities and other unreliable sources such as remittances and private money lenders. As such there is need for conducting a research on possible viable mechanism through which rural non-farm activities potential or existing operators can access financial services for starting and improving their production levels, thereby contribute significantly in poverty alleviation.

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APPENDICES

Appendix 1: Main Type of Non-Farm Activity by Sex of Owner in Mvumi Mission Village

Type of Non-Farm Activity	Sex of Owner		Total (n=134)
	Male (n=92)	Female (n=42)	
selling raw food items and fruits (genge)	2 (2.2%)	3 (7.1%)	5 (3.7%)
food vendor	0 (0.0%)	5 (11.9%)	5 (3.7%)
tailoring	4 (4.3%)	3 (7.1%)	7 (5.2%)
welding	7 (7.6%)	0 (0.0%)	7 (5.2%)
butcher	4 (4.3%)	0 (0.0%)	4 (3.0%)
bicycle repair	8 (8.7%)	0 (0.0%)	8 (6.0%)
vehicle mechanic	2 (2.2%)	0 (0.0%)	2 (1.5%)
milling machine	2 (2.2%)	1 (2.4%)	3 (2.2%)
hair dressing saloon	0 (0.0%)	4 (9.5%)	4 (3.0%)
hair cutting saloon	6 (6.5%)	0 (0.0%)	6 (4.5%)
glossary	3 (3.3%)	3(7.1%)	6 (4.5%)
stationary	1 (1.1%)	1 (2.4%)	2 (1.5%)
carpentry	6 (6.5%)	0 (0.0%)	6 (4.5%)
retail shop	17 (18.5%)	6 (14.3%)	23 (17.2%)
local brewing	0 (0.0%)	2 (4.8%)	2 (1.5%)
masonry	4 (4.3%)	0 (0.0%)	4 (3.0%)
maize selling	1 (1.1%)	0 (0.0%)	1 (0.7%)
driver	1 (1.1%)	0 (0.0%)	1 (0.7%)
weaving	1 (1.1%)	5 (11.9%)	6 (4.5%)
tea room	0 (0.0%)	3 (7.1%)	3 (2.2%)
shoe repair	4 (4.3%)	0 (0.0%)	4 (3.0%)
fish selling	1 (1.1%)	0 (0.0%)	1 (0.7%)
burns selling	0 (0.0%)	2 (4.8%)	2 (1.5%)
boda boda (motorcycle transport)	3 (3.3%)	0 (0.0%)	3 (2.2%)
house painter	0 (0.0%)	2 (4.8%)	2 (1.5%)
sunflower oil milling	2 (2.2%)	0 (0.0%)	2 (1.5%)
selling second-hand clothes	3 (3.3%)	0 (0.0%)	3 (2.2%)
plumbing	2 (2.2%)	0 (0.0%)	2 (1.5%)
electrical technician	1 (1.1%)	0 (0.0%)	1 (0.7%)
onions selling	1 (1.1%)	0 (0.0%)	1 (0.7%)
telephone repair	1 (1.1%)	0 (0.0%)	1 (0.7%)
video shooter	2 (2.2%)	0 (0.0%)	2 (1.5%)
redio repair	1 (1.1%)	0 (0.0%)	1 (0.7%)
chicken seller	1 (1.1%)	0 (0.0%)	1 (0.7%)
bar	1 (1.1%)	0 (0.0%)	1 (0.7%)
salt making	0 (0.0%)	1 (2.4%)	1 (0.7%)
pharmacy store	0 (0.0%)	1 (2.4%)	1 (0.7%)
Total	100.0%	100.0%	100.0%

Source: Field Survey, October, 2010.

Appendix 2: Main Type of Non-Farm Activity by Sex of Owner in Bahi Sokoni Village

Type of Activity	Sex of Activity Owner		Total (n=103)
	Male (n=61)	Female (n=42)	
selling raw food items and fruits (genge)	17 (27.9%)	9 (21.4%)	26 (25.2%)
food vendor	2 (3.3%)	9 (21.4%)	11 (10.7%)
tailoring	5 (8.2%)	3 (7.1%)	8 (7.8%)
welding	2 (3.3%)	0 (.0%)	2 (1.9%)
butchery	3 (4.9%)	0 (.0%)	3 (2.9%
bicycle repair	3 (4.9%)	1 (2.4%)	4 (3.9%)
vehicle mechanic	1 (1.6%)	0 (.0%)	1 91.0%)
milling machine	2 (3.3%)	1 (2.4%)	3 (2.9%)
guest house	1(1.6%)	0 (.0%)	1 (1.0%)
hair dressing saloon	0 (.0%)	1 (2.4%)	1 (1.0%)
hair cutting saloon	1 (1.6%)	0 (.0%)	1 (1.0%)
glossary	0 (0.0%)	1 (2.4%)	1 (1.0%)
carpentry	6 (9.8%)	0 (.0%)	6 (5.8%)
retail shop	6 (9.8%)	4 (9.5%)	10 (9.7%)
local brewing	0 (.0%)	7 (16.7%)	7 (6.8%)
masonry	2 (3.3%)	0 (.0%)	2 (1.9%)
maize selling	2 (3.3%)	0 (.0%)	2 (1.9%)
driver	3 (4.9%)	0 (.0%)	3 (2.9%)
weaving	0 (.0%)	5 (11.9%)	5 (4.9%)
tea room	0 (.0%)	1 (2.4%)	1 (1.0%)
shoe repair	1 (1.6%)	0 (.0%)	1 (1.0%)
telephone repair	1 (1.6%)	0 (.0%)	1 (1.0%)
video shooter	1 (1.6%)	0 (.0%)	1 (1.0%)
redio repair	1 (1.6%)	0 (.0%)	1 (1.0%)
chicken seller	1 (1.6%)	0 (.0%)	1 (1.0%)
Total	100.0%	100.0%	100.0%

Source: Field Survey, October, 2010.

Appendix 3: The Distribution Total Annual Earnings of Households participating in Non-Farm Activities

Earnings	Village		Total
	Mvumi Mission	Bahi Sokoni	
≤100,000	5.9	5.9	5.9
100,001-200,000	23.9	6.8	16.4
200,001-300,000	9.9	23.3	11.8
300,001-400,000	32.1	17.5	25.8
400,001-500,000	14.1	13.6	13.9
500,001-600,000	14.2	20.4	16.9
600,001+	6.7	12.6	9.3
Total (percent)	100.0	100.0	100.0
Total	134	103	237

Source: Field Survey, October, 2010.

Appendix 4: Household Survey Questionnaire

PART I

SOCIO-DEMOGRAPHIC CHARACTERISTICS OF STUDY POPULATION

1. Name of the village:_____

2. Age, gender, education and marital status of household members

H/hold members	Age	Gender		Education Level		Marital Status**	Remarks: child/dependant and if still in school
		Male	Female	Level*	No. of years in school		
Head of H/hold: 1							
Others: 2							
3							
4							
5							
6							
7							
8							
9							
10							

KEY:

***Education Level:**

(i) Informal education (ii) Primary education (iii) Secondary education (iv) Training after primary education (v) Training after secondary education (vi) Higher education (university and other equivalent education).

****Marital Status**

(i) Married
(ii) Never married
(iii) Living together
(iv) Separated
(v) Divorced
(vi) Widowed

3. Is there any person/s who is/are the member/s of your household who is/are living in town? (a)Yes/No_____

(b) If yes, specify the town migrated to, sex and year of migration.

No.	Sex Male/Female	Year of migration	Town migrated to	Remarks
Total				

4. Does your household get any assistance/help from the mentioned urban migrants? Yes/No _____
If yes, specify the following (in the past 12 months)

Type of assistance received		Total (Tshs)	Remarks
Cash			
Goods/in kind			
Item	Value (in Tshs)		
Total			

5. How did you use/spend assistance in cash (remittances) received from urban migrants (You may tick more than one item)?

(i) Buying food
(ii) Paying school fees
(iii) Paying for treatment / buying medicine
(iv) Starting non-farm activity/business
(v) Expanding non-farm activity/business
(vi) House building/repair
(vii) Purchasing farm implements/inputs
(viii) Expanding farm size
(ix) Paying labourers
(x) Buying/renting new farm
(xi) Buying livestock
(xii) Others (please specify)
_____

6. Is there any member of your household who is a member of any social or economic group in the village or outside the village? Yes/No

(i) If yes, where is it located? (a) in the village (b) in another village (c) in town (specify)……..

(ii) What is/are the major activity/activities of the group?
……
……...
……

(iii) How does your household benefit from the group?
……
……

PART II

ECONOMIC ACTIVITIES STUDY POPULATION

7. What is the major economic activity in your household?
   (i) Crop farming
   (ii) Livestock keeping
   (iii) Non-farm activity
   (iv) Bee-keeping
   (v) Others (please specify)_____

8. Apart from the major economic activity mentioned above, what other economic activities is your household (members) engaged in? (you can mention more than one activity)
   (i) Non-farm activity
   (ii) Crop farming
   (iii) Livestock keeping
   (iv) Bee-keeping
   (v) Other (please specify)
   _____
   _____

A. NON-FARM ACTIVITIES

9. Is your household (members) engaged in any non-farm activity? Yes/No
   (i) If yes, what factors that caused your household to engage in non-farm activity:
      (a) Land inadequacy
      (b) Low income from agricultural activities
      (c) Minimize risk of poor agricultural performance
      (d) Increased customers
      (e) Others

   (ii)If no, mention constraints that make you and your household members not to engage in any non-farm activities:
      (a) Finance
          (specify)……..…….
      (b) Education and skills required
          (specify)……..
      (c) Age of household members
          (specify)……
      (d) Afraid to risk or diversity from current activities
          (specify)……..…..
      (e) Gender roles/relations
          (specify).....……..….
      (f) Premises to carry out activity
          (specify)……
      (g) Other
          (please specify)……..……

(iii) If participating, what type of non-farm activity (includes labouring) your household engage in? Specify year you started each activity and type of household members involved.

Type of Activity	Year the activity started	Household members involved			Remarks
		M	F	Children (If involved)	

10. When does your household (members) engage in non-farm activity?
    (a) All time of the year
    (b) During off-farming season
    (c) After farming activities (in the evening)
    (d) Others (please specify)……

11. How do you perceive the non-farm activity in which your household engage in?
    (a) As primary activity
    (b) As secondary to primary activity/activities (specify it/them)
        (i) Agriculture
        (ii) Livestock keeping
        (iii) Bee-keeping
        (iv) Others (Please specify)……

12. If you work/labour in non-farm activity sector as a wage earner, in which category are you?
    (a) Casual labourer/worker (specify activity)……
    (b) Regular salaried employee/worker (specify activity)……..
    (c) Other (please specify)……..…….
    (d) How much do you earn per month in your labouring non-farm activity?
        TShs……

13. What factors which affect the performance/productivity of non-farm activity your household is engaged in? (Please also specify how?)
    (a) Finance ……
    (b) Education and skills required ……..
    (c) Health……..……..
    (d) Age of household members ……..……
    (e) Afraid to risk or diversity from current activities…….....…….
    (f) Age of household members……..……..……
    (g) Afraid to risk or diversity from current activities ……..
    (h) Transportation – roads and transportation services……
    (i) Gender roles/relations ……....……..……
    (j) Premises to carry out activity……..……..
    (k) Other (specify)……..……

14. In the non-farm activity you engage in, have you (or any of your household members) had any training/education? Yes/No

(1) If yes,

(a) Which type of training?

(i) Management of money
(ii) Cooperatives
(iii) Handcraft (specify)…….
(iv) Carpentry
(v) Masonry
(vi) Business management/entrepreneurship
(vii) Project planning
(viii) Others (please specify)……..

(b) Who offered this training (specify the training/s offered)?

(i) Central Government (specify dept & training)…….
……
(ii) Local Government (specify dept & training)……..
……..
(iii) NGO (specify name & training)……..
……..
(iv) FBO (specify name & training)…….
……..
(v) Others (specify name and training)…….
……
(vi) Don't know (specify training) ……..

(2) If no, why? (mention the reason/s that prevented you from attaining such a training)…….....

15. Where your non-farm activity is/are located?

(i) Home-based activity (specify activity)……
(ii) Away from home (specify activity, location e.g at village centre, in another village, etc)……
……

16. (a) Are the activities engaged in by your household (members) formal (with license/registered) or informal (without license/unregistered)?

(b) Who own/s the activities in terms of gender?

S/N	Activity	Type of activity: Formal/Informal	Ownership (male/female)

17. Who influenced your household to engage in non-farm activity?
    (a) Friends and relatives participating in the non-farm sector before
    (b) Friends and relatives who migrated to the area with non-farm activity opportunities
    (c) Friends made during training course attended
    (d) Others, please specify ……..

18. To your understanding, was your household decision to participate in non-farm activities influenced by poor condition of your household or to respond to the emerging opportunities in the non-farm sector (such as markets)? Explain briefly……..

19. Is there any factor/s that make/necessitate women in the household to engage in non-farm activities?
    (a) Loss of assets (e.g. land after husband death) explain)…….
    ……
    (b) Husband migration out of village to urban areas
    (c) Poor earnings of husband
    (d) Being head of household and therefore increased responsibility
    (e) Inadequate land owned by the household
    (f) Membership of economic/social groups
    (g) Other (please specify) ……

20. Are there any factors affecting women participation in non-farm activities?
    (a) Gender roles/relations (children raring, cooking, etc)
    (b) Husband not allowing
    (c) Lack of power to owner of land
    (d) Lack of power to access financial credits
    (e) Lack of power to own products/outputs
    (f) Lack of power to own productive assets, e.g. land etc.
    (g) Lack of power to own and control economic activity in the household
    (h) Religious norms
    (i) Others (specify) …….

21. (a) Does your household know traders in the non-farm activities. Yes/No
    (b) If yes, how many are living in the village? .....
    (c) How may living outside the village?.....

22. (a) Do you have friends/relatives you know who can offer some help in carrying out non-farm activities? Yes/No.
    (b) If yes, how many are living in the village? .....
    How may living outside the village?.....

23. (a) Do you have non-farm activity input suppliers that you know? Yes/No
    (b) If yes, how many are living in the village? .....
    How may living outside the village?.....

24. (a) How many clients of the products you produce that you know personally? Yes/No
    (b) If yes, how many are living in the village? .....
    How may living outside the village?.....

25. What are the physical resources which affect your non-farm activity (if any)? (Rank them in order of seriousness to your activities by labeling 1, 2, 3, 4 and specify how?).
    (a) Roads…… ……..
    (b) Electricity…….. …….
    (c) Telecommunications…….
    (d) Others (please specify) …….

26. (a) What amount of capital did you start your non-farm activity with?
    (b) What is the total value of your non-farm activity capital now ?

/No	Activity	Start-up capital (Tshs)	Current capital/value (Tshs)

27. Where did you get capital (funds) for starting your non-farm activity?
    (a) Own saving
    (b) Borrowed from relatives/friends
    (c) Borrowed (credit/loaned) from financial institution/s (specify)…….
    (d) Remittance from family members who have migrated to town
    (e) Loan from local money lenders
    (f) Other (please specify) …….

28. What difficulties (if any) you experienced in getting start-up funds/capital? (Specify how?).
    (i) Access to private money lender……
    ……
    (ii) Access to any rural based financial service……..
    ……
    (iii) Access to any urban based financial service…….
    ……
    (iv) Other (specify)……..
    ……

29 (a) Have you ever attempted to get credit from any source so that you start or improve your non-farm activity/business? Yes/No
    (b) If yes, from which institution/source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

No.	Institution/ source	Location within the village/town	Purpose of borrowing	Succeeded/ Not succeeded	Any problems/ barriers faced
1.	Bank (specify)				
2.	SACCOS (specify)				
3.	Local Group (specify)				
4.	Private money lenders (specify)				
5.	Friends/relatives (specify)				
6.	Others (please specify)				

30. If you obtained loan or borrowed funds for starting or expanding your non-farm activity/business, which kind of collateral did you use?
(i) None
(ii) Land (specify)……
(iii) Other assets (specify) ……
(iv) Business group members (specify)……
(v) Others (specify) ……..

31. (a) In your opinion, what could be done to improve the situation as regards to financial capital for boosting households participation in the non-farm activities in rural areas? ..…….

(b) What other measures do you suggest/think that could increase participation of households in non-farm activities in your village? …….....
……

32. (a) Do you have any desire to expand your non-farm activity ? Yes/No
(b) If yes, are you facing any constraints? (Please specify how?)
(i) Limited funds…….
(ii) Availability of electricity……..
(iii) Availability of clean water…….
(iv) Poor roads to and from markets…….
(v) Poor transportation services to and from markets…….
(vi) Leadership (specify level)……
(vii) Long process involved in acquiring business license/registration…….
(viii) Access to land/land policy……..
(ix) Other (specify)……

33. What category/sector is/are your non-farm activities in?
(a) Industry/manufacturing (specify the type/products)…….
(b) Services e.g hotel, saloon, etc. (specify type)……..
(c) Trade (specify type and commodity)…….
(d) Other (Please specify) ……

34. What type of raw materials do you use in your non-farm activity/activities?

S. No	Activity	Raw materials used

35. Where do you get raw materials for your non-farm activity/business?

S.No	Activity	Place where raw material is obtained (e.g. within the village, in other villages, in town, other (specify)	Approximate distance to the source of raw Materials in Kms

36. (a) Do you employ labourers in your non-farm activity/business/es? No/Yes
    (b) If yes, how many Males…….Females……Total …….
    (c) How many household members engaged in your non-farm activity/business/es?
        Males …… Females …….Total ……..

37. In average, how much do you pay each labourer per month? Tshs. ……

38. How your non-farm activity owned?
    (a) Self owned
    (b) Group/Jointly owned (specify with whom) ……
    (c) Others. Please specify ……..

39. What kind of transport do you use in your business?
    (a) Own bicycle
    (b) Own ox-donkey
    (c) Own cart
    (d) Motorcycle
    (e) Public transport
    (f) Hired vehicle
    (g) Own vehicle
    (h) Other (please specify)……

40. What kind of communication do you use in your non-farm activity?
    (a) Telephone
    (b) Other, please specify …….

41. In the non-activity engaged by your household, how much do you produce per month?

S.No.	Activity	Unit of production e.g Kgs	Amount produced per month
Total			

42. In the non-farm activity engaged by your household, how much do you earn per month/year?

S.No.	Activity	Earnings per month (Tshs)	Earnings per year (Tshs)
Total			

43. Where do you sell (markets) produces of your non-farm activity?

S.No	Non-farm activity product	Market place [within the village, in other villages, in town, other (specify)]	Approx. distance to the market place
1.			
2.			
3.			
4.			
5.			

44. On which items/activities do you spend the income earned from non-farm activities (include expenditure on farm (crop farming, livestock farming or bee-keeping, if any)

S.No	Items/activities on which income earned from non-activities was spent (in rank order of magnitude)
1.	
2.	
3.	
4.	
5.	
6.	

B. FARM ACTIVITIES

(I) CROP FARMING

45. If you are practicing crop farming, which crops are you farming?
    (a) Sunflower
    (b) Simsim
    (c) Sweet potatoes
    (d) Maize
    (e) Millet
    (f) Sorghum
    (g) Cassava
    (h) Cow peas
    (i) Vegetables
    (j) Other crops (specify)

46. How much arable land does your household own? (acres) _____

47. How did you acquire land you own?
    (a) Inheritance
    (b) Purchasing
    (c) Renting
    (d) Bush clearing

(e) Other (specify) _____

48. Does that amount of land satisfy your household needs?
(a) Yes
(b) No (Explain why) _____

49. Which agricultural implements do you use in farming?
(a) Hand-hoe
(b) Ox-plough
(c) Tractor
(d) Others (specify)_____

50. Which categories of labour does your household employ in agricultural production?
(a) Family labour (adults only)
(b) Family labour (including children)
(c) Hired labour
(d) Working partners
(e) Other (specify)_____

51. For each of the mentioned crops that you cultivate, how much land was cultivated in the last farming season/year? (Specify if you practice mixed cropping)

Crop	Hectares/acres Cultivated	If you practice mixed crop farming, specify with crops
(i) Sunflower		
(ii) Simsim		
(iii) Sweet potatoes		
(iv) Maize		
(v) Millet		
(vi) Sorghum		
(vii) Cassava		
(viii) Cow peas		
(ix) Vegetables		
(x) Other crops (specify)		

52. What amount of crops did you harvest last year for each crop?

Crop	Kgs Harvested	Remarks
(i) Sunflower		
(ii) Simsim		
(iii) Sweet potatoes		
(iv) Maize		
(v) Millet		
(vi) Sorghum		
(vii) Cassava		
(viii) Cow peas		
(ix) Vegetables		
(x) Other crops (specify)		

53. Was the last year a good, average or bad year in terms of weather (rainfall)?

_____

54. If not an average one how much could you have harvested in an average weather/rainfall year for each crop?

Crop	Kgs	Remarks
(i) Sunflower		
(ii) Simsim		
(iii) Sweet potatoes		
(iv) Maize		
(v) Millet		
(vi) Sorghum		
(vii) Cassava		
(viii) Cow peas		
(ix) Vegetables		
(x) Other crops (specify)		

55. What was the selling price for each crop per 100Kg sack or other unit as applicable?

Crop	Unit	Price per unit	Remarks
(i) Sunflower			
(ii) Simsim			
(iii) Sweet potatoes			
(iv) Maize			
(v) Millet			
(vi) Sorghum			
(vii) Cassava			
(viii) Cow peas			
(ix) Vegetables			
(x) Other crops (specify)			

56. What problems do you face in practicing crop farming?

(a) Availability of improved seeds
(b) Inadequate funds for purchasing improved seeds
(c) Inadequate funds for purchasing improved farming tools
(d) Inadequate funds for purchasing inputs (herbicides/pesticides)
(e) Inadequate skills in modern farming
(f) Low prices for produces
(g) Availability of shops selling farm inputs
(h) Lack of reliable transport to markets
(i) Poor roads to and from market
(j) Infertile land
(k) Vermin (please specify)_____
(l) Others (please specify)_____

57. (a) Have you ever attempted to get credit from any source so that you improve your crop farming activity? Yes/No

(b) If yes, from which source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

No.	Source	Location within the village/town	Purpose of borrowing	Succeeded/ Not succeeded	Any problems/ barriers faced
1	Bank (specify)				
2	SACCOS (specify)				
3	Local Group (specify)				
4	Private money lenders (specify)				
5	Friends/relatives (specify)				
6	Others (please specify)				

58. What measures do suggest/think that could improve crop farming practice in your household?

……

B. LIVESTOCK KEEPING

59. If your household keeps livestock, how many of the following livestock kept by your household?

(a) Cattle _____
(b) Goats_____
(c) Sheep_____
(d) Donkey_____
(e) Poultry_____
(f) Other (specify)_____

60. Who is responsible for care and/or grazing of the mentioned livestock?

(a) Family labour (adults only)
(b) Working partners
(c) Family labour (including children)
(d) Hired labour
(e) Other (specify)_____

61. If your household keeps livestock (including poultry), how many have you sold or slaughtered for sale in the past 12 months?
How much have you received from each type?

No.	Type of Livestock	Number sold/slaughtered and sold	Selling price/ income earned from each (TShs)	Total Amount Received (TShs)	Remarks
1					
2					
3					
4					
5					
	Total				

62. Did your household sell any products from livestock (including poultry) in the past 12 months? How much did you receive from each type of product?

No.	Type of Livestock Product Sold	Amount Received	Remarks
1			
2			
3			
4			
5			
	Total		

63. (a) Have you ever attempted to get credit from any source so that you improve your livestock keeping activity? Yes/No

(b) If yes, from which source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

No.	Source	Location within the village/town	Purpose of borrowing	Succeeded/ Not succeeded	Any problems/ barriers faced
1	Bank (specify)				
2	SACCOS (specify)				
3	Local Group (specify)				
4	Private money lenders(specify)				
5	Friends/relatives (specify)				
6	Others (please specify)				

64. What measures do you suggest/think that could improve livestock keeping in your household?

.....

C: OTHER FARM ECONOMIC ACTIVITIES (BEE KEEPING, FISHING, ETC)

65. What other economic activities carried out by your household?

(a) Bee-keeping
(b) Fishing
(c) Other (Please specify)

66. Who is responsible for attending the mentioned economic activity?

(f) Family labour (adults only)
(g) Working partners
(h) Family labour (including children)
(i) Hired labour
(j) Other (specify)_____

67. How much do you earn annually from the activity mentioned above (Qn.64)?

No.	Type of Activity	Unit used to sell the product	Number units sold per year	Selling price/ income earned per unit (TShs)	Total Amount Received (TShs)	Remarks
1						
2						
3						
	Total					

68. (a) Have you ever attempted to get credit from any source so that you improve production in the above mentioned activity? Yes/No

(b) If yes, from which source and for what purpose? Specify if you faced any problems/barriers of borrowing from any of the mentioned sources.

No.	Source	Location in the village/ other village, town	Purpose of borrowing	Succeeded/ Not succeeded	Any problems /barriers faced
1	Bank (specify)				
2	SACCOS (specify)				
3	Local Group (specify)				
4	Private money lenders (specify)				
5	Friends/relatives (specify)				
6	Others (please specify)				

69. What measures do you suggest/think that could improve the activity mentioned above in your household? .....

70. On which items/activities do you use income from farm (crop farming, livestock bee-keeping, etc) activities? (include expenditure on starting or improving non-farm activity if any).

S.No.	Items/activities on which income was spent
1.	
2.	
3.	
4.	
5.	

PART III

MATERIAL WELL-BEING OF HOUSEHOLD

71. What assets does your household possess? (Give approximate the value)

S.No.	Asset	Approximate value (TShs)
1.	Bicycle	
2.	Motor cycle	
3.	Furniture	
4.	Farming plough	
	Others: Please specify	
5.		
6.		
7.		

72. The quality of the main house of the household. The interviewer should physically observe and record the following:

Part of the build	**Foundation** (Stone/cement bricks/ mud-bricks/mud)	**Wall** (Stone/cement bricks/ mud-icks/ mud, mud and poles, others)	**Roof** (C.I.Sheets, poles, thatch, others)	**Remarks**
Materials used in construction of the house				