

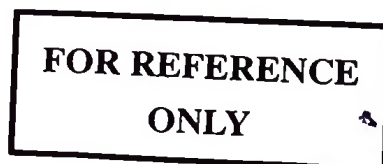
**CHANGING LIVELIHOODS AND ADAPTIVE CAPACITY OF AGRO-  
PASTORALISTS EVICTED FROM IHEFU IN TANZANIA**



**GIVEN BENETH MSIGWA**



**A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF DOCTOR OF PHILOSOPHY OF SOKOINE UNIVERSITY OF  
AGRICULTURE. MOROGORO, TANZANIA.**



**2014**

## ABSTRACT

There are numerous incidences of impoverishment and livelihood change in pastoral societies following transformation in land use and ownership and their livelihoods. Both in theory and practice, pastoral production has demonstrated flexibility in adapting to different risks. This study sought to investigate the changing livelihoods and adaptive capacity of the agro-pastoralists evicted from Ihefu Basin in Mbarali District, Tanzania. Specifically, the study sought to: (i) Examine the planning and implementation modalities of resettling pastoralists; (ii) Assess stakeholders' perception of and attitudes towards the eviction process; (iii) Investigate what changes took place in the livelihoods of pastoralists as a result of resettlement; (iv) Examine the livelihood strategies used by agro-pastoralists to adapt to resettlement areas; and (v) Analyze the determinants of agro-pastoralists' adaptive capacity in the resettlement areas. Structured Questionnaires, life histories, key informant interviews and focus group discussions were used to collect data from a sample of 176 respondents. The data were analyzed using the Statistical Package for Social Sciences (SPSS) computer software version 16. Descriptive and inferential analysis (Chi-square, t-test and ANOVAs and F-test) were conducted. Developed indexes were used to examine livelihood changes and adaptive capacity of the resettled pastoralists. The results indicated that the government and its institutions had insufficient preparation plans to accomplish pastoralists' resettlement process. This led to the majority of resettled pastoralists having a negative attitude to the whole eviction process. The results further revealed that there were positive changes in the livelihoods majority of resettled agro-pastoralists. The majority of resettled agro-agro-pastoralists adopted different adaptive strategies and were able in accessing several livelihood capitals and institutional process. Such capabilities were considered to be good adaptive capacity. Availability of good

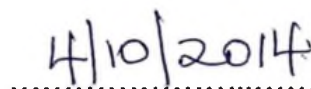
pastures and water, different skills, culture and traditions, government and institutions were noted to be important in enhancing adaptive capacity of resettled agro-pastoralists. The study recommends that in order to enhance the livelihoods and adaptive capacity of resettled agro-pastoralists; policy and decision-makers should revisit the planning and implementation modalities for resettling agro-pastoralists. Infrastructure such as rural roads, water supply, schools, extension and veterinary services and marketing information should be improved.

**DECLARATION**

I, Given Beneth Msigwa, do hereby declare to the Senate of Sokoine University of Agriculture that this thesis is my own original work done within the period of registration and that it has neither been submitted nor being concurrently submitted in any other institution.

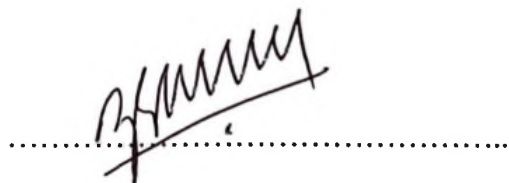


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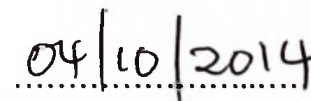


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## **DEDICATION**

This thesis is dedicated to my beloved husband Mr. Solomon W. Msomba and our two lovely daughters Tulinagwe and Ikupa for their prayers and patience during my study.



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## LIST OF ABBREVIATIONS

|        |   |
|--------|---|
| AOA    | Actor-Oriented Approach                                 |
| AOM    | Actor-Oriented Model                                    |
| CBPP   | Contagious Bovine Pleuro-Pneumonia                      |
| DALDO  | District Agricultural and Livestock Development Officer |
| DFID   | Department for International Development                |
| FAO    | Food and Agriculture Organization                       |
| IFAD   | International Fund for Agricultural Development         |
| IOM    | International Organization for Migration                |
| IPPC   | International Plant Protection Convention               |
| MDGs   | Millennium Development Goals                            |
| MLDF   | Ministry of Livestock Development and Fisheries         |
| NGOs   | Non-Governmental Organizations                          |
| NSGRP  | National Strategy for Growth and Reduction of Poverty   |
| ODI    | Overseas Development Institute                          |
| PINGOs | Pastoralists Indigenous Non-Governmental Organizations  |
| RVF    | Rift Valley Fever                                       |
| SLF    | Sustainable Livelihood Framework                        |
| SLM    | Sustainable Livelihood Model                            |
| SPILL  | Strategic Plan for the Implementation of Land Laws      |
| TANAPA | Tanzania National Parks Authority                       |
| UN     | United Nations  |
| UNDP   | United Nations Development Programme                    |
| URT    | United Republic of Tanzania                             |

|     |                           |
|-----|---------------------------|
| VEO | Village Executive Officer |
| WEO | Ward Executive Officer    |

## CHAPTER ONE

### 1.0 INTRODUCTION

#### 1.1 Background

In the quest for development, many governments all over the world have committed themselves to improving the livelihoods of their people. One of the first and foremost goals of the Millennium Development Goals (MDGs), formally established by the United Nations in 2000, was to eradicate hunger and extreme poverty (UN, 2000). Specific targets included to halve the proportion of people who suffer from hunger and the proportion of those with incomes of less than \$1 a day by 2015. In reality, achieving these targets is the responsibility of each government in the developing countries. However, skeptics of development assert that even if by 2015 such goals are fully met, about 900 million people, mostly in Sub-Saharan Africa and South Asia will remain in chronic poverty for many reasons, including some appalling policy decisions that are negative to development.

Since independence in 1961, Tanzania has been attempting to provide its people, including pastoralist communities with basic social services. Various plans, policies and programmes are formulated and implemented to expand and strengthen basic social services such as health and education. There have been four phases of policy formulation in Tanzania. The first phase started in 1961, when the country adopted a growth strategy between 1961 and 1967. The second phase came in 1967 when the Government adopted the Arusha Declaration, which instituted socialism and the policy of self-reliance. This resulted in significant socio-economic progress in the late 1960s and 1970s. However, all the gains were eroded during the economic recession of the early to mid-1980s. In 1986, Tanzania adopted the third phase of policy formulation by accepting World Bank and IMF

macro-economic reforms under the name of *Economic Recovery Programme I&II*, preceded by a locally based economic survival programme under the name of National Economic Survival Programme 1981-1983 and home-grown Structural Adjustment Programmes (SAPs) 1983-1986. The first two homemade programmes had very little impact as were reported to contribute to economic growth by 4.2%. Between 1990 and 1997 Tanzania's economy continued to suffer. In an attempt to mitigate the negative impacts of international SAPs, Tanzania entered into the fourth phase of policy formulation by adopting the first series of *Poverty Reduction Strategies* under the name of National Poverty Eradication Strategy (NPES) of 1998. This was followed by the Development Vision in 2000 as well as the Poverty Reduction Strategy paper in 2000. In 2005 the National Strategy for Growth and Reduction of Poverty (NSGRP) was developed (Corta and Prince, 2009; Nord *et al.*, 2009).

In Tanzania, the National Poverty Reduction Strategy was adopted by the Cabinet and Parliament in February 2005. In 2010, the strategy was reviewed leading to current second version, *MKUKUTA II*, which is under implementation since 2010/11 to 2014/15. *MKUKUTA II* links with Vision 2025 and is committed to the Millennium Development Goals (MDGs) as internationally agreed targets for poverty alleviation. *MKUKUTA* aims to alleviate poverty through three broad outcomes: growth and reduction of income poverty; improved quality of life and social wellbeing; and good governance and accountability.

However, in so doing the state has adopted and applied policies and practices which have led to frequent conflicts with the needs and interests of sedentary farmers and pastoralists. The main reason for this is that the policies that were established did not consider the socio-economic reality of communities, such as the long established and cherished cultural heritage, livestock production being their principal source of income, high mobility



through constant and uncontrolled migrations, and the harsh environment characterized by drought, animal rustling, disease, and poor means of communication (Walsh 2007; Cernea *et al.*, 2003).

In recent years in Tanzania, pastoralists have been subjected to discriminatory treatment by the state, including displacement due to the establishment of protected/conservation areas. Most conservationists regard the eviction of pastoralists as one of the necessary approaches to the conservation of forests, wildlife and wetlands in various reserved areas. Therefore, conservationists consider that eviction is rational on the basis that pastoralists and their livestock have an adverse impact on the environment and that successful conservation of reserved areas is only feasible when human activities are excluded (Brockington and Igoe, 2006; Lissu, 2000).

Displacement as a result of the establishment of protected areas has destroyed the relationship between the government and rural groups, especially pastoralist communities. For the past two decades, protests against displacement and marginalization for the conservation of areas, impoverishment and injustice, disempowerment and disenfranchisement have become the key defining features of the politics of protected areas (Brockington and Igoe, 2006).

Pastoralists in Ihefu Basin in Mbarali District have been in the area for more than thirty years from 1972 (SMUWC, 2001). The history of livestock keeping has long been part of the economy in the Usangu and Ihefu Wetland area, which is now described as Mbarali District. The indigenous Sangu residents have been known for their herds of cattle and cattle-raiding culture since the mid-19<sup>th</sup> century, before losing many livestock to disease, warfare, and changing political and economic circumstances. In the mid-20<sup>th</sup> century,

immigrant livestock keepers were for the first time allowed to settle in Ihefu Basin in large numbers. The first ethnic group was the Parakuyu Maasai (in the 1950s), followed by the Sukuma and others (in the 1960s) (Walsh, 2007; SMUWC, 2001). Land was an important and attractive resource causing the majority of pastoralists to settle in Ihefu Basin, where they were able to own and utilize vast areas of cultivatable land throughout the year and make extensive use of the existing pasture.

The Ihefu Basin area was gazetted as a conservation area in 1998 (SMUWC, 2001), which led to the eviction of pastoralists from the area. As part of the move to safeguard the Ihefu Basin, on 9<sup>th</sup> March 2006 the Government issued a notice banning all livestock keeping activities and evicting pastoralists from Mbarali District. The Government evicted approximately 1000 pastoralist households. During the operation, an estimated 303 354 livestock were scheduled for removal from Mbarali District. During this operation, 218 000 livestock were actually removed, with 100 000 going to Chunya District, 65 636 to Rufiji District, 1000 to Kilwa District, 8000 to Kisarawe District, and 4958 to Lindi Rural District. Furthermore, 4000 livestock were moved to Kilombero, Ulanga and Kilosa districts and 17 406 were moved to Singida, Tabora, Dodoma, Rukwa and Ruvuma regions (Walsh, 2007).

The eviction of pastoralists represents what is being interpreted by some activists as a violation of human rights of the highest order that may have had a significant negative impact, such as loss of life, damage to livelihoods and property and the impoverishment of a substantial number of families (World Bank, 2001). In addition, the eviction raises a number of questions, especially concerning the degree to which good governance principles were applied in relation to the welfare of pastoralists in Tanzania. Therefore, the overall goal of this study was to investigate the change in livelihoods and the adaptive capacity of pastoralists evicted from Mbarali, Chunya and Kilwa districts.

## 1.2 Problem Statement

Various studies have shown that there is impoverishment and a change in livelihoods in pastoral societies following transformation in land use and ownership (Vangen, 2009; Brockington and Igoe, 2006). Cernea *et al.* (2003) examined how eviction affects people's livelihoods in terms of major hardship risks, which include landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity and mortality, loss of access to common property and social disempowerment and disruption to social institutions.

Involuntary resettlement under development projects, if unmitigated, often generates severe economic, social and environmental risks (World Bank, 2001). For instance, production systems are dismantled, people face impoverishment when their productive assets or sources of income are lost, people are relocated to areas where their productive skills may be less applicable and the competition for resources is greater, community institutions are disrupted and weakened, kin groups are dispersed, and, finally, cultural identity, traditional authority, and the potential for mutual help are diminished or lost. However, in different studies pastoral production has been shown to be flexible in adapting to different risky conditions, e.g. resettlement, drought and other climatic change (Morris *et al.*, 2010; Galvin, 2009).

Eviction of agro-pastoralists from Ihefu to new areas of Tanzania has created some negative socio-economic impact on livelihoods that is there were substantial negative effect on the economy and livelihoods of the pastoralists. However, there is insufficient documentation on such adverse impact. The exact nature and extent of these effects on the receiving or resettlement areas are not well known and documented, in particular, the change of livelihoods and adaptive capacity. This study, therefore sought to look on changes in livelihoods and the adaptive capacity of evicted pastoralists from Ihefu Basin to new resettlements.

### **1.3 Justification for the Study**

The undertaking of this study was justified by the fact that, in Tanzania, pastoralists have been displaced from their former settlements and places to new resettlements, which has led to changes in their livelihoods and their need to adapt to the changes. So far, no study has been done to analyze the situation. The study was therefore considered crucial, because it would provide information on how the eviction process contributed to the pastoralists' present socio-economic status and on the capacity of resettled agro-pastoralists to adapt to the resettlement areas, as well as revealing the specific needs pastoralists had due to being displaced.

The data obtained from this study will provide useful information that will establish what policy measures are suitable for agro-pastoralists' sustainable livelihoods that will contribute to the country's economy. The findings will be disseminated through publications in various scientific journals for scholars and as policy briefs for policy makers and planners who, wherever possible, will put the findings into practice while resolving pastoralists' challenges.

### **1.4 Study Objectives**

#### **1.4.1 General objective**

The general objective of the study was to establish the nature of change in livelihoods and adaptive capacity of the agro-pastoralists evicted from Mbarali, Chunya and Kilwa districts.

#### **1.4.2 Specific objectives**

The specific objectives of the study were to:

- i. Examine the planning and implementation modalities of pastoralists' resettlement
- ii. Assess stakeholders' perceptions of and attitudes to resettlement
- iii. Investigate the changes in livelihoods of agro-pastoralists as a result of resettlement

- iv. Examine the livelihood strategies used by agro-pastoralists to adapt to the resettlement areas
- v. Analyze the determinants of agro-pastoralists' adaptive capacity in the resettlement areas

### **1.5 Research Questions**

The following questions were posed to guide the study:

- i. How was the resettlement process planned and implemented?
- ii. What were the stakeholders' perceptions of and attitudes to the approaches used to evict and resettle pastoralists?
- iii. What were the changes in agro-pastoralists' livelihoods as a result of eviction?
- iv. What livelihood strategies were undertaken by agro-pastoralists to sustain their livelihoods in the resettlement areas?
- v. What are the determinants of the adaptive capacity of agro-pastoralists in the resettlement areas?

### **1.6 The Conceptual Framework**

The conceptual framework of this study (Fig. 1) was adopted by modifying some elements from the Department for International Development (DFID) Sustainable Livelihood Approach Framework (SLF) (Appendix 1) and Actor-Oriented Model (AOM) (Appendix 2) as proposed by Wiesmann (1998). The main issues that emerged in this study are about the changes in livelihoods of resettled pastoralists and how they have been able to create and use resources to make living in the resettlement areas. The underlying assumption was that the change in livelihoods and the adaptive capacity of pastoralists is the dependent variable that is influenced by the following independent variables: (i) livelihood resources (human, economic, social, physical and natural capital), (ii) action and behaviour



(creativity, agency, capability, power and lifestyle), and (iii) government and non-governmental actions (institutions, processes, policies, laws and organization).

The actor-oriented approach (AOA) recognizes that people, either individually or in groups (hereafter called actors) including the poor, have the agency, knowledge and ability to act meaningfully and strategically, depending on the situations they are facing. It recognizes that villagers have the capacity and technology to interact with their environment for the betterment of their livelihoods. Therefore, the focal point of interest in the actor-oriented approach is investigating how people negotiate and transform their technology to produce a sustainable livelihood.

On the other hand, DFID's SLF is an analytical approach that puts people's livelihoods, meanings and their interactions with their environment at the centre. A 'livelihood' comprises the capabilities, assets and activities required for a living (Carney *et al.*, 1998). According to this approach, the ability to pursue different livelihood strategies is dependent on the basic material and social, tangible and intangible assets that people have in their possession. The framework identifies human capital as representing skills, knowledge, ability to work and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives.

Another asset is social capital. The SLF refers to the social resources which people draw on in pursuit of their livelihood objectives. These are developed through networks and connectedness, membership of more formalized groups, rules, norms and sanctions and relationships of trust, reciprocity and exchange. Natural capital is another form of capital representing natural resource stock from which resources and services (e.g. nutrient

cycling, erosion protection) useful for livelihoods are derived. Physical capital is another form of asset, comprising the basic infrastructure, and it produces the goods needed to support livelihoods. Lastly, financial capital denotes the financial resources that people use to achieve their livelihood objectives.

In this study, SLF was used to assess how the resettled pastoralists behaved under different conditions during and after eviction. It assisted in analyzing the adaptive strategies used by pastoralists in response to shocks and stress during the resettlement process. In order to integrate this framework in this study, a sustainable livelihood model (SLM) was used as a quantitative technique to measure changes in livelihoods before and after eviction, by identifying and formulating indicators for resettled pastoralists' access to capital assets.

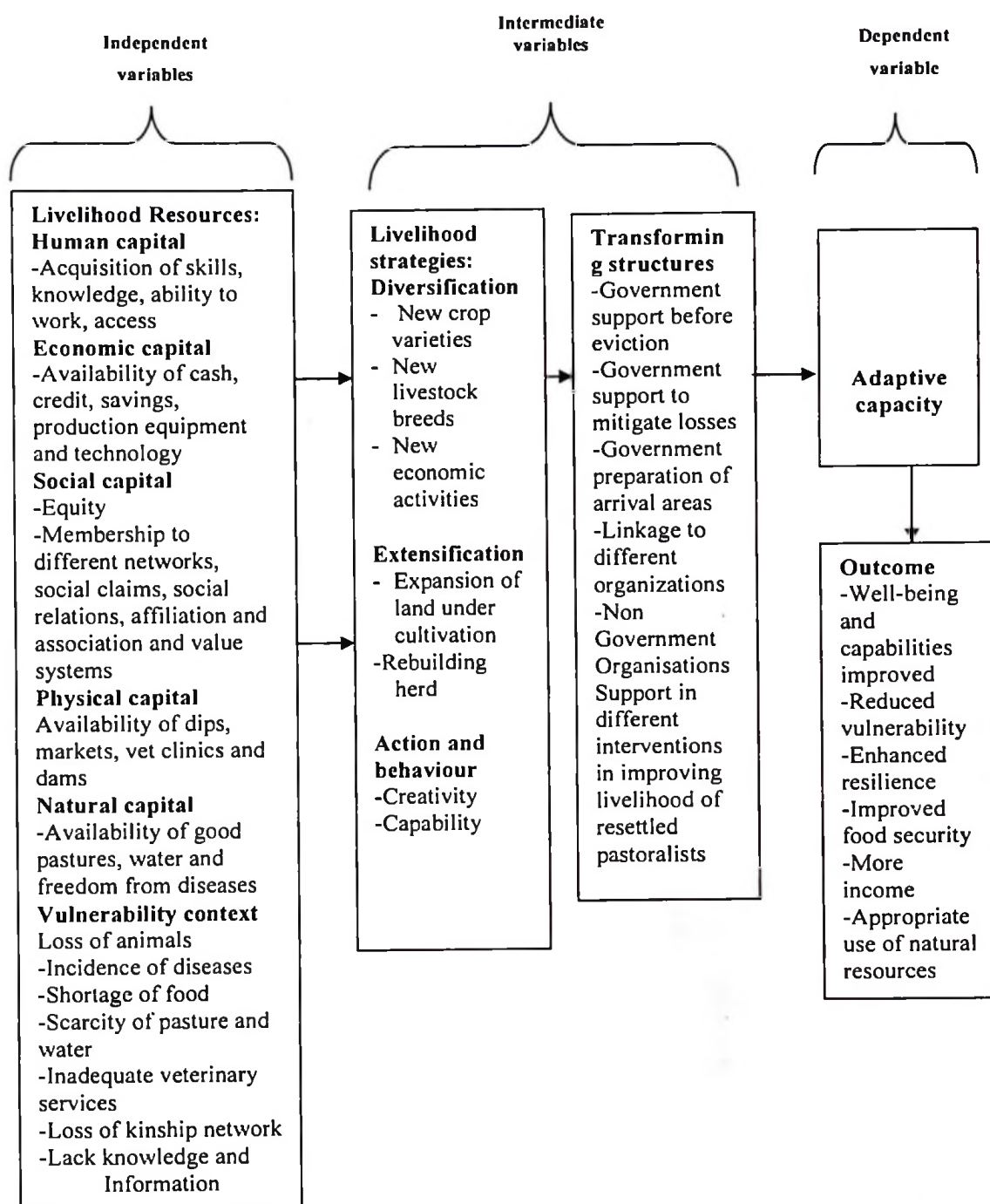
The SLM assisted in providing answers to questions like what policies were used to allow the pastoralists to inhabit Ihefu Basin? Why and what policies facilitated the eviction of pastoralists from Ihefu and their resettlement in new areas? How has local knowledge (e.g. traditional, indigenous, autonomous and informal) and/or external knowledge (formal, technology) been applied in the form of a sustainable livelihood strategy to enable the community to adapt to resettlement? In addition, the model facilitated the measurement of and to what extent national, and regional policies and institutions increased pastoralists' adaptive capacity.

The DFID SLF and the five capitals (natural, physical, human, social and financial) were used to frame the enquiry and capture the perception of adaptive capacity in the data collection process. Examples of the study questions were how the pastoralists were able to recover from shocks and stresses and what was the economic efficiency and income stability of the resettled pastoralists? What strategies were used to recover from those

shocks and stresses, and what conditions facilitated the resettled pastoralists in opting for such strategies? As regards social equity, are policies and institutions promoting livelihood opportunities at present and in the future?

The actor-oriented element was applied, as AOM recognizes people individually or in groups (hereafter called actors). Thus, the approach facilitated in answering questions, such as, what were the possibilities of resettled pastoralists creating resources for recovering from resettlement shocks and stress? How did the resettled pastoralists respond to resettlement shocks and stress? What capabilities and actions facilitated them in accessing different assets in the new areas? In addition, how have they been acting towards institutions, laws and policies to increase their adaptive capacity in the resettlement areas? By adopting and improving some elements from these two models, it was possible to facilitate the study on the changing livelihoods and adaptive capacity of resettled pastoralists.





**Figure 1: Conceptual Framework of the Study**

### **1.7 Limitation of the Study**

In this study it was difficult to use information from the District Livestock Offices such as names and respective villages to successfully trace the resettled pastoralists. Most of the agro-pastoralists decided to settle in different villages contrary to what was directed by District Livestock Offices. Others decided to shift from the allocated villages to nearby villages without providing information back to the livestock officers. It was also evident that the evicted pastoralists from Ihefu Basin upon arrival in the directed villages they found other resettled agro-pastoralists since 1990s from Shinyanga, Morogoro and Tabora regions. Under such circumstances, best sampling approach adopted snowball sampling technique. In this case, the evicted agro-pastoralists from Ihefu were interviewed and requested to mention whoever accompanied them in the course of eviction in 2006. Such information enabled the researcher to trace and interview whoever was mentioned to have accompanied and resettled in the specified village. These were common cases mostly in Kilwa District; where there were ample land to allocate them. As a result, the researcher was compelled to spend more time beyond what was planned in these villages to collect data.

### **1.8 Organization of the Thesis**

This thesis is divided into five chapters. Chapter one is the introduction and presents the background to the problem, statement of the problem, objectives of the study and the conceptual framework that guided the study. Chapter two reviews the literature review relating to the study and major concepts are defined and discussed. Chapter three provides the research methodology of the study. Location and geographical description of the study, target population and study unit, research design, methods of data collection, sample size, sampling procedures and data analysis are also detailed. Chapter four presents the results and analysis of the study findings while Chapter five covers conclusions and recommendations for enhancing the livelihoods and adaptive capacity of resettled pastoralists.

## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 Conceptualizing Pastoralism

To understand the phenomenon of pastoralism, it is first necessary to revisit the definitions. Pastoralism has been defined as a symbiotic relationship between local ecology, domesticated livestock and people in resource-scarce, climatically marginal and highly variable conditions. It represents a complex form of natural resource management, involving a continuous ecological balance between pastures, livestock and people (OXFAM, 2008; IFAD, 2009). From an economic viewpoint, Swift (1998) defines pastoral production systems as “those where at least 50% of the gross income of households (i.e. the value of production for the market and the value of subsistence production consumed by households) comes from pastoralism or its related activities’, while agro pastoralists are people who derive less than 50 per cent of their incomes from livestock and livestock products, and most of the remaining income from cultivation. This work is more about agro-pastoralism parse as many pastoralists now practicing farming.

Pastoralists have common characteristics such as reliance on natural pastures for their diet and herds are composed of indigenous cattle breeds, which represent more than just economic assets. These cattle also represent social, cultural and spiritual assets and are hence defined as social identity (World Initiative for Sustainable Pastoralism, 2006). The value of pastoralism in Tanzania can be identified in terms of marketed products, subsistence production and the value of inputs with respect to the sector of the economy, supplementary products and tourist services (Mdoe and Mnenwa, 2007). These definitions provide a very useful rule of thumb, although exceptions can always be found.

Stakeholders in the pastoralist system may not always fulfil such criteria, but still consider they are pastoralists.

As a society, pastoralists have accumulated a reservoir of valuable knowledge and experience in their lives of their environment. However, experience has shown that pastoralists are facing a number of challenges that hinder their way of life and suppress their ability to adapt to changes in their external environment. Taken together, such challenges account for poverty and the lack of essential services. These challenges are grouped into four main categories, namely, climate change, political and economic marginalization, inappropriate development policies and increasing competition over resources (OXFAM 2008; Humanitarian Policy Group, 2009).

In order to sustain their livelihoods, over millennia, pastoralists have demonstrated a natural form of adapting to climatic and ecological change (Tahmased *et al.*, 2013; Birch and Grain, 2008). Livelihood adaptation is the ability to cope with and recover from stress and shocks (Phonevilay, 2013; Chambers, 1997). Birch and Grain (2008) emphasized that to date pastoralists apply principles of flexibility and opportunism to manage the environment. Reports show that the Maasai migrants sometimes opt for non-pastoral economic activities as an alternative way of earning a living (Bee *et al.*, 2002; Mung'ong'o and Mwamfupe, 2004; Lynn, 2010).

## **2.2 The Concept of Household Livelihood**

A livelihood concerns how people shape their lives using material and non-material assets (Phonevilay, 2013; Kaag *et al.*, 2004). It includes activities that are undertaken to meet their basic needs. The earlier livelihood definition provided by Chambers and Conway (1992) states "A livelihood comprises the capabilities, assets (stores, resources, claims and

access) and activities required for a means of living". This definition has been applied in different publications with slight modifications to produce the same meaning (Scoones, 1998; Ellis, 2000; Ellis, 2003). Ellis (2003) described the term livelihood as an attempt to capture not just what people do to earn a living, but also the risk factors they must consider in managing their resources, as well as the institutions and policies that either help or hinder their pursuit of an improvement in their standard of living.

### **2.2.1 Household in relation to livelihood model**

A household consists of one or more people who live in the same dwelling and who share meals or living accommodation, and may consist of a single family or some other grouping of people (McAllister *et al.*, 2010). A single dwelling will be considered to contain multiple households if meals or living space are not shared. These members of households, all have consumption needs and some provide household labour. This makes the household the basic unit of analysis in many social, micro-economic and government models (Beaman and Dillon, 2012). Livelihood models focus on the household as the most appropriate social group for investigating livelihoods. The household is used as a unit of analysis because it is the locus where resources are generated, organized, managed and used for economic activities as well as for the care and welfare of household members (Nombo, 2007). The household survives by drawing on its range of assets and engaging in a variety of activities, thus generating income and other consumption goods to meet the needs of the household (ODI, 2000). Assets include land, labour, savings, tools, access to social networks, infrastructure and information. The asset can be tangible or intangible and owned directly or accessed by the household. These assets are invested in productive activities for households' livelihoods.



### 2.2.2 The importance of kinship networks relating to household

Kinship and marriage form the basis of the family-based household. Kinship refers to patterns of social relationships in one or more human cultures or it can refer to patterns of the social relationships themselves (Trautman, 2008; White *et al.*, 2005; Maximilian 2004). Kinship patterns may be considered to include people related both by descent (one's social relations during development), and relatives by marriage. Human kinship relations through marriage are commonly called "affinity", in contrast to the relationships that arise in one's group of origin, which may be called one's "descent group" (Maximilian, 2004). In some cultures, kinship relationships may be considered to extend to people who have economic relationships with other people, or other forms of social connections (Trautman, 2008; White *et al.*, 2005). In all societies, kinship provides continuity between generations and kinship defines a universe of others on whom a person can depend for aid. Kinship controls social relationships between people in the community, governs marital customs and, to a large extent, social interactions. It also regulates access to the means of production, such as land and other resources. Kinship networks disseminate information, help enforce social norms and facilitate trade (McAllister *et al.*, 2010; Niehof, 2003).

Households are embedded in larger structures such as kinship networks and community organizations. The stability of relationships within households reflect principles of kinship and residence by which members are bound to each other through socially sanctioned implicit contracts which spell out their claims on and obligations to each other. In Tanzania, households are related to one another in a variety of ways, including kinship, marriage, neighbourhood, village-wide clubs and formal institutions with an array of responsibilities, claims and obligations (Nombo, 2007).

Virtually all pastoral societies are built around patrilineal kinship groups (Milne, 2005). The patrilineal system is one in which one belongs to one's father's lineage and it generally involves the inheritance of property, names or titles through the male line (Holden and Mace, 2003). Typically, each patrilineal lineage is reckoned, either actually or deceptively, to go back many generations. The minimal functional unit of such societies is usually a co-residential patrilineal unit of varying dimensions dependent on ecological variables and political history. Large segments are generally favoured for defence, but sparse pasturage causes minimal units to be the rule. Thus, typically a unit of 50-200 persons organized around a few closely related males is the unit that herds and lives together. In pastoral societies, kinship serves as the primary organizing feature for the production of goods and services. People work together and exchange what they produce because they are kin, and they do so in accordance with the behaviour expected of kinship (Trautman, 2008; White *et al.*, 2005). Kinship relationships are sustained by clearly defined obligations attached to specific roles within the kinship network. Kinships and extended family structures composed of a wide range of claims and obligations, and are characterized by reciprocity and redistribution.

Trust and commitment are important factors in the sustainable functioning of kinship networks. Sometimes an individual or household may commit resources to supporting vulnerable kin members, not because of expected reciprocity in the future but because of social norms. These loans or gifts of animals given to vulnerable kin members are used to consolidate kinship relationships. Catley (2002) in a feasibility study on restocking the Dinka in Sudan, pastoralists and agro-pastoralists identified that traditional restocking mechanisms included gifts or loans of livestock from relatives and friends (Box 1). These loans and gifts are vital for vulnerable individuals and households to achieve secure livelihoods.

### Box 1: Traditional Somali 'safety nets'

#### **Free gift - *xologoyo***

This is a free gift of livestock to a needy family. A committee of elders is organized to collect livestock from relatives of the recipient family and the number of animals depends on whether the family is expected to engage in farming or herding activities.

#### **Loan - *maalsin***

A loan of animals is usually arranged between two individuals and involves lactating cattle or goats. The borrower will return the original stock to the lender with any offspring, when the animals give birth. Alternatively, the borrower may keep the offspring and return only the adult females to the lender. The terms of the contract between lender and borrower depend on kinship ties between the two parties.

#### **Marriage**

When a poor man with no livestock marries, his relatives will give him livestock. There is no specific type or quantity of animals provided. When a woman is married to a poor man, her relatives support her through the provision of livestock when she visits her father's family. Mostly, the providers are her father, brothers and uncles.

#### **Alms giving**

Alms giving in Somali custom require people who hold a certain number of livestock to provide animals to poor families as follows;

##### **-Female-headed households**

Female-headed households, *agoon*, are the first priority. They have no livestock but have children who can herd the animals; the husband has usually died.

##### **-Aged households**

The second priority is poor, aged people who have children but no livestock. In Somali, this category of family is termed *caydh*.

##### **-Poor households who have lost livestock**

Households who have lost their stock due to drought, disease or other calamity are the third priority for restocking. These families are also called *caydh*.

Source: Catley, 1999 as quoted in Catley (2002)

## 2.3 A Framework for Livelihood Analysis

A number of agencies (e.g. CARE International, United Nations Development Programme (UNDP), Oxfam, and Food and Agriculture Organisation (FAO) have adopted a livelihood approach and make use of a livelihood framework. The livelihood framework is the analytical approach that puts people's livelihoods, that is, their interaction with the environment at its centre (Appendix 1). A 'livelihood' comprises the capabilities, assets and activities required for a earning a living (Carney, 1998). The framework evolved through the entitlements approach. The idea is that each individual is entitled to a secure livelihood. Its impetus is social and economic, with renewable natural resources being perceived as the managed ecosystem. The mode of management and the technology used to exploit it is important to ensure that the benefits are distributed fairly.



The framework incorporates five elements of analysis; context and policy analysis, analysis of livelihood resources (natural, human, economic/financial and social), institutions and organizations, livelihood strategies (agricultural, livelihood diversification, migration) and sustainable livelihood outcomes (Scoones, 1998). The conceptual analysis aims at delivering and justifying the entry points for intervention and finding out what shapes people's resource use to ensure sustainability. A livelihood is considered sustainable when it can recover from stresses and shocks, and maintain or enhance its capabilities and assets both now and in the future, without undermining the natural resource base (Carney, 1998).

### **2.3.1 Livelihood assets**

The core of the livelihood approach lies in analyzing the different assets and capital which individuals or households draw on to produce. The five groups are combined in different ways to generate livelihood outcomes (DFID, 1999 – 2005). The framework identifies human capital (H) to represent skills, knowledge, ability to work and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives. At the household level human capital refers to the amount and quality of the labour available. This varies according to household size, skills level, leadership potential and health status. Natural capital (N) is another form of capital representing the natural resource stock from which the resources and services useful for livelihoods are derived. These include a wide range of resources, from intangible public goods such as the atmosphere and biodiversity to divisible assets directly used for production.

Another asset is social capital (S), and in the SLF is taken to mean the social resource which people draw on in pursuit of their livelihood objectives. These are developed through networks and connectedness, membership of more formalized groups, rules,

norms and sanctions and relationships of trust, reciprocity and exchange. Financial capital (F) is another form of asset and indicates the financial resources that people use to achieve their livelihood objectives. It includes flows as well as stocks that contribute to consumption and production. It also includes the availability of cash or its equivalent that enables people to adopt different strategies. Lastly, physical capital (P) is another form of asset which comprises basic infrastructure and the goods needed to support livelihoods. Infrastructure consists of changes in the physical environments that help people meet their basic needs and hence become more productive.

According to Scoones (1998), this list is far from being exhaustive as other forms of capital are identified. To sustain their livelihoods, people must combine the 'capital' endowments that they have access to and control over. These can be made up of personal capabilities, tangible assets (e.g. store and material resources) and intangible assets (claim and access) (Chambers and Conway, 1992). These categories of assets are admittedly a little contrived, and not all resources that people draw on in constructing livelihoods fit neatly in them. Nevertheless, they serve a useful purpose in distinguishing asset types that tend to have different links to environmental policy. For instance, human capital is linked to social policies (education and health), while natural capital is linked to land use, and agricultural and environmental policies (Ellis, 2003).

### **2.3.2 The mediating environment**

All livelihood models acknowledge the role and importance of the mediating environment - the 'modifying and contextual forces' (Appendix 1) that translate individual or household assets into livelihood strategies and outcomes. The DFID model divides these external forces into transforming structures and processes or policies, institution and process (levels of government, the private sector, law, policies, culture, institutions) and

vulnerability to the context described in terms of shocks (e.g. civil and climatic) and trends (e.g. resource stock, population, technology, politics and seasonality).

Ellis (2000) distinguished between the modifying influence of social relations, institutions and organizations, and contextual trends and shocks. In making this distinction however, he suggested that the nature of social relations (e.g. gender, class, age, and ethnicity), institutions (e.g. rules and customs, land tenure, markets in practice) and organizations (e.g. associations, NGOs, local administration and state agencies) will be predominantly endogenous to the society within which the household operates. While the category of trends (e.g. population, migration, technological change, relative prices, macro policies, national and global economic trends) and shocks (e.g. drought, floods, pests, disease, civil war) would principally cover exogenous factors.

Different literature on the analysis of livelihoods framework in relation to the policy and institutional context indicates that a good number of livelihood outcomes are caused by meso policy links, which serve as a major bridge from micro to macro and vice versa. Livelihoods at local level are embedded in the institutional and organizational context which results from current and past policy processes and decisions (constitutions, laws, regulations and guidelines). This implies that national or regional policies may lead to positive or negative livelihood outcomes.

### **2.3.3 Vulnerability**

Vulnerability refers to exposure to contingencies and stress, and the difficulty in coping with them. Vulnerability thus has two sides: the external side of risks, shocks and stress to which an individual is subject, and the internal side which is defencelessness, meaning that it lacks the means to cope with damaging loss. Both vulnerability and its reverse, resilience, are determined by physical, environmental, social, economic, political, cultural and institutional factors (Chambers, 1989; Schipper and Burton, 2009).



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The vulnerability of any system (on any scale) reflects the exposure and sensitivity to specific hazardous conditions and the ability to cope, adapt or recover from the effect of those conditions (Smith and Wandel, 2006). For poor households the interaction between internal and external livelihood components influences the typical pattern of vulnerability.

The DFID's framework (DFID, 1999-2005) presents three main categories of external vulnerability:

- i. Trends are long term and usually large scale. They may include trends in population, resource acquisition and use (including conflicts over resources), economics (national and international), governance and politics, technology and the environment (e.g. climate change).
- ii. Shocks include human health shocks (e.g., epidemics), natural shocks (e.g., natural hazard-induced disasters), economic shocks (e.g., rapid changes in exchange rates), conflicts and crop/livestock health shocks. They can directly destroy assets (e.g., in the case of floods or storms). They can also force people to dispose of assets as a coping strategy. Resilience to external shocks and stresses is an important factor in the sustainability of livelihoods.
- iii. Seasonality is expressed through seasonal shifts in prices, production, food availability, employment opportunities and health. These are some of the greatest and most enduring sources of hardship for poor people.

The sustainable livelihood analysis can be used to consider three main aspects of vulnerability to shocks and stresses:

- i. The impact of hazards on different kinds of livelihood assets/capital. Hazards affect natural capital (e.g., floods ruin agricultural land), physical capital (e.g., loss of housing, tools), financial capital (e.g. loss of savings), human capital (e.g., loss

of life, injury and unemployment) and social capital (e.g., damage to social networks).

- ii. Households and communities can adopt different livelihood strategies to reduce vulnerability and recover from hazards. These can be diverse, ranging from physical measures (e.g. building flood embankments, strengthening houses) to social/organizational actions (e.g. reinforcing social support networks, establishing local disaster preparedness committees) and livelihood diversification.
- iii. Institutions, policies and processes may help to protect people from the impact of shocks (not only conventional disaster mitigation measures, such as public education on risk avoidance, evacuation plans and relief provision, but also all kinds of development interventions that build up livelihood assets, for example, micro-credit, insurance, health, agricultural extension and organizational development projects).

The internal side of vulnerability is linked to net assets and the rate at which can be converted into consumption outcome through activities. Vulnerability can also be linked to asset ownership (Ludi and Bird, 2007). The means of resistance are assets and entitlements that individuals, households or communities can mobilize and manage in the face of hardships. The more assets people own the less vulnerable they are, and hence the greater erosion of people's assets the greater their insecurity. Vulnerability is also linked to the external side, which includes external assistance to address hardships. This is when risk and shocks are covariate in nature.

While discussing on community social protection, Holzman and Jorgensen (1999) reported vulnerability as risky economic units (such as individuals, households and community) to



fall below poverty line, that is, having insufficient consumption and access to basic services. They suggested that it needs anti-poverty policy, which has designed to prevent this from happening or bringing back to those already, have fallen in poverty line. Holzman and Jorgensen (1999) in developing the conceptual underpinning the objective and instrument for social protection they viewed it as Social Risk Management (SRM).

Social Risk Management is based on two important assessments: (i) The poor are typically most exposed to diverse risks ranging from natural (such as earthquake and flooding) to manmade (such as war and inflation), from health (such as illness) to political risks (such as discrimination), and (ii) the poor have insufficient instruments to deal with these risks (such as access to government provided income support and market-based instruments like insurance). These assessments have important consequences: (i) the poor are the most vulnerable in society as shocks are likely to have the strongest welfare consequences for them. For welfare reasons, therefore, they should have increased access to SRM instruments; and (ii) the high vulnerability makes them risk averse and thus unable or unwilling to engage in higher risk/higher return activities. Access to SRM instruments would allow the poor more risk-taking and thus provide with them an opportunity gradual move out from poverty. Hence providing risk management instruments to individuals, and in particular to the poor, is both an end as well as a means to development (Holzmann and Jorgensen, 1999; 2001).

#### **2.3.4 Livelihood strategies and activities**

Livelihood strategies are composed of various activities undertaken by households to generate a living. They are patterns of behaviour adopted by households as a result of the mediation of household assets. Livelihoods are classified according to different criteria.

Scoones (1998) and Swift (1998) divided rural livelihood strategies into three broad types, according to the nature of activities undertaken, which are:

- i. **Agriculture intensification/extensification:** Agricultural intensification has been defined as the increased average input of labour or capital by a smallholder in either cultivated land, or cultivated grazing land, purposely to increase the value of output per hectare (Ellis, 2005; Carswell, 1997). Strategies continue or increase the dependence on agriculture either by intensifying resource use through the application of greater quantities of labour or capital for a given land area, or by turning more land into cultivated or grazing land. Whether the household pursues this strategy or not will depend on agro-ecological potential and the implication for labour and capital. Technical development in agriculture may also operate as a key determinant.
- ii. **Livelihood diversification:** Diversification aims at coping with temporary adversity or more permanent adaptation of livelihood activities, when other options are failing to provide a livelihood. This means that diversification broadens the range of on-farm activities or diversifies off-farm activities by taking up new jobs (Ellis, 2005). Diversification therefore may involve developing a wide income-earning portfolio to cover all types of shocks or stress or it may involve focusing on developing a response to handle a particular type of shock or stress through a well-developed coping mechanism.
- iii. **Migration:** This may be voluntary or involuntary. It can also be rural-to-rural migration, which is aimed at accessing more fertile land for farming or grazing.

Sometimes it is a strategy used to secure off-farm employment and may rely on and/or stimulate economic links between the areas of origin and destination. Kinship structures and social and cultural norms may strongly influence migrations (Morris *et al.*, 2010).

### **2.3.5 Relating migration to household livelihoods**

To provide an understanding of migration, Ellis (2003) defined migration as the spatial separation between the location of a resident, household or family, and one or more livelihood activities engaged in by family members. Migration is one of the strategies households use to improve livelihoods by way of remittances and the use of human capital (knowledge, health, skills, labour, etc.), which reduces risk and vulnerability and increases assets (human, physical, social and environmental).

Different types of migration play multiple and complex roles in increasing or reducing the vulnerability of households (United Nations, 2006; Ellis, 2003). The key types and sub-types of migration are, firstly, internal migration (migration within national borders). This includes enforced movement and resettlement, seasonal migration, displacement due to complex civil emergencies and violent conflicts and rural-urban migration. Secondly, international migration (migration across national borders) includes displacement due to ethnic conflicts and wars, movement to adjacent countries, and movement to industrialized countries (UN, 2006; Ellis, 2003).

The International Organization for Migration (IOM) (2011) defines forced migration as any person who migrates to escape persecution, conflict, repression, natural and human-made disasters, ecological degradation, or other situations that endanger their lives,



freedom or livelihood. Migration has perceived to impart negative and positive attributes to household livelihoods. Avoiding a negative view of migration does not necessarily mean that it should be viewed in the positive terms. Migration often creates particular types of vulnerability, both for those who move and those remaining behind. For instance, a woman's decision to migrate to the nearest city seeking employment may provide her household with the necessary resources. However, it may expose her to commercial or sexual exploitation. An understanding of both the negative and positive aspects of migration may help people to make decisions that will minimise the risks associated with migration, and hence preserve the positive contribution to livelihoods (Hammond *et al.*, 2005).

Ellis (2003) argued that migration is not as prone to risk as other initiatives, and so it should not be discouraged at all points from origin to final destination. Appropriate policy stances should be in place to provide legitimacy to actions that discourage mobility within countries. If necessary, they should be carried out in a proper way without affecting livelihoods.

Examining the welfare of pastoralists using elements of a sustainable livelihood, the livelihood framework emphasizes that the livelihoods of pastoral people depend on both access to assets, such as pasture, water, animal health services, markets, credit and education, and the environment. These assets are combined for production and consumption purposes, namely the political, organizational and institutional infrastructure (Rass, 2006). Furthermore, the livelihood framework sets the welfare of pastoralists in the dynamic context of risk, seasonal and long-term trends, which affect assets and livelihood strategies (Rass, 2006).

Risk refers to uncertain events that can damage well-being – the risk of becoming ill, or the risk that a drought will occur. The uncertainty can pertain to the timing or magnitude of the event. For example, the seasonal fluctuations in farm incomes are known in advance, but the severity is not always predictable (World Bank, 2001). The World Bank classified risks based on the level at which they occur: (1) micro-shock, often referred to as idiosyncratic, relates to household or individual vulnerability to illness, loss of job, death and several other micro shocks which increase instability in households consumption patterns (2) meso-shocks affect specific household groups in a region (3) macro-shock affects all households in a region. The latter two are referred to as covariate shocks that affect traditional systems of social security and have a massive impact and can trigger one or more other shocks. They are highly associated with correlated risks that are difficult to insure against due to the nature of the occurrence and the magnitude of the impact. These shocks can be the result of persistent hunger, wars, epidemics, natural disasters and frequent droughts, which ultimately create individualistic behaviour in a community and distort the traditional systems of social security due to the breakdown of traditional mutual assistance (Ludi and Bird, 2007).

Pastoralists face the natural covariant risk, which is related to drought stress, while, the idiosyncratic risk of human illness and the idiosyncratic risk of livestock diseases can turn into a covariant risk in the case of an epidemic. The economic risk of exclusion from markets and the social risk of violent conflict over increasingly scarce resources can turn into the risk of civil strife. The latter is amplified by the political risk of marginalization and the environmental risk of pasture degradation (Rass, 2006).

### **2.3.6 Experience of evictions and livelihoods of pastoralists**

There are numerous examples of impoverishment and livelihood change in pastoral societies following transformation in land use and livestock ownership. Indeed, there is

resource alienation and displacement of pastoralists due to the encroachment of farmers and the prevalence of protected areas including national parks and irrigation schemes (Brockington and Igoe, 2007; Oxfam 2008; World Bank 2001). In Africa, the earliest story of the displacement of pastoralists and subsequent impoverishment was recorded in Sudan when the Gezira Scheme began in 1925 (Barnett and Abdulkerim, 1991). Similar stories were recorded in Tanzania and Kenya. According to Kai Arthem (1984) as quoted by Hordofa (2003), during colonial times the Maasai controlled a vast area of land in both Southern Kenya and Northern Tanzania. Today the Maasai occupy less than two-thirds of their former territory due to the escalation of land use and rationalization of production, which was the guiding principle of development in Maasai land. The national rangeland gave way to wheat schemes, beef ranches and smallholder farms in both Kenya and Tanzania (Barnett and Abdulkerim, 1991). The Mkomazi Game Reserve, Ngorongoro Conservation Area and the Basuto Wheat Ranch in Hanang are examples of areas from where pastoralists were evicted (Mustafa, 1997).

## **2.4 The Theory of Adaptation**

### **2.4.1 The adaptation concept**

Adaptation in the context of human dimensions of global change refers to a process, action or outcome in a system (household, community, group, sector, region or country) that occurs in order to better cope with, manage or adjust to some changing conditions, stresses, hazards, risks or opportunities (Smith and Wandel, 2006). The term adaptation is variously described. Adger and Brooks (2007) described adaptation as “the adjustments in a system’s behaviour and characteristics that enhance its ability to cope with external stress”.

Adaptation, whether analyzed for the purpose of assessment or practice, is closely associated with the concepts of vulnerability and adaptive capacity (Kelly and Adger 2000; Turner *et al.*, 2003). Vulnerability of any system reflects the exposure and sensitivity of that system to hazardous conditions and the ability, capacity or resilience of the system to cope with, adapt to or recover from the effects of those conditions (Burton *et al.*, 2009). Adaptations are manifestations of adaptive capacity and represent ways of reducing vulnerability (Smith and Wandel, 2006; Adger *et al.*, 2009; Schipper and Burton, 2009).

#### **2.4.2 Determinants of adaptive capacity**

Adaptive capacity is similar to or related to concepts such as adaptability, coping ability, management capacity, stability, flexibility and resilience (Smith *et al.*, 1998; Jones, 2001). In practical terms, adaptive capacity is the ability to design and implement effective adaptation strategies, or to react to evolving hazards and stresses to reduce the likelihood of the occurrence and/or the magnitude of harmful outcomes resulting from different hazards (Adger and Brooks, 2007). Forces that influence the ability of a system to adapt are drivers or determinants of adaptive capacity (Adger, 2003; Walker *et al.*, 2002). Local adaptive capacity reflects broader conditions. At the local level, the ability to adapt can be influenced by such factors as managerial ability, access to financial, technological and information resources, the institutional environment within which adaptation occurs, political influence and kinship networks (Kelly and Adger, 2000; Smith and Pilifosova, 2001; IPCC, 2007; Schipper and Burton, 2009).

However, it is suggested that humans possess the ability to plan and manage adaptation (Schipper and Burton, 2009). Nevertheless, adaptive capacity is context-specific and

varies from community to community and among social groups and individuals over time. In addition, a system's adaptive capacity and coping range are not static. Coping ranges are flexible and respond to changes in economic, social, political and institutional conditions over time (Folke *et al.*, 2010). By adopting a livelihood framework, it is possible to identify the main features of a community that determine its adaptive capacity, namely, economic wealth, technology, information and skills, infrastructure, institutions and equity.

Economic resources, whether expressed as economic assets, capital resources, financial means, wealth or poverty, and the economic condition of nations and groups, clearly determine adaptive capacity (Kates, 2000). It has also been recognized that poverty is directly related to vulnerability. Although poverty should not be considered synonymous to vulnerability, it is "a rough indicator of the ability to cope" (Ludi and Bird, 2007). Davies and Bennett (2007) stated that, by definition, it is usually the poor who are among the most vulnerable to famine, malnutrition and hunger. Further, they describe a situation in which pastoralist communities are "locked into" a vulnerable situation partly because of the lack of financial power that would allow them to diversify and engage in other sources of income. At the local level, Ellis (2002) concludes that the highest levels of household vulnerability have also been characterized by low household incomes in conjunction with poor housing quality and little community organization. Households with a higher level of income are better able to manage vulnerability.

Lack of technology has the potential to seriously impede the household's ability to implement adaptation options because the range of possible responses is limited (Asante *et al.*, 2012). Adaptive capacity is likely to vary depending on the availability of and access



to technology at various levels (i.e., from local to national) and in all sectors (Asante *et al.*, 2012). Many of the possible adaptive strategies identified for managing climate change directly or indirectly involve technology (protective structures, crop breeding and irrigation, settlement relocation or redesign). Hence, a community's level of technology and its ability to develop technologies are important determinants of adaptive capacity. Moreover, openness to the development and utilization of new technologies for the sustainable extraction, use and development of natural resources is a key to strengthening adaptive capacity.

It is frequently argued that adaptive capacity will be greater if social institutions and arrangements governing the allocation of power and access to resources in a community, nation or the globe ensure that access to resources is equitably distributed (IPCC, 2007). The extent to which nations or communities are "entitled" to draw on resources greatly influences their adaptive capacity and their ability to cope (Ludi and Bird, 2007). Some people regard the adaptive capacity of a system as a function not only of the availability of resources but of access to those resources by decision makers and vulnerable sub-sectors of a population (Asante *et al.*, 2012). In the case of technological innovation, Grambsch and Menne (2003) show that when information is disseminated inequitably in an organization it can impose constraints on adaptation strategies. Different demographic variables, such as age, gender, ethnicity, educational attainment and health, are often cited in the literature as being related to the ability to cope with risk (IPCC, 2007).

The determinants of adaptive capacity are not independent of each other, nor are they mutually exclusive. Adaptive capacity is the outcome of a combination of determinants and varies widely between countries and groups, as well as over time. Vulnerability varies spatially because national environments and social structures vary spatially. It varies temporarily because people move through different life stages with a varying mix of

resources and liabilities (Rass, 2006). Not only are conditions for adaptive capacity diverse, they also behave differently in different countries and regions, depending on the level of development. These determinants represent conditions that constrain or enhance the adaptive capacity and hence the vulnerability of regions, nations and communities.

## **2.5 Policy and Institutions' Influence on Livelihoods**

As mentioned earlier, policy and institutions are components of the livelihoods framework, which means that policy and institutions influence household livelihoods. This is because local livelihoods are embedded in institutional and organizational contexts as a result of current and past policy processes and decisions (constitutions, laws, regulations, guidelines, central and local public services, rights and civil society organizations) (Ellis, 2003). Ellis and Freeman (2004) in their research findings on rural livelihoods suggested that the local institutional context often hinders rather than facilitating and encouraging people's own efforts to move out of poverty. The relationship between administrative systems including traditional authorities (chiefs and village leaders) and private citizens has often been that of predator and prey rather than that of government and citizen, although this is often masked (Fjeldstad, 2001).

### **2.5.1 The role of policies**

Policy is defined as a 'course of action designed to achieve particular goals'. Public policies are produced by the government to achieve particular national outcomes. Private organizations or communities may also form their own policies to achieve defined goals (DFID, 2000). Policies cannot be taken in isolation, but must be examined in the context and as part of a process. A government, organization or any other entity may issue a policy statement, but its formulation and implementation should be mediated through institutions and organizations. The term 'policy process' refers to the process of formulating policies

to guide decision-making and to putting issues of public concern on the agenda, as well as intangible processes concerning how issues are thought of and talked about (Keeley, 2001). Policy processes encompass: formulation, which is gathering and analysing information and making decisions; implementation, which involves putting into action a set of rules, regulations and institutions achieving the goals of a policy; and monitoring and evaluating the policies being implemented.

Policies and institutions are important external man-made factors which influence a range of livelihood options open to different categories of people. Policies also shape how people pursue different livelihood strategies. An enabling policy and institutional environment makes it easier for people - poor and less poor - to gain access to the assets they need for their livelihoods. A disabling policy and institutional environment can discriminate against the poor, thus making it difficult for them to access land, livestock, capital and information (Carloni and Crowley, 2005).

Brock and Harrison (2006) argue that policies decided upon at different levels of government will affect how households are enabled to take decisions or make use of livelihood assets at their disposal. For example, policies for giving more responsibility to village-level institutions may give local people more influence over decisions that directly affect them. Policies to protect environment through controlling the use of natural resources may make it more difficult for poor people to gain access to the resources they normally use to support their livelihoods. The process by which policies are formed may be as important as the policies themselves. Groups of people who are not consulted about a policy, or are not represented in the mechanisms that lead to policy formulation, will have no way of influencing what policies are decided upon (Rass, 2006). As a result, they are more likely to be adversely affected by these policies. Policies are particularly



important for people involved in improving household livelihoods because policies can be changed.

The formulation and implementation of public policy can affect livelihoods by changing institutions in such a way that they become more or less supportive of poor people's livelihoods (e.g. land-reform measures) and they alter organizations' incentives and their relationship with poor people (Karl, 2002). For example, privatization has removed parastatal marketing boards' incentive to purchase small quantities of produce from fragmented and isolated producers, thereby reducing the sales of poor people's goods.

### **2.5.2 Role of institutions**

Development practitioners and scholars use the terms *institutions* and *organizations* interchangeably. When a distinction, however vague, is made between the two terms, it relies on the context and how the words are used. The word *organization* is used to refer to a group, association, office, agency, company or firm as a structure with recognized roles or positions that have a relationship with each other in order to achieve a specified goal(s) (Bingen, 2000). In the context of livelihoods and accessibility to livelihood assets, institution refers to formal and informal norms, rules, procedures and processes that define the way in which individuals should interrelate and act (Carlon and Crowley, 2005; North, 1990).

Various ways have used to classify institutions, depending on the purpose of an institution, particularly in which institutions are of interest. Institutions play a role in channeling financial information to a community and providing it with technological leadership and policy interventions. Institutions have a major influence on determining the direction and

magnitude of resource flows to different social groups (Agrawal, 2008). The literature on institutions cites various types, from global down to family-level institutions, sectoral institutions (e.g. economic, political, forestry, etc.) and informal and formal institutions (Bardhan, 2005). Institutions are the social cement that links stakeholders to different ways of exercising power. So institutions are the gateway to either positive or negative livelihoods (Scoones, 1998). As a result, they shape the way in which societies have evolved over time and are the key to understanding historical changes. In other words, the performance of economies is fundamentally influenced by the way in which institutions have evolved (Kingstone and Callaberoz, 2006).

Institutions may be formal or informal, often fluid and usually subject to multiple interpretations by different actors. Power relations are embedded in institutional forms, which mean that institutional practices, rules and norms are always contested (Scoones, 1998; North, 1990). Institutions are also dynamic, continually being shaped and reshaped and are thus subject to negotiation, rather than being fixed objects or a bounded social system.

Like institutions, organizations have a structure (Carlson and Crowley, 2005; North, 1990) and comprise political, economic and social bodies. Various organisations that provide services to communities, as well as people, operate within a set of laws and formal and informal policies. Organisations that affect people are at the macro level (e.g. national law), meso level (e.g. district service providers) and micro or local level (e.g. local shops or traditional leaders) (Bardhan, 2005). They may be in civil society, or the public and private sector. The process includes how the organisations and services operate, for example, to what degree is there participation or accountability.

Institutions reduce uncertainty by providing a structure for day-to-day life. Ellis (2003) reported that institutions define and limit the choices of individuals. Therefore, institutions include any form of constraint that human beings devise to shape human interactions. Formal constraints can be the rules that human beings devise, and informal constraints can be convention and codes of behaviour. Institutions are created or may simply evolve over time (Ellis, 2003) from conventions, codes of conduct and norms of behaviour to laws and contracts between individuals. Because institutions are evolving, they are continually altering the choices available to an individual.

## **2.6 Policy Influence on Pastoralists' Livelihoods**

In the public arena, a policy would ideally be the means by which citizens hold public institutions accountable for their actions concerning specific issues of public interest. Most government policies have been perceived as being formulated in the public interest, which makes it difficult to challenge them, as that would be interpreted as working against the public interest. "In reality many policies arise from a centralized system that often publicizes policies in which the poor are seen not as beneficiaries of the policy, but as agents of environmental destruction" (Brock and Harrison, 2006; Mattee, 2007). Implementation of a policy is often influenced by politics and the internal dynamics of implementing institutions and their structural positioning.

The plight of pastoralists has been the subject of lobbying and advocacy since colonial times and is now undertaken by various local, national and international agencies worldwide. Pastoralist women and men face a series of challenges that hinder their way of life and stifle their ability to adapt to changes in their external environment. These include climatic change, political and economic marginalization, inappropriate development policies and increasing competition for resources (Oxfam 2008; Brockington, 2001;

Hordofa 2003). To tackle such challenges in pastoral areas both the government and aid agencies have focused primarily on relief and emergency responses. The National Livestock Policy of 2006 and Village Land Act of 1999 have proved to be inappropriate and inadequate, and have generated an array of economic, social and cultural problems. These include policies which focus on 'modernizing' the livestock sector, sedentarizing pastoralists and privatizing land tenure (ODI, 2009; World Bank, 2001; Walsh, 2007; Mattee, 2007). Progress in pastoralists' engagement in the process has been slow, with the result that a negative perception of pastoralists and pastoralism persists, and policies inimical to pastoralists continue to be formulated (Mattee, 2007).

Rass (2006) discussed risk management policy and strategies. She suggested that, in the process of policy making, it is important to distinguish between idiosyncratic and covariant risks. The management of covariant risks calls for public sector engagement and investment, while idiosyncratic risks are normally best dealt with by the household itself. Risk management strategies can be categorized as risk reduction, risk mitigation and risk-coping strategies. In principle, the preferred approach should first be to reduce the likelihood of risk and then to mitigate the negative effect of shock. Rass (2006) emphasizes the risks that can be managed are drought, epidemic animal diseases and market exclusion.

Walsh (2007) and Mattee (2007), in analysing how pastoral policies are formulated, noted that most were and still are based on the underlying notion that pastoralism is not the most efficient use of land and so other uses have been given priority over pastoralism. The Mkomazi Game Reserve, Ngorongoro Conservation area and Basuto Wheat Ranch in Hanang are typical examples of areas from which pastoralists were evicted, and ownership

of their land was given to others (Mustafa, 1997). This caused pastoralists to become landless and impoverished, as their means of earning a living became limited.

#### **2.6.1 The pastoral policy context of Tanzania**

The principal development policy in Tanzania, the National Strategy for Growth and Poverty Reduction 2005–2010 (NSGRP), known by the Kiswahili acronym as *MKUKUTA*, recognizes pastoralism as a sustainable livelihood. It states that one of its goals is to promote efficient utilization of rangeland by empowering pastoralists to improve livestock production through improved access to veterinary services and a reliable water supply as well as recognizing pastoralism as a sustainable livelihood (URT, 2005). Although other policies are supposed to harmonize with the NSGRP, a study conducted to identify and analyze the impact of existing and emerging policies and laws with a bearing to pastoralism in Tanzania found that was not the case (Mattee, 2007; Mattee and Shem 2005; Mattee and Nang'oro 2004). Examples of these policies were the National Land Policy of 1995, the Village Land Act of 1999 and the Livestock Policy of 2006. Some of the policies provide opportunities for pastoralists, but show little understanding of the pastoral production system or recognize pastoralism as a sustainable livelihood. This is probably due to two main factors: (1) policy makers' lack of knowledge about pastoralism; and (2) pastoralists' inability to articulate their views and influence the policy debate (Mattee, 2007).

Even the Livestock Policy of 2006 (URT, 2006) fails to acknowledge the genetic potential of indigenous livestock breeds, or the wisdom of extensive grazing regimes in dry land areas. The National Land Policy of 1995 and Village Land Act of 1999 made legal provision for the security of land rights for extensive grazing systems. However, these are



not widely known or exploited and certain aspects of the Land Act have been described as “the last nail in the coffin of pastoralism” (Kipuri and Sorensen, 2008:4) (Box 2).

**Box 2: Alienation of pastoral land by state and private interests**

- Two and half million hectares (25,000 km<sup>2</sup>) of village and public land is currently being expropriated for allocation to investors through the Land Bank, under Tanzania Investment Act of 1999. Land for ‘investment’ has already been identified in all pastoralists’ districts
- Under the Wildlife Conservation Act of 1974, 5 hectares (34 605 km<sup>2</sup>) of the land managed by pastoralists has been gazetted as Game Controlled Areas, whereby the Minister for Natural Resources and Tourism may make decisions on land use without recourse to the village, district or Parliament
- Establishing national parks or game reserves on traditional pastoral lands excludes pastoralists from grazing land, while expanding cultivation and wildlife reserves or parks reduces the amount of rangeland and puts increasing pressure on remaining rangelands. Increased incidence of livestock diseases, especially in villages bordering national parks, has led to cattle losses, the destitution of pastoralists and long-distance migration to other parts of the country
- Cultivation of wetland (on a small scale by local farmers, by large-scale irrigation projects) leads to the loss of dry season grazing
- Preventing trans-boundary migration disrupts seasonal grazing patterns
- Mining may deprive pastoralists from access to pasture
- In some cases, public ownership can undermine sustainable natural resource management, for example, when public wells replace privately owned wells, which are sometimes the only instrument for controlling access to pasture and preventing overgrazing.
- Market distortion caused by expansion of the crop sector and large-scale investment in crop production (e.g. donor-driven projects) are fuelling encroachment on ‘marginal’ dry-lands (i.e. rangelands)
- Decentralization does not address the need of mobile populations

Source: Kipuri and Sorensen (2008:6)

In addition to being vulnerable to drought and diseases, pastoralists' livelihoods and production are being increasingly marginalized by most of the present policies and interventions (Kipuri and Sorensen, 2008). This is well demonstrated in the third draft of the Strategic Plan for Implementation of the Land Law (SPILL) (2005), under which pastoralists have to be allotted land on which to settle with their livestock (meaning that the nomadic way of life must stop) which reinforces the negative perception of pastoralists that exists. Sectors are called upon to note with great concern that pastoral production has very low, added to which:

- i. Pastoralism degrades large amounts of land
- ii. Pastoralism invades established forests and wildlife conservation areas, and farms and ranches (implying that it violates land tenure security)

At present, it has been difficult to control livestock diseases, which makes it hard to export livestock and its by-products, such as meat and milk, due to international demands that livestock and its products are free from infectious agents.

SPILL (2005) is not alone in endorsing such misconceptions that give confusing messages about pastoralists as many analysts refer to myths about pastoralists and pastoralist production (Kipuri and Sorensen, 2008; Mattee, 2007; Mattee and Shem, 2005; Mattee and Nang'oro, 2004). Little if any meaningful support is given to pastoralists to alleviate poverty or to improve their production. This creates a situation where the victims of failed policies (pastoralists) are blamed for their recorded failures. The poor policies and practices that have adversely affected pastoralists' livelihoods have also hindered the growth of the livestock sector and the overall efforts to reduce poverty in Tanzania. To date, no sound knowledge base exists for developing effective pastoralist livelihood policies. Indeed, documented information about pastoralists' livelihoods and appropriate

basic data are lacking (Kipuri and Sorensen, 2008). In a study on participatory poverty assessment, Sangale (2004) observed that pastoralists are finding it increasingly difficult to respond to stresses such as drought and diseases under the present policies, which clearly indicates that they are not providing an appropriate framework for pastoralists' livelihoods along with what has been documented in the NSGRP (Kipuri and Sorensen, 2008; Mattee, 2007).

## 2.7 Literature Gap

There are numerous incidences of impoverishment and livelihood change in pastoral societies following transformation in land use and livelihood ownership (Vangen, 2009; Brockington and Igoe, 2006; Mung'ong'o and Mwamfupe, 2003). Cernea *et al.* (2003) examined how eviction puts people's livelihoods at great risk of hardship, including landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity and mortality, loss of access to common property, disempowerment and disruption of social institutions. Both in theory and practice pastoral production has been shown to be flexible in adapting to different risk conditions, e.g. resettlement, drought and climatic change (Morris *et al.*, 2010; Galvin, 2009). From this literature it has been possible to identify the main features of communities that seem to determine their adaptive capacity: economic wealth, technology, information and skills, infrastructure, institutions and equity (Smith and Pilifosova, 2001). The literature has also pointed out the influence of policy on pastoral livelihoods and the pastoral policy context in Tanzania. However, it has been shown that many policies have failed to improve and protect pastoralists' livelihoods (Kipuri and Sorensen, 2008; Mattee, 2007; Mattee and Shem, 2005; Mattee and Nang'oro, 2004).



Considering the changes made by pastoralists in the course of displacement to new areas has prompted the need to know whether their response improved their adaptive capacity to change, or conversely intensified their vulnerability. Experience from previous resettlement programmes indicates that the capacity of individuals to adapt to stresses and shocks in resettlement areas differed according to gender, age, level of education, indigenous technologies, traditional and cultural norms, initial conditions, health and wealth among others, with adaptation ranging from bare survival to prosperity (Mung'ong'o and Mwamfupe, 2003; Galvin 2009, Morris *et al.*, 2010).

In reviewing the different literature it was found that there have been many studies on changes in livelihoods and on measuring the capacity of pastoralists to adapt to floods, drought and dramatic climatic changes and to adopt new economic activities. There is very little literature on the adaptive capacity and changes in livelihoods of pastoralists due to resettlement. Therefore this reveals the research gap.

## CHAPTER THREE

### 3.0 RESEARCH METHODOLOGY

#### 3.1 Description of the Study Area

The study was conducted in Mbarali, Chunya and Kilwa districts of Tanzania Mainland. Mbarali and Chunya are in Mbeya Region while Kilwa District is in Lindi Region (Fig. 2). Mbarali District was included in this study because it is the area from which pastoralists were evicted and forced to resettle in different areas although some victims of the eviction remained in Mbarali District. Chunya and Kilwa are two districts where pastoralists eventually were directed for resettlement after being evicted from Ihefu Basin in Mbarali District, Mbeya Region.

Kilwa District is in Lindi Region in the southern corridor of Tanzania. The district lies between latitudes 8° 020' and 9°056' south of the Equator and longitudes 38° 036' and 39° 050' east of Greenwich. To the north Kilwa District borders Rufiji District in Pwani Region and it borders Lindi and Ruangwa districts in the south in the same region, Lindi. To the west, the district borders Liwale District, and to the east it borders the Indian Ocean. The district occupies a total area of 13 348 square kilometres (equivalent to 1 334 750 ha) of which 12 126 square kilometres represent land, and 1222 square kilometres is part of the Ocean. According to the 2012 national census, the district's population was 190 744 with an average household size of 3.9. Administratively, the district is divided into 6 divisions, 20 wards and 97 registered villages. The study was done in eight villages, namely, Lingaula, Nangurukulu, Matandu, Kiranjeranje, Mbwemkuru, Miteja, Somanga and Mpara.

Kilwa District has a coastal climate, which is hot and humid, with the average temperature ranging from 22°C to 30°C. The humidity is high, nearly 98-100% during the long rains. The district receives a total rainfall of 800-1400 mm/year and its distribution varies according to the locality. The area north of Kilwa Masoko receives 1000- 1400 mm, while that in the south receives between 800 and 1400 mm/year. The period of rainfall coincides with the onset of each monsoon; the long rains (also described as Masika) occur from mid-March to May, and the short rains (Vuli) from late October to December.

Kilwa District was purposively selected for this study because it was one of the districts in which the pastoralists were directed by the Government to resettle in after being evicted from Mbarali District. The Government decided to resettle evicted pastoralists in Kilwa District because a large area was available with plenty of pasture and so it was easy for pastoralists to be allocated ample land for animal grazing. Prior to resettlement, the District Council, through the Departments of Land and Agriculture and Livestock Development assigned villages for pastoralists' resettlement. The number of animals designated for each village was based on the specified land-carrying capacity (Appendix 3). In 2006 alone, Kilwa District received 11 902 cattle, 313 goats and 143 sheep from Mbarali District, Mbeya Region. This brought the livestock population in Kilwa District to date to 12 336 cattle, 5192 goats and 5143 sheep, with 5000 more cattle on the way. From 2006 to 2011 there was an increase of 3.5%, 94% and 97% of cattle, goats and sheep, respectively, in Kilwa District (Kashindye, 2012).

Chunya District is located in the north-western part of Mbeya Region and is one of seven districts in Mbeya Region. The district lies between 7° and 9° latitudes south of the Equator and between 32° and 34° longitudes east of Greenwich. The district borders

Singida and Tabora regions to the north, Iringa Region and Mbarali District to the east, Mbozi and Mbeya districts to the south, Rukwa Region and Lake Rukwa to the west. The district has a total area of 29 219 sq. kms (equivalent to 29 219 000 ha.), of which 28 114 sq. kms (28 114 000 ha.) are land and 1705 sq. kms. (1 705 000 ha.) are covered by water, including Rivers Songwe, Lupa and Zira and part of Lake Rukwa, which constitute inland water bodies (URT, 2004).

Administratively, Chunya District is divided into four divisions, namely Kiwanja, Kipembawe, Kwimba and Songwe. These are sub-divided into 22 wards, which are further sub-divided into 69 registered villages. The district experiences a temperature that ranges between 21° C and 23° C annually. The mean annual rainfall ranges from 600 mm to 1000 mm. The peak period for the main rainy season is December to March almost every 19 years. Reports indicate that about 78% of the land is arable (URT, 2004). Chunya District was chosen for the study because it was one of the districts in which the pastoralists were directed by the Government to resettle after being evicted from Mbarali District. The study was conducted in two villages, namely Kapalapala and Luwalaje, in which the pastoralists evicted from Mbarali District were directed to resettle by the Department of Agriculture and Livestock Development.

Mbarali District is one of the eight councils in Mbeya Region. It is located in south-western Tanzania, between latitudes 7°41' and 9°25' south of the Equator and longitudes 33°40' and 35°40' east of the Greenwich. It shares the border with Iringa District in the north-east, Wanging'ombe District to the south-east, Makete District, Mbeya District to the west, Chunya District to the north and with Usangu Game Reserve to the south, which is actually now included in Ruaha National Park. Also, the district is within the western

arm of the rift valley, marked by distinct escarpments in the south and east of the district and forms the upper catchments of the Great Ruaha River (Mbarali District Council, 2011).

The temperature in the district ranges from 9° C to 30°C. The district has a total area of 16 000 km<sup>2</sup>. Arable land comprises about 12.3 % of the area while grazing land accounts for 16.2 %. Seventy (70) percent of the arable land (1960 km<sup>2</sup>) used for crop production. Fifteen out of 99 villages in the district have land use plans. Livestock is another important agricultural sub-sector in terms of food production, social life and income generation not only among livestock keepers, but also, the entire community in Mbarali District. Currently, the livestock population is estimated to be 138 102 cattle, 53 105 goats, 23 219 sheep, 234 152 poultry and 15 848 pigs (Agriculture and Livestock Department, 2011). Pastoralist and agro-pastoralist livestock production systems are practiced in the district.

Mbarali District was purposively selected for this study because it is the district from which pastoralists were evicted. It was also included in the study as some pastoralists who were the victims of eviction remained in the district. Those pastoralists facilitated gathering of information on how the eviction process was conducted and its consequences for pastoralists' livelihoods, which made it possible to track the livelihood changes in pastoralist households. The study was conducted in seven villages, namely Mabadaga, Itamba, Ukwavila, Msesule, Ikoga Mpya and Nyamakuya. According to the district livestock data, the majority of pastoralists affected by eviction resettled in these villages.



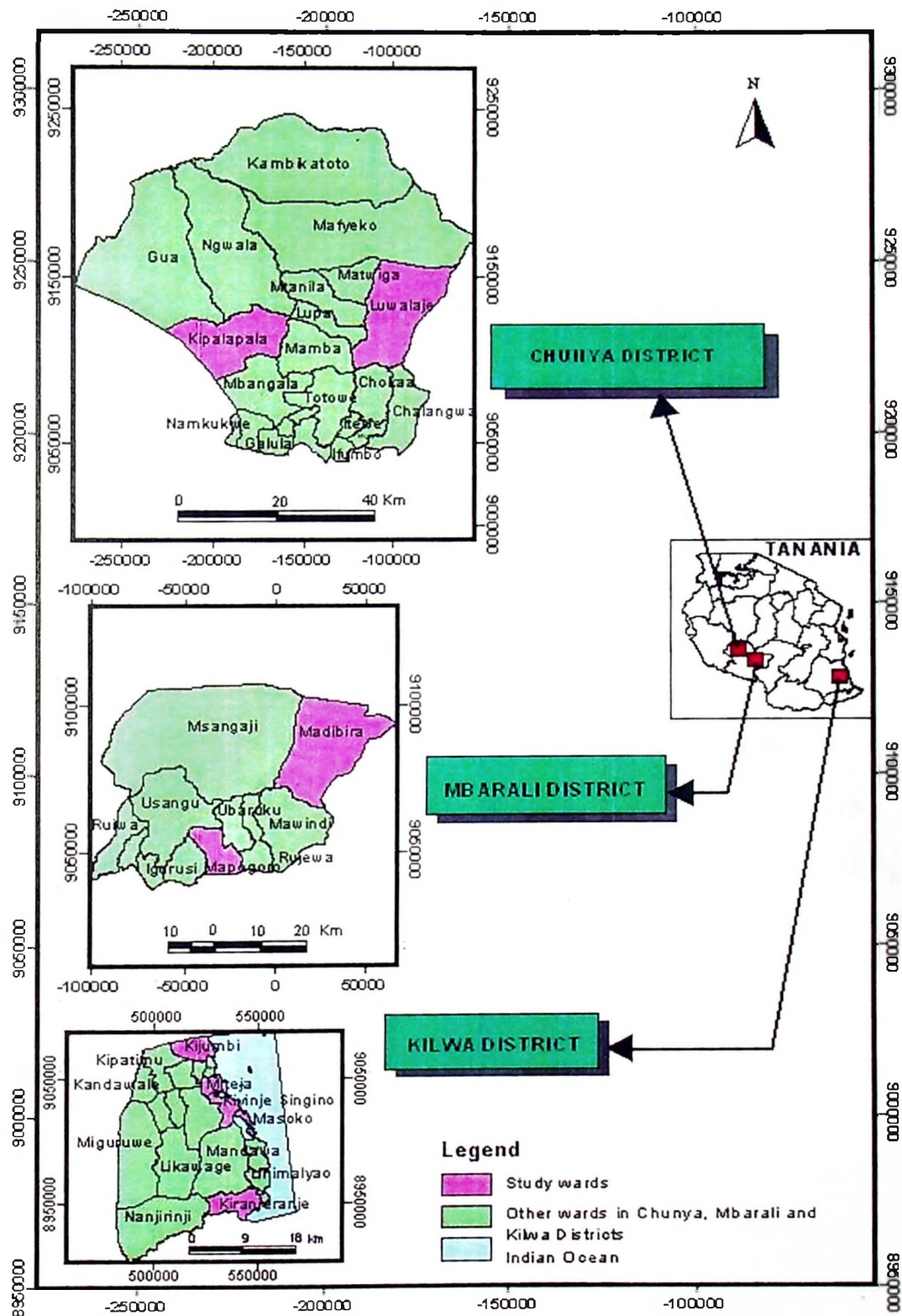


Figure 2: The map of study wards in Chunya, Mbarali and Kilwa districts

### **3.2 Research Design**

A research design is a plan of action for collecting, organising and analysing data with the objective of combining the relevance of the research with economy in procedure (Kothari, 2004). The study adopted a cross-sectional case study design. It involved the collection of data at one point in time. Data on planning and implementation of pastoralists' resettlement were collected from key informants (i.e. government leaders, policy makers and NGO officers) and a review of different documents to determine why and how the eviction process was conducted. The design was used to assess the perception and attitudes of stakeholders to the eviction process and the changes in the livelihoods of pastoralists as a result of eviction. The data were collected by tracking the changes in livelihood before, during and after the eviction process. Data on livelihood strategies and coping behaviour were scored by associating variables in the livelihood concept. The design was feasible for collecting data for determining the elements of pastoralists' changes in livelihoods and their capacity to adapt to the resettlement areas. It was conducted by adopting elements from SL, AOM and the adaptive theory and the following variables were analysed; assets, institutions, knowledge and information, flexibility in making decisions and governance.

### **3.3 Target Population and Study Units**

The study population included almost all people in a household of resettled agro-pastoralists in the study areas aged 18 to 60. Since changes in livelihoods and adaptive capacity can be traced at household level, the unit of analysis was the household in each sampled district. A household is a unit consisting of one or more persons, related or unrelated, who live together in one part or more than one housing/dwelling unit and have common catering arrangements (World Bank, 2005). Other study units were government leaders, policy makers and NGO officers.



### **3.4 The Sample and Sampling Strategy**

#### **3.4.1 The sample**

The number of people who participated in the study was 176; 110 of whom were household members who were sampled purposely to fill in the questionnaire. These included resettled agro-pastoralists who had sufficient knowledge of the eviction process and were prepared to answer questions. Twenty-eight key informants were selected for interview, based on their position in the village, district and organisation. They were selected so that information could be collected from a wide range of people. With particular knowledge and understanding, they provided an insight into the nature of the eviction process and gave recommendations on the process. The key informants were three District Executive Directors (DEDs), three District Agriculture and Livestock Development officers (DALDOs) in Kilwa, Mbarali and Chunya districts, two TANAPA officials, two PINGO-forum officers, two pastoralist leaders and sixteen Village Executive Officers (VEOs).

Eight people from the eight wards were selected to narrate their life history. Most of these were pastoral leaders or elders. Due to their knowledge it was easy to investigate the changes in the livelihoods of pastoralists as a result of the eviction process. Among the 176 people, 30 were selected for focused group discussions (FGDs). Of the 110 respondents who filled in the questionnaire, 40 were from Kilwa, 40 from Mbarali districts, and 30 were from Chunya District.

**Table 1: The sample of respondents**

| District | Ward            | Village      | Respondents filled<br>questionnaire |
|----------|-----------------|--------------|-------------------------------------|
| Kilwa    | Kivinje/Singino | Lingaula     | 2                                   |
|          |                 | Matandu      | 7                                   |
|          | Kiranjeranje    | Kiranjeranje | 9                                   |
|          |                 | Mbwemkuru    | 4                                   |
|          | Miteja          | Miteja       | 4                                   |
|          | Kinjumbi        | Somanga      | 6                                   |
|          | Masoko          | Mpara        | 6                                   |
| Chunya   | Luwalaje        | Luwalaje     | 19                                  |
|          | Kapalapala      | Kapalapala   | 11                                  |
| Mbarali  | Mapogoro        | Mabadaga     | 14                                  |
|          |                 | Itamba       | 3                                   |
|          |                 | Ukwavila     | 2                                   |
|          |                 | Msesule      | 1                                   |
|          | Madibira        | Ikoga Mpya   | 19                                  |
|          |                 | Nyamakuya    | 1                                   |
| Total    |                 |              | 110                                 |

### 3.4.2 The sampling strategy

In this study, sampling was done as follows:

- i. First, purposive sampling was used to obtain the districts from which the agro-pastoralists were evicted and the two districts in which they were resettled after eviction. The purpose was to obtain a sample of people who met some predetermined criteria (Cozby, 2006). The three districts of Kilwa, Chunya and Mbarali. Kilwa and Chunya were chosen purposively because the evicted agro-pastoralists were instructed to settle there. Mbarali District was selected because it is from where the agro-pastoralists were evicted and where some of them decided to remain after reducing their herd sizes.

- ii. The second stage involved purposively sampling the wards where the evicted agro-pastoralists resettled. In Mbarali District two wards, namely, Madibira and Mabadaga, were purposively selected. According to the district livestock data, the majority of agro-pastoralists who were evicted were settled in these two wards. In Kilwa District, five wards were purposively selected; they were Kivinje/Singano, Kiranjeranje, Miteja, Kinjumbi and Masoko. These are the wards in which the evicted pastoralists were directed to resettle. In Chunya District, two wards, Luwalaje and Kapalapala, were purposively chosen as the majority of pastoralists who were evicted were directed to resettle there by the district authority.
- iii. The third stage involved sampling villages in which the evicted agro-pastoralists were resettled. In Kilwa District eight villages were purposively selected, namely Lingaula, Nangurukulu, Matandu, Kiranjeranje, Mbwenkuru, Miteja, Somanga and Mpara. In Chunya District two villages were purposively selected, Luwalaje and Kapalapala. Five villages in Mbarali district were selected, namely Mabadaga, Itamba, Ukwavila, Msesule, Ikoga Mpya and Nyamakuya. Purposively sampling was used to select the villages, because the resettled pastoralists were allocated to a specific village by the district authority.
- iv. The fourth stage involved sampling respondents in the selected villages using the snowball sampling technique. During the interview, the interviewed person was asked to nominate other individuals who could be asked to give information or opinions regarding the eviction process. Snowball sampling is an appropriate method for such populations that are neither well delimited nor properly enumerated, for example, the resettled pastoralists (Ratio, 2007).

### **3.5 Data Collection Methods**

The study collected both primary and secondary data.

### **3.5.1 Primary data collection**

Primary data were collected from the field (study area). Data collection involved the use of qualitative and quantitative methods. Quantitative data were gathered using the questionnaire, while qualitative data were obtained through key informant interviews, life histories, and FGDs.

#### **3.5.1.1 Quantitative data**

##### **(a) The questionnaire**

One set of the structured questionnaire (Appendix 4) was prepared and pre-tested before putting it to use as the main data collection instrument. The structured questionnaire was used to collect data from 110 respondents. Structured questionnaire poses definite, concrete and preordained questions; that is, they are prepared in advance (Rwegoshora, 2006). Pre-testing the questionnaire was aimed at setting out the wording, sequencing, questionnaire layout and fieldwork arrangements, testing the analysis procedure and estimating the response rate. The questionnaire was pre-tested in Utengule Village, in Mbarali District, at the beginning of May 2010.

The questionnaire was divided into eight parts. Part I comprised questions on household information in the resettled areas and part II consisted of questions on pastoralists' attitudes to the eviction process. Part III focused on household questions and Part IV asked questions on information provided during the eviction process. Questions on strategies for coping with shocks and stress due to eviction were presented in part V, and part VI asked detailed questions on pastoralists' livelihoods during after eviction. Part VII contained questions on the influence of institutions with respect to livelihoods and part VIII posed questions on agro-pastoralists' behaviour and the action taken by them to recover from resettlement shocks. Use of the questionnaire helped to verify and update information from officials and records.

### **3.5.1.2 Qualitative data**

#### **(a) Key informant interviews**

Key informants were selected based on their position in the village, district or organisation. The key informants were; DEDs, DALDOs in Kilwa, Mbarali and Chunya districts, officers from TANAPA and PINGO forum, pastoralist leaders and VEOs.

Key informants were important because they were readily accessible, willing to talk and had great depth of knowledge on the issues under investigation. An interview guide (Appendix 5) was used to collect data from key informants in Kilwa, Chunya and Mbarali districts. Each interview lasted from thirty minutes to one hour. The data collected from key informants were concerned with the reasons for pastoralists' eviction, guiding policies regarding pastoralists in the country, how the existing policies facilitated the eviction process, the government's pre-prepared plan for evicting pastoralists, the status of animals before eviction, preparations made by the government in the resettlement areas, whether the government had a budget for facilitating the eviction process, the main actors during the eviction process, the consequences of the eviction process on pastoralists' livelihoods and the lessons learnt from the eviction of pastoralists from Mbarali District.

#### **(b) Life histories**

Life history is a method used to gather, analyze and interpret the stories narrated by people about their lives. They assume that people live "lived histories" and that narrating and re-narrating one's story helps one to understand and create the lived experience (Edgerton and Langness, 1974; Hatch & Wisniewski, 1995 as quoted by Marshall, 2006). To investigate the changes recorded in the livelihoods of pastoralists as a result of eviction, it was imperative to adopt research tools that would compare pastoralists' livelihoods in the

past and the present. The researcher worked closely with the respondents, who were encouraged to explore their life histories in relation to livelihood changes (Appendix 6). The discussions were recorded using a tape recorder and thereafter treated as additional information supporting the research questions.

### **(c) Focus Group Discussions**

Focus group discussion is one of the most widely used methods in qualitative research. It takes advantage of the interaction between small groups of people. Participants respond to and build on what others have said in the group. Ideally, it is a synergetic approach that helps generate insightful information and encourages participants to give sincere answers. In the study, three FGDs were held involving ten participants, including agro-pastoralists resettled in the study areas, aged 25-60. FGD participants were selected purposively done with assistance from the livestock development officers from the respective wards after devising the selection criterion. The FGDs were useful for collecting information on how pastoralists' resettlement was planned and implemented, their attitude to resettlement, changes in livelihoods as a result of resettlement, and strategies undertaken to adapt to new areas. A semi-structured interview was used to guide the discussions (Appendix 7).

### **3.5.2 Secondary data collection**

The collection and review of documented information relating to the eviction of Mbarali pastoralists, including official government documents and newspaper articles, was a useful source of secondary information. Pastoral development policies, regulations and strategies were obtained from responsible officials in the Ministry of Livestock and Fisheries Development (MLFD) and the Prime Minister's Office Regional Administration and Local Government (PMORALG). Secondary sources were useful for collecting information on how pastoralists' resettlement was planned and implemented. These



include the policies that guided the eviction process and its outcome before, during and after the eviction process.

### **3.6 Data Collection Procedure**

Data collection started in September 2010 and ended in February 2011, whereby one to two months were used to collect data in each district. Preliminary contact was made with the DEDs of Kilwa, Chunya and Mbarali districts to get approval for the study.

Two research assistants in each district assisted in administering the household questionnaire. The researcher conducted a brief introductory session with the research assistants on the data required. The researcher trained the research assistants in the questionnaire items and explained what the questions meant in relation to the research objectives. The training of research assistants included them doing a practice interview with each other. Before data collection the researcher did a practice interview with the research assistants so as to have a common understanding. At the end of each day the researcher and assistants met to discuss problems encountered during training and to suggest ways of resolving them.

All in-depth interviews were tape recorded after getting the interviewees' consent. The interviews were tape recorded in order to have complete and accurate data that would not have been achieved by conducting the interview and taking notes at the same time. The researcher personally conducted in-depth interviews for two reasons; firstly, to ensure the accuracy and consistency of the collected data and secondly, the size of the sample was small that made the task manageable.

### 3.7 Data Analysis

#### 3.7.1 Quantitative data

The quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS), Version 16.0 computer software, which provided descriptive and inferential statistics. In descriptive statistical analysis, frequencies, percentages, means and cross-tabulation were used to measure associations, while inferential statistics, chi-square and t-test were used to measure variations in some of the variables in livelihood changes and adaptive capacity.

To examine the livelihood changes and adaptive capacity of the pastoralists resettled in Kilwa, Chunya and Mbarali districts the following indices were developed:

- i. A change in livelihood index was used to examine the livelihood changes of agro-pastoralists resettled in Kilwa, Chunya and Mbarali districts. The index was developed using six indicators. These indicators were the economic activities the respondents decided to adopt in the resettlement areas, which were: (i) Extensification in crop production (ii) Gardening (iii) Simsim farming (iv) Tobacco farming (v) Petty business and (vi) Pig keeping. The measure of indicators for livelihood change was obtained by asking the respondents six questions and scoring their answers. The questions were based on the ability of the respondent to adopt a new economic activity. All questions required respondents to answer "Yes" or "No"; if the response was "Yes" it was given the score of 1 (one) and if "No" the score was zero (0). The maximum score was 6. The total score for each respondent was divided by 6 to attain a cumulative index from 0 to 1 (0-100%). The respondents' livelihood change indices were put into three categories: no livelihood change (livelihood change index scored the lowest of 0.00), minimal livelihood change (livelihood change index scored between 0.0999

and less than 0.3) and good livelihood change (livelihood change index scored 0.3 and less than 1). The cut-off point for one standard deviation increase was zero + 1 std dev = No change; +2 std dev = Minimal change; and above + 2 std dev = Good livelihood change.

- ii. An adaptive capacity index was used to determine the adaptive capacity of agro-pastoralists resettled in Kilwa, Chunya and Mbarali districts. The index was developed using 25 indicators (table 2). Based on the variables in the conceptual framework of this study, the measure of indicators for adaptive capacity was obtained by asking the respondents several questions and their answers were scored. The questions were based on the ability of pastoralists to formulate adaptive strategies, to access various forms of capital and to follow institutional processes. The respondents' answers were scored based on the interval scale of a particular question. In this study, the social aspect of adaptive capacity (indicators 1 to 4) referred to respondents maintaining a kinship network. "Yes/No" questions were used to ask if they had maintained kinship networks. This implies that a respondent who reported "Yes" had lost the kinship network and so was given 1 but if "No" was given 0.

Economic aspects referred to their financial status measured by three indicators: price of farm inputs, access to credit, and the sale of crop and animal products (indicators 5 to 7). Physical aspects (indicators 8 to 11) referred to access to dips, market, veterinary clinics and charcoal dam. Natural aspects (indicators 12 to 17) referred to respondents' access to good pasture, water, areas free from disease, land for cultivation, the forest and forest products and grazing land for animals.

Human aspects referred to the ability of the respondent to acquire a residence. If the respondent had a permanent residence he/she was given a score of 2, if it was semi-permanent he/she was given the score of 1 and if it was a temporary residence he/she was given the score of 0 (indicator 18), which implies that this person may not have decided to settle in that area, and so can decide to leave the area and move to another area. Regarding the acquisition of land, if the answer was by inheriting the score given was 1, if by renting the score was 2, if allocated by the government the score was 3, and if the land had been acquired by purchasing it the score was 4, which implied that the respondent had the decision to resettle in that area and had the ability to purchase land (indicator 19). Other indicators were type of housing and access to extension services (indicators 20 and 21). Transforming structures referred to Government support before eviction, during the eviction process, preparation for arrival in areas and the respondents' link with different organisations.

For all questions with a response of "Yes"/"No", if the response was "Yes" they were given a score of 1 and if "No" they were given no score (0). The maximum score was 31. The total score for each respondent was divided by 31 so as to have a cumulative index ranging from 0 – 1(0-100%). The adaptive capacity indices of respondents were put into three categories, such as poor adaptive capacity (adaptive capacity index score of 0.00 and less than 0.44), moderate adaptive capacity (adaptive capacity index score of 0.44 and less than 0.55) and good adaptive capacity (adaptive capacity index score of 0.55 and less than 1). The cut-off point for one standard deviation increase was zero + 1 std dev= poor; = 2 std dev = moderate; above + 2 std dev = good adaptive capacity.

### **3.7.2 Qualitative data**

Qualitative data collected during the study were from focused group discussions, key informant interviews and life histories. All data were collected using Kiswahili language. Therefore, the first step was to translate the information into English language. Tape recorded information also was transcribed in English language. The second step was setting themes/categories using different cards. The themes were basing on research questions. Four themes emerged including; (i) plans and implementation modalities for pastoralists' resettlement (ii) perception of pastoralists and other stakeholders regarding the overall resettlement process (iii) changes of livelihoods in new resettlement areas and (iv) the determinants of pastoralists and adaptive capacity in the resettlement areas. This narrative analysis enriches discussions of findings by combining with quantitative data. In addition, the narrative analysis provided the basis for the drawn conclusion from the findings. The study also adopted document analysis that involved; analysis of relevant policies, laws and regulation such as Tanzania Animal Welfare Act, policies lead to the expulsion of pastoralists from Mbarali District and other relevant documents concerning the eviction of pastoralists from Mbarali.

**Table 2: List of 25 adaptive capacity indicators**

| <b>Capitals</b>                | <b>Indicator</b>  | <b>Maximum score</b> |
|--------------------------------|---|----------------------|
| <b>Social aspects</b>          |   |                      |
| 1                              | Loss of kinship networks  | 1                    |
| 2                              | Maintaining kinship network through visiting each other               | 1                    |
| 3                              | Maintaining kinship network through mobile phone                      | 1                    |
| 4                              | Maintaining kinship through joining together during special occasions | 1                    |
| <b>Economic aspect</b>         |   |                      |
| 5                              | Price of farm inputs  | 2                    |
| 6                              | Access to credit  | 1                    |
| 7                              | Selling of crops and animal products                                  | 1                    |
| <b>Physical aspect</b>         |   |                      |
| 8                              | Access to dips  | 1                    |
| 9                              | Access to market  | 1                    |
| 10                             | Access to veterinary clinics  | 1                    |
| 11                             | Access to charcoal dam  | 1                    |
| <b>Natural aspect</b>          |   |                      |
| 12                             | Access to good pasture  | 1                    |
| 13                             | Access to water   | 1                    |
| 14                             | Access to area free from disease                                      | 1                    |
| 15                             | Access to land for cultivation  | 1                    |
| 16                             | Access to forest and forest products                                  | 1                    |
| 17                             | Access to grazing land for animals                                    | 1                    |
| <b>Human capital</b>           |   |                      |
| 18                             | Type of residence   | 2                    |
| 19                             | Procedure for acquiring land  | 4                    |
| 20                             | Type of housing   | 2                    |
| 21                             | Access to extension services  | 1                    |
| <b>Transforming structures</b> |   |                      |
| 22                             | Government support before eviction                                    | 1                    |
| 23                             | Government support for mitigating losses                              | 1                    |
| 24                             | Government preparations for arrival in areas                          | 1                    |
| 25                             | Link with different organisations                                     | 1                    |
| <b>Total score</b>             |   | <b>31</b>            |



## CHAPTER FOUR

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Demographic Characteristics of Respondents

Table 3 presents the demographic characteristics of the 110 respondents from Kilwa, Chunya and Mbarali districts. The characteristics were age, sex, marital status, religion, education level, number of children per household, age of children, children attending or not attending school and reasons for not attending school.

##### 4.1.1 Age distribution

The respondents' ages ranged from 21 to 73 with an average of 42 years. The ages were put into three groups, namely, young (19–29), middle-aged (30–55) and old (>55). The distribution is presented in Table 3. The categorization showed that the middle aged (30 – 55 years) was the prominent group, representing 73.6 % of all the respondents in the agro-pastoralist productive class. The reason for most respondents belonging to the middle aged category was the eviction process. The majority of this category was energetic and able to move with their animals to new areas and cover long distances under harsh conditions. However, based on the chi-square test, there was no significant relationship ( $p=0.656$ ) between age and the adaptive capacity of the resettled pastoralists.

As a strategy for diversifying risks after being evicted from Mbarali District, the male parents divided the animals among older sons. These were capable of moving to the resettlement areas as instructed by the Government. For those who opted to remain behind in Mbarali District, parents split the animals among their children. The aim was to enable them start their own households with a specified number of animals, according to district

regulations. The children (sons) who remained were allowed to run independent households, but were assigned fewer animals ( $<20$ ) as per village government directives.

In Mbarali District each village government was given the mandate to instruct households to keep not more than 20 animals per household. This was undertaken to cater for the land-carrying capacity of the respective villages. During the study, it was noted that the order of remaining with 20 animals per household, without specifying the type of animals, had some complications. Technical knowhow was needed prior to setting the optimal land-carrying capacity of a specific area. For instance, in Ukwawila village in Mbarali District, livestock keepers were ordered to keep not more than 20 cattle, without categorizing the types of animals (i.e. cattle, goats or donkeys) and the available land area. In calculating the maximum or optimal animal-carrying capacity, the specific type of animal units needed to be considered. Carrying capacity refers to the maximum or optimal number of grazing animals that a land can support in the long term without causing harm to rangeland resources (vegetation, soil and water), which determine carrying capacity.

**Table 3: Demographic Characteristics of respondents in Kilwa, Chunya and Mbarali districts after the eviction process (n=110)**

| Household<br>Characteristics        | District |      |        |      |         |      |       |      |
|-------------------------------------|----------|------|--------|------|---------|------|-------|------|
|                                     | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|                                     | n        | %    | n      | %    | n       | %    | n     | %    |
| <b>Age in years</b>                 |          |      |        |      |         |      |       |      |
| 19 – 25                             | 9        | 8.2  | 4      | 3.6  | 3       | 2.7  | 16    | 14.5 |
| 26 – 55                             | 26       | 23.6 | 26     | 23.6 | 29      | 26.4 | 81    | 73.6 |
| 56 – 85                             | 5        | 4.5  | 0      | 0    | 8       | 7.3  | 13    | 11.8 |
| <b>Marital status</b>               |          |      |        |      |         |      |       |      |
| Married                             | 39       | 35.5 | 30     | 27.3 | 39      | 35.5 | 108   | 98.2 |
| Widow                               | 1        | 0.9  | 0      | 0    | 1       | 0.9  | 2     | 1.8  |
| <b>Education level</b>              |          |      |        |      |         |      |       |      |
| Primary education                   | 7        | 6.4  | 8      | 7.3  | 7       | 6.4  | 22    | 20   |
| Secondary education                 | 0        | 0    | 0      | 0    | 2       | 1.8  | 2     | 1.8  |
| Adult education                     | 1        | 0.9  | 0      | 0    | 2       | 1.8  | 2     | 2.7  |
| No formal education                 | 32       | 29.1 | 22     | 20   | 29      | 26.4 | 83    | 75.5 |
| <b>Ethnicity</b>                    |          |      |        |      |         |      |       |      |
| Sukuma                              | 34       | 30.9 | 30     | 27.3 | 33      | 30   | 97    | 88.2 |
| Mang'ati                            | 3        | 2.7  | 0      | 0    | 1       | 0.9  | 4     | 3.6  |
| Masaai                              | 3        | 2.7  | 0      | 0    | 4       | 3.6  | 7     | 6.4  |
| Sangu                               | 0        | 0    | 0      | 0    | 2       | 1.8  | 2     | 1.8  |
| <b>Sex</b>                          |          |      |        |      |         |      |       |      |
| Female                              | 1        | 0.9  | 0      | 0    | 2       | 1.8  | 3     | 2.7  |
| Male                                | 39       | 35.5 | 30     | 27.3 | 38      | 34.5 | 107   | 97.3 |
| <b>Total members in a household</b> |          |      |        |      |         |      |       |      |
| Below 10                            | 10       | 0    | 0      | 0    | 5       | 4.5  | 15    | 13.6 |
| 10 – 25                             | 28       | 25.5 | 29     | 26.4 | 20      | 18.2 | 77    | 70   |
| 26 – 40                             | 2        | 1.8  | 1      | 0.9  | 12      | 11.8 | 16    | 14.5 |
| Over 40                             | 0        | 0    | 0      | 0    | 2       | 1.8  | 2     | 1.8  |

#### 4.1.2 Household size

The majority (98.2%) of the respondents were married couples and 87% were polygamists. As a result, most of the households had large families (Table 3). The study further found out that 70% of the respondents had 10 to 25 household members and few households (2%) consisted of up to 50 members per household. This was explained as common for pastoralists to have extended families. The assumption is that this provides household members with assistance, social security and sometimes support in economic activities (McAllilister *et al.*, 2010; Milne, 2005). However, the chi-square test in this study's findings indicates that there was no significant relationship ( $p \leq 0.445$ ) between adaptive capacity and household size. The majority (79.8 %) of the respondents were pagans, while 0.2% were Muslims and 20% were Christians.

#### 4.1.3 Level of education

Concerning level of education, the study revealed that 75.5% of the respondents had not received any formal education, while 22% and 1.8% had attended primary and secondary school, respectively, and only 2.7% were receiving adult education. The findings from livestock keepers portrayed a high rate of illiteracy among pastoralist communities.

This is not in agreement with the adult literacy rate in Tanzania, which was relatively high at 79.01% in 2009 compared with an average of 63.6% in low-income countries (UNDP, 2010). This contrasts markedly with a low combined gross enrolment ratio for primary, secondary and tertiary education (31%) compared with an average of 63% in low-income countries (UNDP, 2010). The high illiteracy rate (up to 85%) among livestock keepers has also been reported in Simanjiro District, Manyara Region (Bee *et al.*, 2002).

#### 4.1.4 Sex

The findings on sex status showed that 2.7% and 97.3% of the respondents were females and males, respectively. The low number of females was probably due to the common tradition in most Tanzanian households whereby men are seen as the head of households (Nayaran *et al.*, 2000). In this study the eviction process also deprived many pastoralists of their prime right to stay together as a family. Some families were forced to divide themselves into two or more groups, with women and children being left behind in the Ihefu-Usangu Basin, while the men moved to the resettlement areas, e.g. Lindi, Mtwara regions and Chunya District (PINGOs *et al.*, 2007).

About ethnicity, the majority (87%) of the respondents were the Sukuma, who migrated to Usangu Basin in 1960 (SMUWC, 2000). Other respondents were the Sangu (2%), Mang'ati (4%) and Maasai (7%) (Table 3). During the study, it was found that following eviction, the majority of Sangu livestock keepers decided to reduce their herd size and remain in Mbarali District. The majority of the Maasai ethnic refused to be resettled in Lindi and Chunya, but decided to resettle in Kilosa District in Morogoro Region.

#### 4.1.5 Distribution of respondents according to number of children per household and their level of education

Table 4 shows the distribution of children in a household. The number of children in the respondents' households ranged from 1 to 35. The average number of children per household was 14.9, 13.4 and 9.7 for Mbarali, Chunya and Kilwa districts, respectively. The findings further revealed that the number of children in pastoralist households was higher than the national average, which is 4.8 (Economic Intelligence Unit, 2012). Moreover, the study found that the average number of school going children (5–15 years

old) in a household was 3.5, 4.6, and 5.9 in Kilwa, Chunya and Mbarali districts, respectively, while the average number of children attending primary school per household was 1.6 each for Kilwa and Chunya districts and 3.0 for Mbarali District.

Furthermore, the findings revealed that in the resettlement areas, most of the children of school-going age were not attending primary school. The reasons were as follows: 52.7% said it was because of the disruption of the eviction process; hence most children had abandoned school. Thirty percent (30%) of the respondents reported that the long distance discouraged children from attending school. Other reasons included spending time grazing animals instead of going to school (59.1%), early marriage (5.5%) or just staying at home.

Some measures have been taken in the country to enable pastoralists' children to go to school, such as the construction of boarding schools in the respective areas. However, this approach has not been successful for a number of reasons, which include low population density, long distance to schools and the lack of motivated teachers committed to living in the harsh remote areas where pastoralists live. Ultimately, this situation has led to a critical shortage of teachers. In addition, most parents lack access to cash to meet costs for school, such as purchase of school uniforms and other contributions for maintenance of school infrastructure. Other noted unique challenges, among pastoralists included; cultural barriers which hindered children from attending school instead children were spending most of their time taking care of their livestock. Children spend long periods away from the settlements grazing animals (Bishop 2011; Oxfam, 2005; Krätli and Dyer, 2009).



**Table 4: Distribution of respondents according to number of children in a household (n=110)**

|                                      | District    |     |     |      |              |     |     |      |               |     |     |      |
|--------------------------------------|-------------|-----|-----|------|--------------|-----|-----|------|---------------|-----|-----|------|
|                                      | Kilwa(n=40) |     |     |      | Chunya(n=30) |     |     |      | Mbarali(n=40) |     |     |      |
|                                      | Range       | Min | Max | Mean | Range        | Min | Max | Mean | Range         | Min | Max | Mean |
| Total                                | 25          | 1   | 26  | 9.7  | 15           | 6   | 21  | 13.4 | 34            | 1   | 35  | 14.9 |
| number of children in the house-hold |             |     |     |      |              |     |     |      |               |     |     |      |
| Children less than 5yrs              | 9           | 1   | 10  | 4.2  | 8            | 3   | 11  | 5.7  | 10            | 1   | 11  | 5.2  |
| Children 5 – 15yrs old               | 11          | 0   | 11  | 3.5  | 7            | 1   | 8   | 4.6  | 17            | 0   | 17  | 5.9  |
| Over 16yrs old                       | 8           | 0   | 8   | 2.1  | 16           | 0   | 16  | 3.7  | 14            | 0   | 14  | 3.9  |
| Children in primary school           | 7           | 0   | 7   | 1.6  | 4            | 0   | 4   | 1.6  | 10            | 0   | 10  | 3    |
| Children in secondary school         | 1           | 0   | 1   | 0.02 | 0            | 0   | 0   | 0    | 2             | 0   | 2   | 0.32 |
| Children not attending school        | 5           | 0   | 5   | 1.7  | 6            | 0   | 6   | 3    | 9             | 0   | 9   | 2.7  |

#### 4.1.6 Land ownership and residence

During the study, 70% of the respondents had been living in Kilwa and Chunya districts for the past three years. Those in Mbarali District had been living there for 4 to 34 years. In Mbarali District, the findings showed that the majority of agro-pastoralists who were evicted from Ihefu Basin owned a relatively small amount of land for farming. In Mbarali District, the study further showed that land ownership ranged from 0.5 to 35 acres per

household, with an average of 10 acres. Most of the resettled agro-pastoralists acquired land through purchase, while others rented land at an agreed price. This has reduced their ability to cultivate large farms as they used to in the former areas. The researcher was told that to hire an acre to grow rice and maize cost 50 000 and 100 000 Tzs, per season, respectively.

During the study it was noted that most of the agro-pastoralists who had been resettled in new areas were allocated land that was communal property. It was further noted that reliable or well defined land boundaries were lacking, which caused great fear among most resettled agro-pastoralists. The implication was that the allocated land could easily be invaded or reallocated to others by the government that would lead to the recurrence of conflicts as was the case in Mbarali District. Historically, access to communal land by pastoralists was based on complex social and cultural norms and conditions that have maintained flexible access to resources across space and time (Turnner, 1989; Ostrom, 1990; Burnsilver *et al.*, 2003 as quoted by Lynn, 2010). In Tanzania, the National Land Policy of 1995 and the Village Land Act of 1999 made legal provision for security and land rights for extensive grazing. However, it seems these are not widely known or exploited. Efforts to secure land and resource tenure for pastoralists have generally been limited, and farmers and private investors continue to appropriate large parts of pastoralists' land, often with direct or indirect support from the government or government agents (Kipuri and Sorensen, 2008).

The study further noted that 73.6% of the respondents who majority were agro pastoralists (90%) owned a semi-permanent residence (Table 5). This is because the system does not provide assurance for permanent land ownership. In addition, no authentic boundaries were put in place. The study revealed that 15.5% of the respondents were dwelling in good

houses, whereby, 0.9% and 14.5% from Mbarali and Kilwa districts, respectively, owned brick houses with corrugated iron sheets. The majority of respondents in Kilwa and Chunya districts owned mud houses thatched with grass.

#### **4.1.7 Livestock keeping and farming activities of the respondents**

The overall results showed that the majority (95%) of the respondents were engaged in livestock keeping and crop farming (agro-pastoralism) (Table 5). Five percent (5%) of the respondents were prominently livestock keepers (pastoralists). A large proportion of pastoralists' gross revenue emanated from livestock or livestock-related activities (Oxfam, 2008). The study further noted that, after losing all the animals during the eviction process, one of the respondents in Kilwa District opted for crop farming. This was good adaptive strategy.

**Table 5: Main occupation, land ownership, type of residence and houses**  
(n=110)

| Occupation, Land ownership and type of residence | District |      |        |      |         |      |       |      |
|--|----------|------|--------|------|---------|------|-------|------|
|  | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|  | n        | %    | n      | %    | n       | %    | n     | %    |
| <b>Main occupation of respondent</b>             |          |      |        |      |         |      |       |      |
| Pastoralists                                     | 6        | 5.5  | 0      | 0    | 0       | 0    | 6     | 5.5  |
| Agro-pastoralists                                | 34       | 30.9 | 30     | 27.3 | 40      | 36.4 | 104   | 94.5 |
| <b>Land owned per household (Acreage)</b>        |          |      |        |      |         |      |       |      |
| <1   | 8        | 7.4  | 7      | 6.5  | 0       | 0    | 15    | 13.9 |
| 1 – 20   | 21       | 19.4 | 0      | 0    | 32      | 29.5 | 53    | 49.1 |
| 21 – 40  | 6        | 5.6  | 6      | 5.6  | 6       | 5    | 18    | 16.7 |
| 41 – 60  | 5        | 4.6  | 17     | 15.7 | 0       | 0    | 24    | 22.5 |
| <b>Type of residence</b>                         |          |      |        |      |         |      |       |      |
| Permanent  | 5        | 4.5  | 0      | 0    | 6       | 5.5  | 11    | 10   |
| Semi-permanent                                   | 21       | 19.1 | 28     | 25.5 | 32      | 29.1 | 81    | 73.6 |
| Temporary  | 14       | 12.7 | 2      | 1.8  | 2       | 1.8  | 18    | 16.4 |
| <b>Type of house</b>                             |          |      |        |      |         |      |       |      |
| Burnt bricks with iron sheet roof                | 1        | 0.9  | 0      | 0    | 16      | 14.5 | 17    | 15.5 |
| Burnt bricks with grass roof                     | 0        | 0    | 0      | 0    | 9       | 8.2  | 9     | 8.2  |
| Mud and grass roofed                             | 39       | 35.5 | 30     | 27.7 | 15      | 13.6 | 84    | 76.4 |

This study revealed that some respondents were pure pastoralists before resettling in Kilwa District but, in the course of shifting, they lost a large portion of their animals. After realizing that the surviving animals were not enough to sustain their livelihood, they opted for crop farming (case 1). In a study on pastoralist livelihoods, Lynn (2010) and Mattee and Shem (2005) found that over time, state policies and practices did not favour pastoralist communities or consider their needs and interests. This led some pure

pastoralists to gradually shift to farming, ultimately becoming agro-pastoralists, while others abandoned pastoralism altogether for full-time farming. This can be a good diversification strategy to the household in sustaining the livelihoods

**Case 1: Pure pastoralist opted for crop cultivation**

*The following is a narration by Mr. Polukwat, a Maasi from Miteja Village. He arrived at Miteja Village in Kilwa District, Lindi Region in 2006. Mr. Polukwat was involved in the Mbarali eviction process. While in Mbarali District he used to live with his father in one household when they used to own 500 cattle, 150 goats and 45 sheep. His father was a polygamist with three wives. Mr. Polukwat and the older children were already married. While in Mbarali they did not practise crop farming at all, but strictly used to keep livestock and sell some of them to buy food and for family use.*

*During the eviction process his father decided to divide the cattle among the older sons and Mr. Polukwat was allocated 120 cattle. He decided to drive his cattle through Songea highway on his way to Lindi Region. On his way to Kilwa, Mr. Polukwat suffered a huge loss of cattle. Upon his arrival at Miteja village he was left with only 35 cattle (a loss equivalent to 70.8%). The remaining cattle were very weak upon arrival at Miteja village. They realized that keeping livestock alone might not be enough to meet their daily needs. To cope with the challenges they were facing, they were compelled to learn how to grow food crops such as sorghum. During the first year they were supported by experienced Sukuma agro-pastoralists. With their support Mr. Polukwat and his family managed to grow three acres of sorghum. In the year of conducting this study Mr. Polukwat had harvested various crops, part of which was enough to provide food security and the rest could be sold.*

Table 6 shows the distribution of animals kept and the crops harvested by the agro-pastoralist households. From the study it was learnt that the majority of households had cattle, goats, sheep, donkeys and chickens. In Kilwa District, households were found to keep an average of 104 cattle. This number was higher than that in Chunya and Mbarali districts, where the average was 98.4 and 57.7, respectively.

In Mbarali District, the average number of cattle kept per household was 57. This was lower than that in Kilwa and Chunya districts. In Mbarali District, the government set a

regulation which provided an option for livestock keepers who preferred to remain in Mbarali of owning a few animals ( $< 20$ ). However, the study revealed that the number of animals per household (57) was higher than what was prescribed by the government. If no proper land use plan is in place, soon or later this situation will lead to the recurrence of land conflicts. After losing animals or transferring a portion of their animals to other resettlement areas, livestock keepers continued to rebuild their herds, mainly through selling surplus crops and using the income to rebuild the herd.

From this study, it was found that millet, simsim, maize, rice, groundnuts and sweet potatoes were the main crops grown by the respondents in the resettlement areas. In Kilwa District, the average production per household was 48.2 and 12.6 bags (each weighing 100kgs) of millet and simsim, respectively. Of these two crops, simsim was used as a cash crop, while millet was used as a staple food. In Chunya District, production of groundnuts and maize per household was higher than in the other districts, with an average of 68 and 71.8 bags per household, respectively. Rice was reported to be both the main food and cash crop for most respondents in Mbarali District, with an average of 35.7 bags per household. According to the respondents, the high production in Kilwa and Chunya districts was due to the large land area per household unlike in Mbarali District where land for cultivation was relatively limited.



**Table 6: Distribution of animals kept and crops harvested per household**

| Animal/<br>crops in the<br>household               | District    |    |     |      |              |     |     |      |               |     |     |      |
|--|-------------|----|-----|------|--------------|-----|-----|------|---------------|-----|-----|------|
|  | Kilwa(n=40) |    |     |      | Chunya(n=30) |     |     |      | Mbarali(n=40) |     |     |      |
|  | Range       | Mi | Max | Mean | Range        | Min | Max | Mean | Range         | Min | Max | Mean |
|  |             | n  |     |      |              |     |     |      |               |     |     |      |
| <b>Animals owned per Household (No.)</b>           |             |    |     |      |              |     |     |      |               |     |     |      |
| Cows   | 315         | 15 | 330 | 104  | 88           | 47  | 135 | 98.4 | 190           | 4   | 194 | 57.7 |
| Goats  | 142         | 8  | 150 | 39.8 | 41           | 18  | 59  | 35.2 | 120           | 0   | 120 | 36.4 |
| Sheep  | 40          | 0  | 40  | 8.9  | 25           | 0   | 25  | 7    | 35            | 0   | 35  | 9.6  |
| Donkeys  | 2           | 0  | 2   | 0.05 | 4            | 0   | 4   | 0.23 | 9             | 0   | 9   | 1.2  |
| Chickens   | 130         | 0  | 150 | 45.3 | 45           | 25  | 70  | 49.5 | 90            | 10  | 100 | 37.3 |
| <b>Crops harvested per household (No. of bags)</b> |             |    |     |      |              |     |     |      |               |     |     |      |
| Millet   | 130         | 0  | 130 | 48.2 | 6            | 0   | 6   | 0.33 | 17            | 0   | 17  | 6.6  |
| Simsim   | 45          | 0  | 45  | 12.6 | 15           | 0   | 15  | 3.7  | 0             | 0   | 0   | 0    |
| Maize  | 30          | 0  | 30  | 5.4  | 110          | 25  | 135 | 71.8 | 46            | 2   | 48  | 16.6 |
| Rice   | 10          | 0  | 10  | 0.88 | 35           | 0   | 35  | 4.2  | 100           | 5   | 105 | 35.7 |
| Groundnuts   | 40          | 0  | 40  | 2.7  | 60           | 8   | 68  | 35.9 | 30            | 0   | 30  | 6.3  |
| Sweet potatoes                                     | 30          | 0  | 30  | 2    | 85           | 0   | 85  | 31.8 | 12            | 0   | 12  | 2.5  |

## 4.2 Planning and Implementation Modality of the Eviction Process

The first objective of this study was to examine the planning modality and implementation of pastoralists' eviction. To address this objective, an intensive review was conducted, and information relating to the eviction of pastoralists in Mbarali District was collected and documented. To gather in-depth qualitative data, semi-structured interviews were conducted with government leaders, policy makers and NGO officers who were supporting pastoralism.

### 4.2.1 The basis for pastoralists' eviction from Mbarali District

As part of the move to safeguard the environment in the Ihefu Valley, the Government issued a notice on 9<sup>th</sup> March 2006 banning all livestock keepers' activities in Mbarali

District, Usangu Game Reserve and other areas (URT, 2006). To examine how the exercise was carried out, Walsh (2007) outlined the history of key moments in the process of evicting pastoralists from Mbarali District, which began with the succession of Hon. President Jakaya. M. Kikwete on 30<sup>th</sup> December 2005 (Appendix 9).

A number of factors caused the eviction of pastoralists from the wetlands and their definitive settlement in various areas in Mbarali and Chunya districts, Lindi, Mtwara, Pwani and Ruvuma regions. The Government's decision was aimed at safeguarding the environment. This was seen to have been deteriorated, affecting not only the Usangu Plains and the wetlands but also the Rufiji Basin ecosystem. Livestock keeping was considered the major cause of severe water depletion, leading to the drying up of Mtera and Kidatu reservoirs. During the 2006 dry season, the drying up of the Great Ruaha River forced the Mtera hydroelectricity generating plant to close down. This reduced the production of electricity by the Kidatu hydroelectric plant by almost 50% (PINGOS *et al.*, 2007; Walsh, 2007; Ngailo, 2011).

Because of these developments, the only remedy for the problem was to evict the livestock keepers from the wetlands and to expand Ruaha National Park to include Usangu Game Reserve. A large proportion of the area was placed under the Tanzania National Parks Authority (TANAPA). Ruaha National Park became one of the largest parks in Tanzania (over 15 000km<sup>2</sup>) (Ruaha National Park, 2010). As a result, a large proportion of the neighbouring communities became landless (Ngailo, 2011).

#### **4.2.2 Preparation and support rendered by government to pastoralists during the eviction process**

From the review of literature and discussions with various key informants including veterinary and livestock officers, it was found that there are Acts which clarify the

principles of animal welfare during transport (Box 3). According to the Animal Welfare Act of 2008, there are principles for guiding animal movement in the country. Before moving animals to any designated area, the livestock owner must be identified and given an animal movement permit, which must have the approval or disapproval of the movement of animals. The route must be well defined if the animals are going to move on foot. Preparations should be made concerning the route, like identifying water points and mobile veterinary clinics, which will treat the animals while in transit. Before issuing a movement permit, animals must be vaccinated against common diseases such as Contagious Bovine Pleuro-Pneumonia CBPP, Rift Valley Fever (RVF) and other diseases deemed necessary by veterinarians.

**Box 3: Principles of Animal welfare during transportation, Tanzania Animal Welfare Act (2008)**

**Section 22**

- 1) *A person shall not transport an animal in a manner that is likely to cause pain, injury or undue suffering or distress*
- 2) *An injured animal or animals that present physiological weakness shall not be considered fit for transportation*
- 3) *A person shall not transport an animal in a means other than the prescribed means*
- 4) *The director shall establish a system for inspection and certification of any vehicle intended for the transportation of animals*
- 5) *Animals shall not be transported unless*
  - a) *The animals are accompanied by a movement permit on their fitness issued by a registered veterinarian appointed by the competent authority*
  - b) *A registered veterinarian is satisfied that the means of transport in which the animal is to travel concurs with the requirements of this Act.*

**Section 25**

- 6) *During transportation of an animal, the transporter shall, at all times, carry a permit and other documents relevant for animal movement issued under this Act*
- 7) *The transporter shall ensure that an animal which falls ill or gets injured during transportation receives appropriate veterinary attention.*

Regarding these principles, the study found that, during eviction from Mbarali District, these principles were grossly violated. For instance, in the Tanzania Animal Welfare Act (2008) sec.22 (6) a person shall not transport an animal in a manner that is likely to cause

pain, injury or undue suffering or distress. In the case of Mbarali District, animals were moved without considering their welfare. This caused many animals to die on the way. For most respondents, the number of cattle that died per household ranged from zero to 960, with an average of 189. The distribution of cattle dying in transit is shown in Table 7. It was estimated that around 120,000 cattle were transferred from Mbararali to Lindi especially in Kilwa District between August 2006 and May 2007 (Appendix 8). This is also supported by the Ministry of Livestock Development report, which revealed that over 70% of the animals died en route (MOLD, 2008). The cause of death was mentioned during FGDs with evicted livestock keepers, as follows:

- i. The livestock keepers were required to move at short notice, and so government leaders (District Commissioner's office) used force, which in some instances involved impounding animals and locking them in yards. The owners were compelled to pay Tzs 10,000 per head as a penalty in order to recover their impounded animals. Most respondents reported that after paying the penalty no receipts were provided, creating suspicion concerning the legality of the exercise. There were no clear documents on where the funds were channelled. Some of the animals were locked up for 21 days without proper feeding, and so they became weak after which the animals started the long journey to Lindi, Ruvuma and Mtwara regions.
- ii. Another reason was that some of the animals were left in Mbarali District without being vaccinated, which caused them to succumb to diseases like RVF causing the death of many animals. Similar reasons were given by the Ministry of Livestock Development Office and the Regional Administrative Secretariat Office in Mbeya Region. The latter mentioned, "in order to speed up the eviction from Ihefu wetlands, all animals were permitted to move without being vaccinated".

- iii. The lack of pasture and drinking water while in transit caused animals to become weak and near to death. One respondent who lost 30 animals in one day reported that this was a bitter experience. A number of respondents further narrated that they were given no support, such as veterinary services to treat diseases that infected animals and so they used their crude knowledge to rescue at least a few animals.

The respondent further reported that there had been insufficient preparation to guarantee smooth eviction from the former areas. All the respondents were dissatisfied with the support provided during the eviction process. Regarding the Government's preparations for resettling them, during FGDs, the respondents reported that no proper arrangements were made by the government to resettle the pastoralists. The government authorities assured the moving pastoralists that functioning veterinary services and marketing facilities would be available in the resettlement areas. However, in 15 villages in Lindi Region, where PINGOs team made a visit, it was revealed that there were neither veterinary nor marketing facilities in place, and nothing was planned to develop them (PINGOs *et al.*, 2007). The only reported preparation made by the government was the allocation of land for the evicted pastoralists in the resettlement areas, especially in Kilwa and Chunya districts.

**Table 7:        Number of cattle that died in transits during the eviction process  
(n=110)**

| Category (No.) | Frequency | Percent |
|----------------|-----------|---------|
| Below 50       | 19        | 17.3    |
| 50 – 200       | 52        | 47.3    |
| 201 – 400      | 30        | 27.3    |
| 401 – 600      | 5         | 4.5     |
| 601 – 800      | 3         | 2.7     |
| 801 – 1000     | 1         | 0.9     |



#### 4.2.3 Policies leading to the expulsion of pastoralists from Mbarali District

The analysis of the Mbarali District case generates detailed observations that are relevant for having an understanding of the contemporary policy on the environment relating to pastoralism in Tanzania (Mattee, 2007; Walsh, 2007). While interviewing the victims of the eviction exercise, the responses showed that there was a series of uncoordinated decisions at different levels. The eviction of livestock keepers from Usangu made an implicit distinction between the implementation of formal policy instruments and the decisions taken in a more *ad hoc* manner that were described as political (Mattee, 2007; Mdoe and Mnenwa, 2007; Mvungi, 2007; PINGOs *et al*, 2007; Tenga, 2007; Walsh, 2007). Nevertheless, despite the semblance of order, some of the decisions taken during 2006 were clearly made in haste with little regard for existing policies and the overall process of consultative decision making (Appendix 9).

The National Strategy for Growth and Poverty Reduction 2005-2010 (NSGPR) recognizes pastoralism as one of the sustainable livelihoods. Although other policies are supposed to be in harmony with NSGPR, a study commissioned by ERETO II (Ngorongoro Pastoralists Project) to identify and analyze the impact of existing and emerging policies and laws with a bearing on pastoralism found that this was the case (Mattee and Shem, 2005; Mattee and Nang'oro, 2004). Some of these policies provide opportunities for pastoralists, but most show little understanding of pastoral production systems or recognize pastoralism as a sustainable livelihood. In their findings, Kipuri and Sorenses (2008) said this can be due to (1) lack of knowledge about pastoralism among policy makers and (2) pastoralists lacking a clearly articulated voice and influence in the policy debate.



Moreover, the 1995 National Land Policy and the Village Land Act of 1999 made legal provision for security of land rights for extensive grazing. However, these are not widely known or exploited, and certain aspects of the Land Act seem to slay pastoralism. This hinders the effort to secure land tenure for pastoralists, while crop growers and private investors continue to appropriate large tracts of pastoralists' land, often with direct or indirect support from the Government and development agents (Kipuri and Sorenses, 2008). This supports much of what happened in Mbarali District during the eviction process. It was noted that in the whole process of making a decision to evict pastoralists from Ihefu, the debate among the politicians and government officers did not involve the evicted pastoralists (PINGOs, 2012; Mattee, 2007; Ngailo, 2011). It was further reported that the decision to upgrade the Usangu Game reserve was most likely influenced by TANAPA and other donors who had interest in the Ihefu wetland. The decision was announced by the then Minister of Natural Resources and Tourism, Hon. Anthony Dialo, during a fund-raising dinner organized by the Wildlife Conservation Foundation of Tanzania (Walsh, 2007). However, pastoralists' livelihoods were neglected. The whole process of gazettelement of the Ihefu and Usangu Wetlands and the consequent eviction is seen to have lacked proper planning on the part of government authorities.

#### **4.3 Pastoralists' Perception of and Attitude to the Approaches Used to Resettle Pastoralists**

The second objective of this study was to determine the perception and attitude of agro-pastoralists with respect to being evicted from Mbarali District, as well as the preparation if any made for the process, the support provided to pastoralists during and after their eviction and the effect of the whole process. To achieve this objective, various methods namely, a Likert scale, in-depth qualitative interviews and FGDs were used to establish the perceptions and attitudes of pastoralists. .

### **4.3 Perception of Pastoralists to the Eviction Process**

It was assumed that there was positive and negative perception to the eviction process of pastoralists from Mbarali District. These included preparations made for the process, support provided during and after eviction and the effect of the whole process. Table 8 presents the responses of respondents to each statement concerning the eviction process.

**Table 8: Stakeholders' perception of towards the approach used to resettle agro-pastoralists (n=110)**

| Statements  | Kilwa |      | District<br>Chunya |      | Mbarali |      | Total |      |
|---|-------|------|--------------------|------|---------|------|-------|------|
|   | n     | %    | n                  | %    | n       | %    | n     | %    |
| <b>Eviction of pastoralists was necessary</b>                         |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 1     | 0.9  | 0                  | 0    | 6       | 5.5  | 7     | 6.4  |
| Disagree  | 17    | 15.5 | 20                 | 18.2 | 25      | 22.7 | 62    | 56.4 |
| Agree   | 21    | 19.1 | 9                  | 8.2  | 9       | 8.2  | 39    | 35.5 |
| Strongly agree  | 1     | 0.9  | 1                  | 0.9  | 0       | 0    | 2     | 1.8  |
| <b>Pastoralists were made properly aware of the eviction process</b>  |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 4     | 3.6  | 0                  | 0    | 2       | 1.8  | 6     | 5.5  |
| Disagree  | 21    | 19.1 | 8                  | 7.3  | 16      | 14.5 | 45    | 40.9 |
| Agree   | 14    | 12.7 | 21                 | 19.1 | 22      | 20   | 57    | 51.8 |
| Strongly agree  | 1     | 0.9  | 1                  | 0.9  | 0       | 0    | 2     | 1.8  |
| <b>Preparation for eviction was adequate</b>                          |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 22    | 20   | 14                 | 12.7 | 36      | 32.7 | 72    | 65.5 |
| Disagree  | 18    | 16.4 | 15                 | 13.6 | 3       | 2.7  | 36    | 32.7 |
| Agree   | 0     | 0    | 1                  | 0.9  | 1       | 0.9  | 2     | 1.8  |
| <b>The support provided to pastoralists was adequate</b>              |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 18    | 16.4 | 25                 | 22.7 | 28      | 25.5 | 71    | 64.5 |
| Disagree  | 22    | 20   | 5                  | 4.5  | 12      | 10.9 | 39    | 35.5 |
| <b>Formal and informal institutions helped them cope in new areas</b> |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 0     | 0    | 6                  | 5.5  | 0       | 0    | 6     | 5.5  |
| Disagree  | 20    | 18.2 | 12                 | 10.9 | 12      | 10.9 | 44    | 40   |
| Agree   | 20    | 18.2 | 12                 | 10.9 | 28      | 25.5 | 60    | 54.5 |
| <b>The preparations made for resettlement were adequate</b>           |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 0     | 0    | 6                  | 5.5  | 0       | 0    | 6     | 5.5  |
| Disagree  | 20    | 18.2 | 12                 | 10.9 | 12      | 10.9 | 44    | 40   |
| Agree   | 20    | 18.2 | 12                 | 10.9 | 28      | 25.5 | 60    | 54.5 |
| <b>Life after resettling in new areas is improving</b>                |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 1     | 0.9  | 5                  | 4.5  | 12      | 10.9 | 18    | 16.4 |
| Disagree  | 6     | 5.5  | 22                 | 20   | 28      | 25.5 | 56    | 50.9 |
| Agree   | 33    | 30   | 3                  | 2.7  | 0       | 0    | 36    | 32.7 |
| <b>Life after resettling in new areas has remained unchanged</b>      |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 0     | 0    | 2                  | 1.8  | 0       | 0    | 2     | 1.8  |
| Disagree  | 36    | 32.7 | 12                 | 10.9 | 28      | 25.5 | 76    | 69.1 |
| Agree   | 4     | 3.6  | 16                 | 14.5 | 12      | 10.9 | 32    | 29.1 |
| <b>Kinship relationship has been maintained to date</b>               |       |      |                    |      |         |      |       |      |
| Strongly disagree   | 1     | 0.9  | 1                  | 0.9  | 0       | 0    | 2     | 1.8  |
| Disagree  | 1     | 0.9  | 3                  | 2.7  | 2       | 1.8  | 6     | 5.5  |
| Agree   | 15    | 13.6 | 13                 | 11.8 | 29      | 26.4 | 57    | 51.8 |
| Strongly agree  | 23    | 20.9 | 13                 | 11.8 | 9       | 8.2  | 45    | 40.9 |

The findings showed that there were differences in perception among the respondents, whether it was necessary to evict them from the wetlands and other places in the Usangu Plains in Mbarali District. It was found that 35.5% and 56.4% of the respondents had positive and negative perception, respectively, to the necessity of evicting pastoralists from Mbarali District. Regarding awareness of the eviction process among pastoralists, there were varied responses; 40.9% of the respondents had negative responses, while 51.8% had positive ones. The majority of the respondents (98.2%) reported that not enough time was given to preparation to guarantee smooth eviction from the former areas. Regarding the Government's preparations for the resettlement areas, the responses were as follows; 40% of the respondents reported that the Government had made no preparations for pastoralists at the resettlement areas. On the contrary, 54.4% of the respondents were satisfied with the preparations made at the resettlement areas. Allocation of land for evicted pastoralists in resettlement areas was described as the only preparation made by the Government.

Comparing the districts, namely Kilwa, Chunya and Mbarali, the findings on the attitudes of household heads to life improvement in the resettlement areas varied. In Kilwa District, 30% of the respondents had positive responses. That is, their life status had improved after resettling in the new areas, but 20% and 25.5% of the respondents in Chunya and Mbarali districts, respectively, had a negative response regarding life improvement in the resettlement areas. On the presence of formal and informal institutions to help them cope in the resettlement areas, the household heads' response varied; 45.5% and 54.5% of the respondents had negative and positive responses, respectively.

On what caused respondents from Kilwa District to differ in their responses from pastoralists from Chunya, and Mbarali districts regarding improved life status, the

following were the causes. Firstly, the pastoralists in Kilwa District had plenty of fertile land for crop production. Crops such as millet and simsim were performing well in the area. Secondly, their farms and animal products were fetching premium prices at the market. For instance during the study, one litre of fresh milk was sold for Tzs1000 while in Chunya District, the price for the same litre of fresh milk was Tzs 500, which was half the price. It was further reported that sometimes there was no guarantee of customers to buy milk, especially in Chunya District. The accessibility of a reliable market among the resettlement villages in Kilwa District was due to its location along the Dar-es-Salaam-Mtwara highway. In addition, the villages are situated near sub-towns, where they are able to sell milk and its by-products. Similarly, the villages are easily accessible to traders from Mtwara, Lindi, Kilwa and Dar-es-Salaam City (Case 2).

#### **Case 2: Accessibility of market improved livelihoods in new resettlement area**

*The husband of Ms. Ruth from Kiranjeranje Village died a few days before the eviction process. He left behind 250 cattle. The time came when they had received the eviction order. Being alone, she could not afford to move with such a big population of cattle. She decided to sell a portion of the cattle and transport the remaining portion to the resettlement area using a hired lorry. She managed to arrive at the resettlement area with 65 cattle.*

*When compared with the former area, the resettlement area is much better to live in because of the availability of ample fertile land and her improved ability to practise the agro-pastoralist way of life and achieve a bumper harvest. Since her arrival at the resettlement area her family has managed to raise 105 cattle from 65 (an increase of 38%), 40 goats, 6 sheep and several local chickens.*

*Ms. Ruth admits that there has been a significant improvement in her income since they resettled. For instance, they were able to sell milk at Tzs 1000 unlike in the former area where they used to sell the same product at half the current price. Living along the Lindi-Mtwara –Dar-es-Salaam highway has given them easy access to good market for animals, animal by-products and crop produce. Her strong hope was that latter on most of the households would obtain a better standard of living.*

In Chunya District, life after resettlement became worse. The majority of pastoralists were relocated to two villages, namely Lualanje and Kapalala. The villages are located very far from the district headquarters (100-150 km). The roads to these villages are impassable throughout the year. In addition, their produce lacks a reliable market which negatively affects their lives. The majority of the respondents (92.7%) agreed that, despite the eviction process, the relationship with relatives among livestock keepers is still being maintained. Table 9 shows the mean scores of each statement on attitudes to the eviction process.

**Table 9: Mean scores of attitudes to the eviction process (n=110)**

| <b>Statement</b>  | <b>Kilwa</b> | <b>Chunya</b> | <b>Mbarali</b> |
|---|--------------|---------------|----------------|
| The eviction of pastoralists was a necessary undertaking          | 2.6          | 2.3           | 2.1            |
| Pastoralists were adequately aware of the eviction process        | 2.3          | 2.8           | 2.5            |
| Preparation time for eviction was adequate                        | 1.5          | 1.6           | 1.1            |
| Adequate support was provided to pastoralists during resettlement | 1.6          | 1.2           | 1.3            |
| Formal and informal institutions helped them cope in new areas    | 2.5          | 2.2           | 1.5            |
| The preparation for resettlement was adequate                     | 1.8          | 1.2           | 2.7            |
| Life after resettlement in new areas has improved                 | 2.8          | 1.9           | 1.7            |
| Life after resettlement in new areas remains unchanged            | 2.1          | 2.5           | 2.3            |
| Kinship relationships were maintained.                            | 3.5          | 3.2           | 3.2            |
| <b>Average</b>  | <b>2.3</b>   | <b>2.1</b>    | <b>2.01</b>    |



The mean score for each statement was calculated and mean scores of 2.5 and above were judged positive attitudes, while mean scores below 2.5 were classified as being negative responses. The findings show that respondents in Kilwa District had an overall mean score of 2.3. This indicates that they had a negative attitude to the eviction process. Only in Kilwa District the respondents have a positive response, implying that life had improved since resettling in the new areas. Concerning whether kinship relations were being maintained, the majority scored positive (mean = 3.5). However, on whether adequate time was allocated for preparation before eviction, most scored negative (mean = 1.5).

Households in Chunya District scored a mean of 2.2, indicating a negative attitude to the eviction process. On whether kinship relations are being maintained the scores were mostly positive (mean=3.2). The attitude to life status scored negative, which means that life became worse in the resettlement areas. Concerning the attitude to the adequacy of support provided to pastoralists during eviction, most scored negative (mean=1.2). For the same factor in Mbarali District, the mean score was 2.2, indicating a negative response to the eviction process. Concerning whether adequate time was given to preparation before eviction, the score was negative (mean =1.1).

The respondents in Chunya District scored a mean of 2.2, indicating a negative attitude to the eviction process. Concerning whether kinship relations was being maintained mostly scored positive (mean=3.2). As regards whether the support provided to pastoralists during eviction was adequate, most scored negative (mean=1.2).

In Mbarali District, the mean score was 2.2, indicating a negative response to the eviction process. On whether kinship relations had been maintained to date, the score was positive

(mean=3.2), while the statement on the adequacy of preparation time before eviction scored mostly negative (mean =1.1).

Findings from other stakeholders such PINGOs officers and analysed documents, showed that even the Government found it was necessary to evict pastoralists from the Ihefu basin. It was evident that the Government and its institutions had insufficient plan for proper implementation of the eviction process, which led to substantial property loss of the resettled agro-pastoralists. This led to most of activists to have negative attitude against government on how the all process of evicting pastoralists from Mbarali were conducted. Wash (2007) and PINGOs *et al.* (2007) concluded that the eviction of large number of headers and stocks from Mbarali District during 2006-07 was undoubtedly “*one of the inglorious episodes in the recent history pastoralism and intervention in Tanzania*”.

#### **4.4 Changes in the Livelihood of Pastoralists as a Result of Eviction**

The third objective of this study was to investigate what changes had taken place in the livelihoods of pastoralists as a result of eviction. To study the changes, tracking livelihood changes was done using a detailed questionnaire, oral narrations and household case studies involving qualitative and open interviews.

##### **4.4.1 Socio-economic characteristics of pastoralists before, during and after eviction**

The results from the study showed that before eviction the majority (90%) of the respondents were agro-pastoralists and only 10% were pastoralists. The average years of most respondents who lived in Mbarali District was 22 before the eviction process. From the study it was found that the eviction process caused serious household fragmentation. When asked whether the entire household moved at the same time to new areas, 98.2% of the respondents said they moved in fragmented families. When asked why they left some

family members behind, 22% responded that this was part of the adaptive strategy for food security. That is some of the family stayed behind to continue farming to produce food for the family that remained in Mbarali and for family members resettling in other areas. During the study in Kilwa, a cargo truck was seen delivering several bags of paddy and groundnuts from Mbarali District.

A small proportion of respondents (19.1%) reported that family members who stayed behind were assigned to take care of the few animals that remained in Mbarali District while 18.4% of the respondents said they left some of their families to take care of school children and 11.1% pointed out that part of the family went ahead to the resettlement areas to prepare houses and farms.

The findings further showed that, due to the eviction process, household families were distributed based on number of children and children attending school before, during and after eviction. Before the eviction process, the average size of households was 29.0. After the eviction process, the number of households went down to 19 (a reduction of 34.5%) (Table 10). Among the households, the number of children was reduced before and after the eviction process to an average of 18 and 13, respectively. During FGDs, it was reported that, to minimize the risk of losing their livestock, some households opted to divide the livestock among household members of respective families and assigned each group to different resettlement areas. For instance, in one family the decision was made to direct one group to Lindi Region and another to Chunya District and Ruvuma Region. Some household members decided to keep some 20 to 30 livestock in their former areas. The decision of the families to stay in Mbarali District with a few animals was a strategy for handling operations such as land preparation and the production of milk for domestic use and to generate an income (Case 3).

**Table 10: Distribution of respondents according to number of children and children attending school (n=110)**

| Category of persons in household | Range | Minimum | Maximum | Mean |
|----------------------------------|-------|---------|---------|------|
| <b>Pre-eviction process</b>      |       |         |         |      |
| Household members                | 57    | 8       | 65      | 29   |
| Children in the household        | 36    | 2       | 38      | 18   |
| Children in primary school       | 17    | 0       | 17      | 5    |
| Children in secondary school     | 4     | 0       | 4       | 0.74 |
| Children beyond secondary school | 2     | 0       | 2       | 0.55 |
| Children not attending school    | 14    | 0       | 14      | 3    |
| <b>Post-eviction process</b>     |       |         |         |      |
| Household members                | 45    | 5       | 50      | 19   |
| Children in the household        | 34    | 1       | 35      | 13   |
| Children in primary school       | 10    | 0       | 10      | 3    |
| Children in secondary school     | 2     | 0       | 2       | 0.13 |
| Children beyond secondary school | 2     | 0       | 2       | 0.18 |
| Children not attending school    | 9     | 0       | 9       | 2.4  |

During the study, it was decided to trace how Mr. Igembe's family was distributed. The investigation revealed that each of Mr. Igembe's two sons was resettled in Matandu and Kiranjeranje Villages in Kilwa and Chunya districts, respectively. The third son was assigned to stay behind in Mbarali District. Each of the two sons in Kilwa and Chunya districts was assigned to move with a specified number of animals, while the one who was left behind in Mbarali District was solely engaged in food production and taking care of aged parents. The reason for allocating members of households to different locations was to minimize or diversify the risk of losing the entire animal population. In addition, it enabled family members to engage in new activities that improved their livelihood through sharing the outcome.

### Case 3: The eviction process led to family disintegration

*Mr Igembe's family was ordered to move either to Lindi, Mtwara, Ruvuma regions or Chunya District. The following is a brief history while in Mbarali District. Mr. Igembe and his parents have been in Mbarali for more than 27 years. Initially, Mr. Igembe and the entire family used to stay as a single family or household. His father was blessed with 14 children. As a family, they used to share their labour in operations such as crop farming. As a household they owned the following resources: a good burnt brick house with a roof of corrugated iron sheets; a power tiller, motor bike, several bicycles and clean and safe water from a bore hole. Also, they owned 800 cattle, 70 sheep, 150 goats and approximately 150 local chickens. As a family they used to farm and harvest the following: Rice – up to 200 bags (each bag weighing approx. 100kgs), Maize - 50 bags and Groundnuts - 60 bags.*

*As a household, they were ordered to move to either of the above-mentioned localities. The reason as specified by the Government was to minimize the environmental destruction by what was described as overpopulated livestock in Ihefu valley. The majority of pastoralists received the order with mixed feelings. They started moving without any prior preparation. Their livestock were under police custody. Following the confiscation of their animals, the pastoralists recovered them for a minimum fee of Tzs 10 000. Mr. Igembe's family paid 5 million Tzs to recover all the cattle from both locations. In order to recover all the animals, the family was compelled to sell some of their other livestock. However, sometimes no receipts were provided after paying the penalty. Even when the receipt was provided, the legality of the receipts was questionable. Most of the pastoralists kept these receipts.*

*As a family they adopted the following modality of moving out of Mbarali District. They put their livestock into three groups. Mr. Igembe was allocated 300 cattle as the first group and they moved to Lindi Region via the Njombe-Ruvuma highway. One of his younger brothers was assigned another 300 cattle as a second group that headed towards Chunya District. The third group was distributed among 4 to 5 younger brothers to continue farming crops for food security in Mbarali District. In the course of this operation, Mr. Igembe lost about 120 cattle (approx. 60% loss) out of 300. During the study, Mr. Igembe reported to have rebuilt the herd to 210 cattle.*

The distribution of animals kept and crops harvested by households before and after the resettlement process is presented in Table 11. The composition of animals kept by most households included cattle, goats, sheep, donkeys and chickens. The average number of animals kept per household before the eviction process was 535 cattle, while after eviction, the average was 85 cattle per household. The study noted that, during the eviction process, many of the pastoralists cattle died in transit to resettlement areas.



**Table 11: Distribution of animals kept and crops harvested by households before and after eviction (n=110)**

| <b>Animals owned by households in Mbarali before eviction (No.)</b> | <b>Range</b> | <b>Min</b> | <b>Max</b> | <b>Mean</b> |
|---|--------------|------------|------------|-------------|
| Cattles   | 4159         | 30         | 4189       | 535.0       |
| Goats   | 990          | 10         | 1000       | 112.0       |
| Sheep   | 180          | 0          | 180        | 30.3        |
| Donkeys   | 17           | 0          | 17         | 2.5         |
| Chickens  | 1000         | 0          | 1000       | 78.9        |
| <b>Animal owned by households after eviction (No.)</b>              |              |            |            |             |
| Cattles   | 326          | 4          | 330        | 85.0        |
| Goats   | 150          | 0          | 150        | 37.0        |
| Sheep   | 40           | 0          | 40         | 9.0         |
| Donkeys   | 9            | 0          | 9          | 0.5         |
| Chickens  | 140          | 10         | 150        | 43.0        |
| <b>Crops harvested by household before eviction (No. of bags)</b>   |              |            |            |             |
| Millet  | 80           | 0          | 80         | 13.0        |
| Beans   | 50           | 0          | 50         | 6.13        |
| Maize   | 220          | 0          | 220        | 69.62       |
| Rice  | 550          | 0          | 550        | 178.0       |
| Groundnuts  | 90           | 0          | 90         | 18.8        |
| Sweet potatoes  | 80           | 0          | 80         | 17.13       |
| <b>Crops harvested by household after eviction</b>                  |              |            |            |             |
| Millet  | 130          | 0          | 130        | 20.0        |
| Simsim  | 45           | 0          | 45         | 5.5         |
| Maize   | 135          | 0          | 135        | 27.6        |
| Rice  | 105          | 0          | 105        | 23.0        |
| Groundnuts  | 68           | 0          | 68         | 13.0        |
| Sweet potatoes  | 85           | 0          | 85         | 10.0        |

A paired-sample test was conducted to compare the number of animals and amount of crop harvested before and after the eviction process. There were highly ( $t=0.01$ ) significant differences in cattle numbers among households before and after eviction process. This means the number of animal decreased after the eviction process. Regarding



millet production, the findings shows that there was significant difference ( $t=0.045$ ) with regards to amount of harvested crop among households before and after the eviction process. This means the amount of harvested crop increased after the eviction process, except for resettled agro-pastoralists in other areas within Mbarali District. Only, simsim was the crop cultivated by resettled agro-pastoralists in their new resettlement areas (Table 12).

**Table 12: Paired Sample T test results for distribution of animals kept and crops harvested by households before and after eviction (n=110)**

| Number of animals/crop | Mean | SD    | t      | df  | Sig. (2-tailed) |
|------------------------|------|-------|--------|-----|-----------------|
| Number of cattle       | 4.8  | 615.8 | 8.094  | 109 | .001            |
| Number of goats        | 7.6  | 134.7 | 5.879  | 109 | .372            |
| Number of sheep        | 2.2  | 28.7  | 7.914  | 109 | .034            |
| Number of donkey       | 2.0  | 3.0   | 6.975  | 109 | .000            |
| Number of chicken      | 3.5  | 103.3 | 3.594  | 109 | .136            |
| Millet bags            | 7.0  | 36.1  | 2.032  | 109 | .045            |
| Maize bags             | 4.2  | 44.6  | 9.895  | 109 | .000            |
| Rice bags              | 1.6  | 128.6 | 13.386 | 109 | .002            |
| Groundnuts bags        | -5.8 | 19.8  | 3.074  | 109 | .003            |
| Sweet potatoes bags    | -6.9 | 19.0  | 3.787  | 109 | .012            |

The Majority of those who were evicted from the Ihefu Basin owned a relatively large amount of land; however, shifting to other areas caused the residents of Mbarali District to become landless (Case 4). Ngailo (2011) noted that none of the key ministries and organizations such as the Ministries of Natural Resources and Tourism, Energy, Livestock and Fisheries Development and TANAPA considered compensating those who had been evicted, particularly for key assets such as land which was crucial for addressing the issue of food security. The current study revealed that the Government compensated only 29.2% of the respondents for the loss of a few assets like houses but not land. This meant that

most pastoralists did not have the purchasing power that would enable them secure new land, especially for pastoralist families that opted to resettle in Mbarali District.

Before the eviction process, the land used by the majority (>98%) of the respondents was individually owned. Land was one of the important attractions for the majority of pastoralists to settle in the Usangu Basin. In the basin, there was the possibility of owning and utilizing vast areas of cultivable land throughout the year and making extensive use of the existing pasture. Over 70% of the respondents occupied fertile land (Table 13). Some respondents owned over 100 acres of land for multiple uses, although mostly for keeping livestock. However, during the study it was found that in Mbarali District respondents who faced scarcity of land for cultivation were compelled to rent it at Tzs 50 000 to 100 000 per acre per season, which was reported to be very expensive.

**Table 13: Land acreage owned by respondents before the eviction process (n=110)**

| Land owned (acres) | Frequency  | Percent    |
|--------------------|------------|------------|
| Below 15           | 32         | 29.1       |
| 15 – 30            | 21         | 19.1       |
| 31 – 45            | 20         | 18.2       |
| More than 45       | 37         | 33.6       |
| <b>Total</b>       | <b>110</b> | <b>100</b> |

The eviction process had implications for strategies for acquiring new land and establishing new crops. This is because these agro-pastoralists were still settling in their initial areas. Ngailo (2011) found that the eviction process caused significant food insecurity for most of the evicted pastoralists as they lost a large proportion of their food reserves when they were evicted. For most of the respondents, farming in Mbarali District was part of their strategy for diversifying their means of livelihood. Household food security is a strategy for ensuring access to nutritional and culturally appropriate food for

everyone, produced in an environmentally sustainable way, and provided in a manner that promotes human dignity (FAO, 2006; OPHA, 2002).

#### **Case 4 : The eviction process caused some of respondents to become landless**

*Mr. Matinda is a resident and chairman of the Association of Livestock Keepers in New Ikoga village and together with other members of the village; he was a victim of the eviction process of 2006. They were evacuated from Ihefu Basin in Old Ikoga village. Their stay in Old Ikoga village along the Ihefu valley goes back 15 years. While in Old Ikoga village Mr. Matinda owned 15 acres of land, 300 cattle, 170 goats and 60 sheep.*

*Compared with the New Ikoga village, the living conditions in Old Ikoga village were much better. Life was better in the sense that there was ample land on which to grow crops and suitable pasture on which to graze animals throughout the year. Unconfirmed rumours emerged which directed them to move out of Old Ikoga village to make room for expansion of the national park. At the end of 2006, beyond everyone's expectations they received an order from the district government authority, which instructed all pastoralists to move from Old Ikoga village to Madibira ward in Mbarali District, where they were promised they would be allocated enough land to sustain their lives. However, in order to be allocated land in Madibira a condition was made that each household was allowed to move with only 10 cattle, otherwise they were given the option of going to Lindi, Mtwara or Ruvuma regions if they had more cattle. Noting this, Mr. Matinda decided to shift to Madibira with 10 cattle (mainly oxen) and allowed his two sons to drive the rest of the cattle to Lindi Region. At the time this study was being conducted, Mr. Matinda had produced 26 cattle from 10.*

*While in transit the two sons who departed for Lindi sustained great loss of cattle. When Mr. Matinda left Old Ikoga Village to go to Madibira he received compensation to the tune of Tzs 850 000/=. This amount of money enabled him to re-establish himself in Madibira. Despite the government's promise, upon arrival in Madibira, Mr. Matinda and other pastoralists were not given enough land but were allocated a maximum of 0.5 acres just for building a house on. In order to get land to grow crops they had to rent it from residents at unaffordable prices in the range of 50 000 to 150 000 Tzs per acre per season.*

#### **4.4.2 Changes in livelihoods after eviction**

The study results show that during the eviction process resettled agro- pastoralists' sustained great loss, which contributed to greater changes in livelihoods, including changes after resettlement and those who opted to stay in Mbarali District. The loss was as follows: 94.5% of the respondents reported that many animals died in transit, while 55.5% mentioned the high cost of transporting animals from Mbarali to new areas. In addition,

73.3% of the respondents suffered loss from the unbearably high penalty fees (Tzs 10 000 per animal) that were imposed either for leaving the area late or for recovering confiscated livestock.

Most of the pastoralists paid their penalty without being given official receipts. The comment from 40.9% of the respondents was that this deprived them of their dignity due to sustained harassment by government officials, including police officers. Fifty percent of the respondents mentioned food shortage as another loss sustained during the eviction process. Ngailo (2011) reported similar findings. The findings showed that 56% of the respondents said that the worst suffering was food insecurity. The majority of livestock keepers lost their food during the unplanned eviction process.

#### **4.4.2.1 Ownership of assets**

The results of the possession of assets before and after eviction of respondents are shown in Table 14. There is a slight reduction in the possession of assets that were noted after the eviction process. Most of the respondents (80%) possessed oxen and 11.8% possessed power-tillers before the eviction process, while after eviction 87% and 3% possessed oxen and power-tillers, respectively. Assets such as ploughs, mobile phones, bicycles and radios were owned by the majority of respondents before and after eviction. The ability to maintain possession of assets by resettled pastoralists indicated that, apart from the disturbance caused by the eviction process, they still had purchasing power that enabled them to buy some assets.

During FGDs it was noted that accumulation of assets was one of the means that facilitated them in adapting to the resettlement areas. The assets enabled them to perform

different activities (e.g. plough for farming, mobile phone for searching for market information and money transfer). Though it was not possible to carry all the assets from Mbarali, some were accumulated in the process of coping with the new environment. They were able to buy assets using the money they saved during the eviction process after selling some of the animals. But other assets were accumulated from selling surplus crop products. Also, it was noted that the income from crop production was used to rebuild the herd size through buying animals from the market.

DFID's sustainable livelihood framework identifies assets as one of the three components of a livelihood. Others include capabilities and activities needed to earn a living. Based on this, the loss or gain of assets represents a form of livelihood. This is the reason why the possession of assets by resettled pastoralists was considered important.

**Table 14: Possession of assets before and after eviction (n=110)**

| Possession of assets | Before eviction |         | After eviction |         |
|----------------------|-----------------|---------|----------------|---------|
|                      | Frequency       | Percent | Frequency      | Percent |
| <b>Plough</b>        |                 |         |                |         |
| Yes                  | 103             | 93.6    | 87             | 79.1    |
| <b>Oxen-cart</b>     |                 |         |                |         |
| Yes                  | 87              | 79.1    | 50             | 45.5    |
| <b>Mobile phone</b>  |                 |         |                |         |
| Yes                  | 108             | 98.2    | 109            | 99.1    |
| <b>Bicycle</b>       |                 |         |                |         |
| Yes                  | 107             | 97.3    | 60             | 54.5    |
| <b>Motorecycle</b>   |                 |         |                |         |
| Yes                  | 23              | 20.9    | 21             | 19.1    |
| <b>Power-tiller</b>  |                 |         |                |         |
| Yes                  | 13              | 11.8    | 3              | 2.7     |
| <b>Radio</b>         |                 |         |                |         |
| Yes                  | 108             | 98.2    | 105            | 95.5    |



#### 4.4.2.2 Changes in households' incomes after the eviction process

The estimated monthly income of respondents before and after eviction is presented in Table 15. A t-test was carried out to determine whether there were significant differences in respondents' income before and after eviction. The results showed highly significant income difference among respondents before and after eviction. Most of the respondents reported that due to sustaining the loss of animals the herd size declined, leading to less dependence on livestock as a key source of income.

**Table 15: Estimated monthly household income before and after eviction**

| District |         | Estimated monthly<br>income before<br>eviction | Estimated monthly<br>Income after<br>eviction | t -value | p - value |
|----------|---------|--|---|----------|-----------|
| Kilwa    | Mean    | 675 500  | 290 375                                       | 6.035    | 0.001     |
|          | Range   | 820 000  | 605 000                                       |          |           |
|          | Maximum | 1 200 000                                      | 700 000                                       |          |           |
| Chunya   | Mean    | 664 000  | 153 334                                       | 10.418   | 0.003     |
|          | Range   | 800 000  | 170 000                                       |          |           |
|          | Maximum | 1 100 000                                      | 250 000                                       |          |           |
| Mbarali  | Mean    | 633 500  | 245 438                                       | 7.231    | 0.012     |
|          | Range   | 810 000  | 412 500                                       |          |           |
|          | Maximum | 1 010 000                                      | 450 000                                       |          |           |

*1 Dollar = 1,600 Tanzania shillings (Bank of Tanzania 3/2/2012)*

There is misconception that herders in Africa do not sell animals, but hold onto them and accumulate large herds merely for the pleasure of seeing them (IUCN, 2006), and so income is not a good indicator of wellbeing. From this study it was contrary, as during FGDs the respondents said that when they were in Mbarali District they used to sell their animals and animal by-products to meet their household needs. Also, money from selling animals assisted them in procuring assets, e.g. power-tillers and motorbikes.



Only 29.1% of the respondents claimed that, after the eviction process, their life status in terms of per capita income improved. This improvement was mostly evident among respondents in Kilwa District. This can be explained by the fact that most of the resettlement villages are located close (2-15km) to the Dar-es-Salaam–Mtwara highway. This gives them access to reliable markets for their animals, crops and by-products, assuring them of a stable income throughout the year. In addition, in Kilwa District there was enough land to cultivate simsim and millet.

Also during the FGDs, it was mentioned that the prices charged for cattle, goats, chickens and their products were attributed to the rise in incomes. The price for livestock in the resettlement areas was higher than in the former areas. In addition, sales of livestock products such as milk were also higher than in the former areas.

**Table 16: The type of changes in income among households after resettlement**  
(n=110)

| Type of change                            | District |      |        |      |         |      |       |      |
|---|----------|------|--------|------|---------|------|-------|------|
|   | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|   | n        | %    | n      | %    | n       | %    | n     | %    |
| More income from crop cultivation         | 25       | 22.7 | 21     | 19.1 | 12      | 10.9 | 58    | 52.7 |
| Low price for animal and crop products    | 3        | 2.7  | 30     | 27.3 | 0       | 0    | 33    | 30.0 |
| High price for Animal and crop products   | 24       | 21.9 | 1      | 0.9  | 20      | 18.2 | 20    | 18.2 |
| Few animals for sale                      | 28       | 25.5 | 30     | 27.3 | 39      | 35.5 | 97    | 88.2 |
| Low income from crop due to land scarcity | 0        | 0    | 0      | 0    | 29      | 26.4 | 29    | 26.4 |

More income from crops than animal sales was recorded by 52.7% of the respondents (Table 16). Incomes rose by 22.7% according to agro-pastoralists in Kilwa District, while incomes of agro-pastoralists in Chunya District increased by 19.1%. On the other hand, the reduced income in Chunya District was due to low prices for animal and crop products and agro-pastoralists living far from urban areas or towns, which limits their access to viable markets.

#### **4.4.2.3 Accessibility of social services and availability of pastures**

Table 17 presents the accessibility of different facilities by respondents in all three districts. Of the 110 respondents, 58.2% had access to good pastures for their animals. Thirty percent (30%) of the respondents were from Kilwa District, 24.5% from Chunya District and only 3.6% from Mbarali District. In addition, the study found that 60% and 72.7% of the respondents had access to clean water for domestic use and to animal dips, respectively.

However, 11.8% and 15.5% of the respondents in Kilwa and Chunya districts, respectively, had no access to animal dip facilities. Regarding accessibility of markets for animals and crops products and by-products, it was found that 63.6% of the respondents had access to markets for animal and crop products. Of these, 27.3% and 36.4% were from Kilwa and Mbarali districts, respectively. Because of the geographical location, in Kilwa District most livestock keepers' villages were located along the Dar-es-Salaam–Mtwara highway or near small towns. This facilitated most agro-pastoralists in accessing a market for their livestock, crop products and by-products. This was not the case in Chunya District. More than a quarter (27.3%) of the respondents had no access to markets for their animals, crops and by-products. Only 14.5% and 24.5% of the respondents had access to a

veterinary clinic in Kilwa and Mbarali districts, respectively, while, none of the respondents in Chunya District had access to a veterinary clinic.

**Table 17: Accessibility of social services and pasture availability (n=110)**

| Availability of social services and pasture | District |      |        |      |         |      |       |      |
|---|----------|------|--------|------|---------|------|-------|------|
|   | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|   | n        | %    | n      | %    | n       | %    | n     | %    |
| <b>Good pasture</b>                         |          |      |        |      |         |      |       |      |
| Yes   | 33       | 30   | 27     | 24.5 | 4       | 3.6  | 64    | 58.2 |
| <b>Clean water</b>                          |          |      |        |      |         |      |       |      |
| Yes   | 19       | 17.3 | 28     | 25.5 | 19      | 17.3 | 66    | 60   |
| <b>Disease-free area</b>                    |          |      |        |      |         |      |       |      |
| Yes   | 8        | 7.3  | 5      | 4.5  | 32      | 29.1 | 45    | 40.9 |
| <b>Animal dips</b>                          |          |      |        |      |         |      |       |      |
| Yes   | 27       | 24.5 | 13     | 11.8 | 40      | 36.4 | 80    | 72.7 |
| <b>Markets</b>                              |          |      |        |      |         |      |       |      |
| Yes   | 30       | 27.3 | 0      | 0    | 40      | 36.4 | 70    | 63.6 |
| <b>Veterinary clinic</b>                    |          |      |        |      |         |      |       |      |
| Yes   | 16       | 14.5 | 0      | 0    | 27      | 24.5 | 43    | 39.1 |
| <b>Water dam/well</b>                       |          |      |        |      |         |      |       |      |
| Yes   | 16       | 14.5 | 9      | 8.2  | 0       | 0    | 25    | 22.7 |

#### 4.4.3 Change in economic activities

The other way of assessing changes in livelihoods in resettlement areas was to trace the changes in the economic activities necessary for living. The process of resettlement after eviction forced pastoralists to adopt new economic activities. Most resettled pastoralists admitted that there were changes in their economic activities, which assisted them in sustaining their livelihoods. Either, they had taken on new or expanded some activities that were practised before the eviction process. The adoption of petty business, growing

tobacco and simsim, clearing land and scaring wild animals were among the significant economic activities undertaken after the eviction process (Table 18).

**Table 18: Change in economic activities in the resettlement areas (n=110)**

| Type of change        | Districts |      |        |      |         |      |       |      |
|-----------------------|-----------|------|--------|------|---------|------|-------|------|
|                       | Kilwa     |      | Chunya |      | Mbarali |      | Total |      |
|                       | n         | %    | n      | %    | n       | %    | n     | %    |
| More crop cultivation | 25        | 22.7 | 21     | 19.1 | 12      | 10.9 | 58    | 52.7 |
| Gardening             | 23        | 20.9 | 4      | 3.6  | 1       | 0.9  | 28    | 25.5 |
| Growing simsim        | 33        | 30   | 17     | 15.5 | 0       | 0    | 50    | 45.5 |
| Growing tobacco       | 0         | 0    | 20     | 18.2 | 0       | 0    | 20    | 18.2 |
| Petty business        | 25        | 22.7 | 8      | 7.3  | 18      | 16.4 | 51    | 46.4 |
| Crop production       | 7         | 6.4  | 0      | 0    | 4       | 3.6  | 11    | 10   |
| Clearing heavy bushes | 3         | 2.7  | 30     | 27.3 | 0       | 0    | 33    | 30   |
| Keeping pigs          | 0         | 0    | 17     | 15.5 | 1       | 0.9  | 18    | 16.5 |

Petty business was the most prominent economic activity in Kilwa (22.7%) and Mbarali (16.4%) districts. This was probably because all the resettled pastoralists were located near highways and small towns. The majority of people were involved in retail and wholesale business, trading livestock and livestock products, selling veterinary drugs and local transport services using motorbikes, namely "*bodaboda*". The activity was predominant in Mbarali District. Selling local chickens and eggs became a common business, especially in Mbarali and Kilwa districts. Among the groups, male teenagers were prominent in doing petty business. After the interview, the group agreed that keeping livestock was no longer a sustainable occupation due less attention being paid by the Government especially to issues of land tenure. Also herd sizes had been greatly reduced during the eviction process.

Growing tobacco (18.2%) and keeping pigs (15.5%) were reported by some agro-pastoralists as prominent businesses in Chunya District. The study revealed that the

majority of resettled agro-pastoralists had joined the Tobacco Growing Association. Through this association, they accessed agro-inputs such as improved tobacco seeds and tobacco-based extension services. Growing simsim was more common in Kilwa (29.1%) and Chunya districts (15.5%). In Kilwa District, resettled agro-pastoralists (30%) considered simsim an important cash crop as it was fetching a premium price. During the study the price of simsim by the receipt/voucher system was Tzs 1700 per kilogram, while individual buyers were paying between Tzs 1300 and Tzs1500 per kilogram.

Horticulture was noted to be a new economic activity, especially in Kilwa District. Thirty percent of the respondents reported that they purposely assigned some of their wives to settle in agriculture-based areas where they could grow vegetables, mainly for household consumption.

For a few respondents (10%), especially the Maasai and Mang'ati ethnic groups, growing crops was a new activity. Even if this was not a new undertaking for the Maasai, what could be regarded to have changed was the scale of crop production. Fifty-three respondents mentioned that the inclusion of crop production had improved their income, which partly compensated for the animals lost during the eviction process. Despite these new economic activities, livestock keeping remained their main livelihood undertaking.

#### **4.4.4 The level of livelihood change**

Table 19 shows the state of livelihood change of pastoralists that had resettled in Kilwa, Chunya and Mbarali districts. The level of livelihood change of respondents is as follow; no livelihood change (livelihood change index score lowest to 0.00), minimal livelihood change (livelihood change index score of 0.0999 and less than 0.3) and good livelihood

change (livelihood change index of 0.3 and less than 1). It was evident that the state of change among respondents was poor in Mbarali District (57.9%). The state of change was good among respondents who had resettled in Kilwa District (51.9%). This implies that those with good livelihood change were capable of adopting more than 30% of new economic activities.

**Table 19: Level of livelihood change to resettled pastoralists (n=110)**

| Livelihood change levels  | District |      |        |      |         |      |       |     |
|---------------------------|----------|------|--------|------|---------|------|-------|-----|
|                           | Kilwa    |      | Chunya |      | Mbarali |      | Total |     |
|                           | (n=40)   |      | (n=30) |      | (n=40)  |      |       |     |
|                           | n        | %    | n      | %    | n       | %    | n     | %   |
| No livelihood change      | 4        | 21   | 4      | 21   | 11      | 57.9 | 19    | 100 |
| Minimal livelihood change | 8        | 21.6 | 10     | 27.1 | 19      | 51.3 | 37    | 100 |
| Good livelihood change    | 28       | 51.9 | 16     | 29.6 | 10      | 18.5 | 54    | 100 |

An ANOVA F-test was carried out to test whether there was relationship in the livelihood change among respondents in Kilwa, Chunya and Mbarali districts. The test showed that there was significant differences ( $F(2,107) = 50.55, p < 0.001$ ) in the state of livelihood change among resettled agro-pastoralists in Kilwa, Chunya and Mbarali districts.

The result suggests that the observed difference is an attribute of the ability of respondents to adopt new economic activities in the resettlement areas. Although the majority of respondents sustained a substantial loss of animals during the eviction process, they were still able to adopt new economic activities. During the FGDs it was found that in the process of eviction the majority of respondents decided to sell some animals and use the money to start new economic activities after eviction. Others mentioned that they were



able to adopt new activities because they received financial and in-kind support from formerly resettled pastoralists.

#### **4.5 Livelihood Strategies and Coping Behaviour of Agro-pastoralists in Adapting after Eviction**

Objective four of this study was to examine the types of livelihood strategies undertaken by agro-pastoralists to adapt to the resettlement areas. In this study during and after eviction they experienced the loss of animals and land, incidences of animal diseases, shortage of food and water and poor accessibility markets and veterinary clinics, etc. All these affected the livelihoods of resettled agro-pastoralists. Their assets and livelihood strategies were important to reduce their vulnerability. In order to study the strategies, a set of variables associated with the livelihood concept was used. These were assets, activities, their outcomes and livelihood classification. In this study several capitals were analyzed to examine how they assisted resettled agro-pastoralists in making decisions, adopting livelihood strategies and striving for outcomes. The analyzed capitals were:

- i. Human capital - Skills, knowledge and capacity to work - enabled resettled agro-pastoralists to pursue different livelihood strategies and achieve outcomes. They provided labour for various enterprises such as income generating activities, farming, grazing and treating their animals. Human capital was also necessary for making use of the other five types of assets.
- ii. Natural capital (land, pasture, water, forest) - Given that most of the resettled agro-pastoralists were engaged in livestock keeping and farming, land, pasture and water were obviously important natural resources for them to undertake different livelihood strategies.

- iii. Social capital (networks) - Social networks were important for agro-pastoralists in early days of resettlement, whereby the evicted pastoralists received support from clansmen who had resettled earlier. Through social networks they got financial support, market information and food from relatives in other areas
- iv. Physical capital - Access to dips, markets, veterinary clinics and charcoal dams - was obviously important for resettled agro-pastoralists. They were able to improve animal productivity and access markets for their crop and animal by-products.
- v. Economic capital - Subsidies for farm and animal inputs were very important for resettled agro-pastoralists, as it made them affordable and improved both animal and crop productivity. Access to credit enabled resettled agro-pastoralists to buy farm inputs and initiate new economic activities.
- vi. Institutions- In the early days of resettlement village governments were important for linking resettled pastoralists to higher authorities, e.g. District Executive office, and other organisations. This enabled them to access different assets in the new areas that facilitated resettled pastoralists in opting for specific strategies.

Outcomes of the livelihood strategies were increased income, and improved well-being and food security, hence, reduced vulnerability of resettled agro-pastoralists.

#### **4.5.1 Coping strategies during the post-eviction process**

Coping strategies can be defined as remedial actions taken by people, whose survival and livelihoods are compromised or threatened (WHO/EHA, 1999; Richiè *et al.*, 2009). The strategies are deeply influenced by people's previous experience. Coping with a specific situation implies having less control over a situation than managing it, and normally is for a short duration. Table 20 shows the coping strategies of households after experiencing loss in the course of eviction.

**Table 20: Coping Strategies during post eviction process (n=110)**

| Coping strategies                     | District |      |        |      |         |     |       |    |
|---------------------------------------|----------|------|--------|------|---------|-----|-------|----|
|                                       | Kilwa    |      | Chunya |      | Mbarali |     | Total |    |
|                                       | n        | %    | n      | %    | n       | %   | n     | %  |
| Rebuilding the herd size              | 15       | 13.6 | 28     | 25.5 | 33      | 30  | 76    | 69 |
| Establish business of trading Animals | 17       | 15.5 | 7      | 6.4  | 8       | 7.3 | 32    | 29 |

Sixty-nine percent of the respondents revealed that, soon after resettlement, they began to rebuild their herd of cattle. Soon after resettlement, 90.9% of the respondents were engaged in crop cultivation. Other (29.1%) agro-pastoralists initiated animal trading (selling and buying) activity. This included accumulated physical assets which are important for pastoralists' livelihoods.

The study revealed that the means that helped them to cope with shocks were as follows. The pastoralists who had resettled earlier in the respective areas supported sixty-nine percent of the newly resettled agro-pastoralists. For instance, in Kilwa District, the Sukuma ethnic group were prominent livestock keepers. They voluntarily resettled in the area in the mid-1990s after migrating from Mwanza and Shinyanga regions. A similar group was found to be prominent in Chunya District. They resettled in the area more than a decade ago (Case 5). Based on a narration by Mr. Latu, agro-pastoralists who had resettled earlier provided support to incoming agro-pastoralists, in terms of giving advice and supplying suitable crop seeds and inputs such as ploughs during the early recovery stage. In addition, they helped them construct houses, prepare farms and familiarize them with the new environment.

### Case 5: The importance of social capital in resettling

*Mr. Latu is a Sukuma by ethnicity. In 2006 Mr. Latu and his family arrived in Lualaje village in Chunya from Mbarali District. Mr. Latu and his senior brother left with 300 cattle leaving their father in Mbarali District. They drove their livestock on foot for 32 days passing through thick forests and crossing rivers. They faced all sorts of challenges along the way including heavy rains, wild animals, food shortage, lack of clean and safe water both for human and livestock, lack of veterinary services, etc. Due to this, before their arrival in Chunya they had lost 140 cattle along the way (a loss of over 53.3%).*

*Upon arrival in the allocated village, they faced yet another unfavourable situation. The earlier settlers were not in favour of the newcomers. Both individuals and village leaders attempted to prevent them from resettling in the villages. The only rescue came from their co-ethnic group (earlier resettled Sukuma residents) and other pastoralists who had been in the village for the previous ten years. They appealed to the village government to let their colleagues take up permanent residence. In addition, they provided them with temporary areas in which to keep, feed and treat their livestock, and helped them prepare for permanent resettlement. The presence of fellow pastoralists was a big relief to the new group of pastoralists who had arrived; the support they received from the pastoralists made a big impact.*

It was noted that 81.6% of the respondents were able to cope after the eviction process. This was through saving cash after selling some of their animals and other assets during the eviction process. To minimize property loss during eviction, some pastoralists sold some of their animals, especially goats and sheep, and saved the money. Mlekwa (2011) reported that the evicted pastoralists opted to sell a portion of their animals and kept the cash in the bank as a short-term strategy.

From the current study, other respondents reported that they sold assets like motorbikes and bicycles and kept the money. The money from selling animals assisted them in rebuilding their herd size after eviction. This was mainly through purchasing calves that were gradually improved to become breeding stock. Another option, which facilitated the rebuilding of their herd, was through selling crops. The money obtained was used to buy animals, mainly calves, and pay dowries. This is also reported by Mung'ong'o and

Mwamfupe (2003), who noted that, for pastoralists, livestock keeping is mainly a means of livelihood. In this case, pastoralists tend to rebuild their herds even in the course of routine migration to other areas.

**Table 21: Means of coping after resettling in the new areas (n=110)**

| Means   | District |      |        |      |         |      |       |      |
|---|----------|------|--------|------|---------|------|-------|------|
|   | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|   | n        | %    | n      | %    | n       | %    | n     | %    |
| Cash compensated for assets during eviction.                                    | 8        | 7.3  | 7      | 6.4  | 17      | 15.5 | 32    | 29.2 |
| Enough support from pastoralists who had resettled in this area earlier         | 32       | 29.4 | 30     | 27.5 | 14      | 12.8 | 76    | 69.7 |
| Village government provided support for new settlers                            | 11       | 10.1 | 13     | 11.9 | 3       | 2.8  | 27    | 24.8 |
| The cash from selling animals and assets during eviction supported resettlement | 30       | 27.5 | 30     | 27.5 | 29      | 26.6 | 89    | 81.6 |
| Support from other family members from different areas                          | 14       | 12.7 | 30     | 27.3 | 20      | 18.2 | 64    | 58.2 |

From the study, it was found that 29.2% of the respondents were compensated for their assets before the eviction process (Table 21). This was mainly the case in Mbarali District where 15.5% of the respondents were compensated. These were respondents mostly evicted from old Ikoga Village. Agro-pastoralists from this village were required to vacate it to give way for a planned expansion of Ihefu reserve and wetland areas.

Some 10.1% and 11.9% of the respondents from Kilwa and Chunya districts, respectively, reported that, upon their arrival in their respective resettlement areas, they were supported by the village government in terms of the allocation of land on which to build new houses, to put cattle and being given permits for transporting animals. In addition, the village government introduced the pastoralists to the residents. Others, especially agro-pastoralists



who resettled in Mbarali, were required to buy a piece of land. The eviction process had strategic implications, in terms of keeping or acquiring new land and growing new crops.

The other means that enabled agro-pastoralists to cope in the resettlement areas were reported. Sixty-four percent of the respondents reported that, upon arrival at the new resettlement areas, they were supported by other family members from other resettlement areas in the country. The support included both finance and food, especially during the early days of resettlement. This was witnessed during the current study (Plate 1). A cargo truck was seen delivering several bags of paddy from Mbarali District. The food was given by family members who remained in Mbarali District to continue farming in order to provide support for evicted families in Kilwa District.



**Plate 1:** Food sent by relatives in Mbarali to pastoralists resettled in Kilwa District

#### **4.5.2 Adaptive strategies after eviction**

Adaptive strategies are those that seek to spread the risk of failure in response to anticipated adverse trends. This may be by intensifying existing livelihood strategies or diversifying into new activities (Devereaux, 1993; Davies, 1996 as quoted in Morris *et al.*, 2001). This differs from coping strategies that absorb the impact of an adverse shock by



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drawing on assets and reducing consumption, implying less control over a situation than in managing it. Table 22 shows the adaptive strategies adopted by evicted agro-pastoralists. The majority of respondents (97%) reported that they had increased crop-farming areas, which caused agriculture to become an important economic activity. This enabled them to improve household food security and have a surplus for sale. Seventy-four respondents revealed that another strategy was to send members of the family to settle in different parts of the country. This also was narrated during FGDs. During the study, it was found that, during the eviction process, some families divided into different groups to minimize the risk of losing the entire herd if they all settled in one area.

While in different resettlement areas, the family division strategy enabled family members to engage in new activities, which improved their livelihoods through sharing their outcome. It was also noted that 23.5% of the respondents, especially in Chunya District, used another adaptive strategy that of growing cash crops, mainly tobacco.

It was further noted that 46.4% of the respondents opted to diversify their major livelihood activities. This was especially the case in Kilwa (22.7%) and Mbarali (16.4%) districts. These included income-generating activities, such as petty trade and local transport services locally namely “*bodaboda*”, selling roasted meat “*Nyama choma*” and producing local brew (especially by women in Mbarali District). A woman in Mbarali once stated that: “*Depending only on livestock does not ensure that I will be able to meet the needs of my family, especially when you consider the great loss we sustained during the eviction process, and so it was crucial to make use of all alternatives at our disposal*”.

**Table 22: Adaptive strategies used after eviction (n=110)**

| Strategies   | District |      |        |      |         |      |       |      |
|--|----------|------|--------|------|---------|------|-------|------|
|  | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|  | n        | %    | n      | %    | n       | %    | n     | %    |
| Increased area for crop cultivation                | 38       | 34.5 | 39     | 35.5 | 30      | 27.3 | 107   | 97.3 |
| Growing cash crops                                 | 0        | 0    | 26     | 23.5 | 0       | 0    | 26    | 23.3 |
| Diversifying livelihood activities                 | 25       | 22.7 | 8      | 7.3  | 18      | 16.4 | 51    | 46.4 |
| Sending families to different parts of the country | 27       | 24.5 | 30     | 27.3 | 24      | 21.8 | 81    | 73.6 |
| Modified livestock composition and number          | 8        | 7.3  | 7      | 6.4  | 17      | 15.5 | 32    | 29.2 |

Other adaptive strategies used to improve livelihoods were reported. Twenty-nine percent of the respondents modified their herd composition and the number of animals kept. This was noted mainly in Mbarali District (15.5 %) (Table 22). The livestock keepers in Mbarali District decided to increase livestock breeds and adjust herd composition by reducing the number of grazing animals (cattle and sheep) and increasing the number of browsers (goats). This strategy was especially adopted in Mbarali District, where grazing land was shrinking and the quality of the pasture deteriorating. However, among the livestock only goats were able to browse and reproduce to generate income to meet family needs. The income generated from goat sales was sometimes used to generate other business activities such as petty trade. Similar observations of having more browsers than grazing animals have been reported. A study by CARE International in Longido District, following support by HPI Project, found that household members opted to raise camels (Richiè *et al.*, 2009). Through raising camels they could get more milk during the dry season unlike other households who refused the option. Camels can easily browse herbs and thorn bushes.

#### 4.6 Adaptive Capacity of Resettled Agro-pastoralists

As shown in Table 2 different indicators were used in measuring the adaptive capacity of resettled agro-pastoralists. Table 23 shows that the adaptive capacity categories of resettled agro-pastoralists, which were poor adaptive capacity (adaptive capacity index score between 0.00 and less than 0.44), moderate adaptive capacity (adaptive capacity index score of 0.44 and less than 0.55) and good adaptive capacity (adaptive capacity index of 0.55 and less than 1). It was evident that respondents' adaptive capacity was poor in Chunya District (82.2%). Good adaptive capacity was noted in agro-pastoralists who resettled in Kilwa and Mbarali districts (45.2% and 53.2% respectively).

**Table 23: Adaptive capacity of resettled pastoralists (n=110)**

| Adaptive capacity categories | District |      |        |      |         |      |       |     |
|------------------------------|----------|------|--------|------|---------|------|-------|-----|
|                              | Kilwa    |      | Chunya |      | Mbarali |      | Total |     |
|                              | (n=40)   |      | (n=30) |      | (n=40)  |      |       |     |
|                              | n        | %    | n      | %    | n       | %    | n     | %   |
| Poor adaptive capacity       | 1        | 5.9  | 14     | 82.4 | 2       | 11.8 | 17    | 100 |
| Moderate adaptive capacity   | 11       | 35.5 | 15     | 48.4 | 5       | 16.1 | 31    | 100 |
| Good adaptive capacity       | 28       | 45.2 | 1      | 1.6  | 33      | 53.2 | 62    | 100 |

A chi-square was carried out to determine whether there was a significant difference in the adaptive capacity of respondents in Kilwa, Chunya and Mbarali districts. The test showed that there were highly ( $X^2 (3,110) = 22.01, p < 0.001$ ) statistically significant differences between the adaptive capacity of agro-pastoralists who had resettled in Kilwa and Chunya districts. The results suggested that the observed difference could be attributed to the ability of respondents to apply different adaptive strategies by accessing several capitals and institutional processes.



An ANOVA-F test was conducted to compare the contribution of different capitals to the adaptive capacity of resettled agro-pastoralists in Kilwa, Chunya and Mbarali districts (Table 24). The attribute of human capital differed significantly between the three districts ( $F(2,107) = 50.55, p = 0.012$ ). Human capital contributed less to adaptive capacity in Chunya District ( $M = 0.23$ ) and more to adaptive capacity in Kilwa and Mbarali districts ( $M_s = 0.31$  and  $0.36$  respectively).

Based on the results of ANOVA-F test, means of economic adaptive capacity ( $F(2,107) = 53.91, p = 0.001$ ), physical adaptive capacity ( $F(2,107) = 123.46, p = 0.025$ ), natural adaptive capacity ( $F(2,107) = 116.62, p = 0.031$ ) and transforming structures ( $F(2,107) = 12.14, p = 0.005$ ) in the three districts had a very strong statistically significant difference.

Economic capital contributed more adaptive capacity in Mbarali District ( $M = 55$ ) and less in Kilwa and Chunya districts ( $M_s = 0.38$  and  $0.28$ , respectively). In FGDs it was noted that in Mbarali District the majority of resettled pastoralists had access to financial institutions. Physical capital made a greater contribution to adaptive capacity in Mbarali and Kilwa districts but much less so in Chunya District (Table 24). Adaptive capacity was greatly contributed to by natural capital in Kilwa and Chunya districts. There was plenty of land for grazing and cultivating in these two districts, which increased their animal and plant productivity. Resettled agro-pastoralists in Mbarali District had minimal access to cultivating and grazing land.

Regarding the contribution of social capital to adaptive capacity, the results showed that there was no statistical difference between means in the three districts ( $F(2,107) = 1.08, p = 0.172$ ). From this finding it shows that even if pastoralists were relocated to different

areas, most of them would be able to maintain their kinship networks. Social networks were very important for resettled pastoralists in the early days of resettlement. Through social networks they got financial support, market information and food from their relatives.

**Table 24: State of adaptive capacity (n=110)**

| Capitals                   | District |      |        |      |         |      | F-     | P-Value |
|----------------------------|----------|------|--------|------|---------|------|--------|---------|
|                            | Kilwa    |      | Chunya |      | Mbarali |      |        |         |
|                            | (n=40)   |      | (n=30) |      | (n=40)  |      |        |         |
|                            | Mean     | SD   | Mean   | SD   | Mean    | SD   |        |         |
| Human                      | 0.31     | 0.12 | 0.23   | 0.66 | 0.36    | 0.17 | 50.55  | 0.012   |
| Social                     | 0.73     | 0.23 | 0.70   | 0.21 | 0.78    | 0.12 | 1.80   | 0.172   |
| Economic                   | 0.38     | 0.19 | 0.20   | 0.15 | 0.55    | 0.19 | 53.91  | 0.001   |
| Physical                   | 0.56     | 0.14 | 0.18   | 0.13 | 0.67    | 0.12 | 123.46 | 0.025   |
| Natural                    | 0.75     | 0.14 | 0.83   | 0.10 | 0.29    | 0.22 | 116.62 | 0.031   |
| Transforming<br>Structures | 0.13     | 0.16 | 0.19   | 0.14 | 0.31    | 0.17 | 12.14  | 0.005   |

#### **4.7 Determinants of Adaptive Capacity of Resettled Pastoralists (findings which explain the adaptation theory)**

The fifth objective of this study was to analyze the determining elements of agro-pastoralists' adaptive capacity in the respective resettlement areas. Existing institutions, resources and service providers were mapped. The managerial and political set-up was identified and analyzed. FGDs involved agro-pastoralists, other stakeholders and key informants were interviewed.

##### **4.7.1 Existing institutions in the study area**

During the study, it was noted that religious institutions (38.2%) were among the drivers helping evicted livestock keepers adapt to the resettlement areas. This was social capital



mainly noted in Chunya (18.2%) and Kilwa (11.8%) districts (Table 25). The FGDs in Chunya District revealed that church leaders encouraged pastoralists to accept the changes they faced after the eviction process. Additionally, churches organized and facilitated pastoralists' gatherings to create awareness of issues such as land ownership and proper management of environment resources. Also, churches encouraged resettled agro-pastoralists to participate in decision-making processes on issues affecting their community, thereby linking them to the government. Since the resettlements were in remote areas, for example, Lualaje Village, the Evangelical Lutheran Church in Tanzania (ELCT) provided mobile clinics for children and pregnant women once every two weeks. The ELCT also established a preschool for resettled agro-pastoralists' children.

**Table 25: Existing institutions in the study areas (n=110)**

| Institution            | District |      |        |      |         |      |       |      |
|------------------------|----------|------|--------|------|---------|------|-------|------|
|                        | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|                        | n        | %    | n      | %    | n       | %    | n     | %    |
| Religious Institutions | 13       | 11.8 | 20     | 18.2 | 9       | 8.2  | 42    | 38.2 |
| Health Centres         | 34       | 30.9 | 27     | 24.5 | 36      | 32.7 | 97    | 88.1 |
| Political parties      | 18       | 16   | 1      | 0.9  | 13      | 32   | 11    | 29.1 |
| Financial Institutions | 3        | 2.8  | 5      | 4.5  | 16      | 14.5 | 24    | 21.8 |
| Village Governments    | 20       | 25.5 | 30     | 27.3 | 25      | 22.7 | 83    | 75.5 |

Population well-being is an important ingredient and determinant of adaptive capacity (WHO, 2003). Pastoral communities need to be healthy if they are to undertake different livelihoods activities. From the study, 88.1% of the respondents cited health centres as very useful institutions, which included dispensaries, health centres and mobile clinics, all of which mainly belonged to public and religious institutions. The respondents further remarked that the health service institutions had improved the health of resettled agro-pastoralists. One of the respondents said: *"after travelling for a long time in harsh*

*conditions in the course of shifting my animals from Mbarali to Lindi, on arrival, my condition had deteriorated. I attended a health centre and was diagnosed as suffering from chronic malaria. After treatment I recovered, became strong and proceeded with improving my livelihood in the new area*". Other services provided by health centres to resettled pastoralists were treating various common diseases, e.g. pneumonia and diarrhoea, immunizing children and caring for pregnant women.

Only 29.1% of the respondents pointed out that the presence of political parties as one of the drivers of adaptive capacity in their areas. This was mainly noted in Kilwa District (16%). During FGDs, it was noted that through one of the political parties it was easy for resettled agro-pastoralists to negotiate with government leaders in order to be allocated a good area for resettlement.

About 38.1% of respondents, 19.1% and 14.5% from Kilwa, Mbarali and Chunya districts, respectively, mentioned financial institutions as having given major support for adapting to a new life after eviction. One of the respondents in Mbarali commented: "*After losing all my animals while on transit to Lindi, I decided to return to Mbarali District to begin a new life*". He joined the Madabaga Rice growers SACCOS (MRGS), where he obtained a loan to start rice farming. Through selling rice, he was able to rebuild his livestock herd. During the study, he owned 10 cattle, a large proportion of which were oxen (Case: 6).

### Case 6: Role of SACCOS in agro-pastoralist resettling

*Following the eviction process, his father gave 60 cattle to Mr. Kilatu. His elder brother Matunda who already was in Lindi was given 120 cattle. Kilatu moved from Mbalari along the Njombe-Ruvuma highway. He drove his cattle on foot and upon arrival at Madaba area after passing Wanging'ombe district many of his livestock died. Upon reaching Madaba he had already lost 40 cattle (equivalent to a 67% loss).*

*To rescue the situation, Kilatu decided to sell the remaining livestock at a loss. He sold each animal for a maximum of Tzs 35,000. The little money he made enabled him to travel back to Mabadaga village in Mbarali district where he started a new life. To regain strength he decided to join the Mabadaga Rice Growers SACCOS. He bought shares and from these shares he secured a loan which enabled him to invest in a rice-growing project.*

*The weather was unfavourable for rice production with the result that the rice yield was poor. Kilatu decided to sell the little rice produce he managed to harvest and buy a few oxen. At the time of the study he owned five pairs of healthy oxen. His target was to struggle further to get more than 20 cattle.*

During the study, 21.8% of the respondents pointed out those financial institutions were some of the existing organizations in the village. The financial institutions mainly reported in Mbarali District (14.5%). During the discussion a strong SACCOS was mentioned to exist in Madibira and Mabadaga wards, which supports some of the victims of eviction through providing loans for agro-based activities. However, during the FGDs, it was found that most agro-pastoralists were unaware of these financial institutions and how they operated.

Most of the respondents (75%) mentioned the village government as an important institution in adapting to new life after the eviction process. They said the village government was mainly linked to higher authorities, such as the Department of Agriculture and Livestock Development and the District Executive Director (DED). Through these authorities, they acquired land for grazing animals and carrying out agricultural activities.

Through these authorities, in collaboration with the village government, pastoralists accessed livestock services such as animal dips and dams. For instance, during the study a new cattle dip was being finalized at Matandu and Kiranjeranje villages, which enabled resettled agro-pastoralists to properly manage their animals and increase herd sizes, thereby improving their adaptive capacity in the resettlements.

During the survey, it was noted that some activities that were implemented at village level required the approval of higher authorities. For instance, 41.1% of the respondents mentioned that they required a permit to transport animals from one place to another, especially out of the village. A permit was either obtained from the village government or Department of Agriculture and Livestock Development. In order to buy a piece of land in a village, even if an individual owns land, 16.4 % of the respondents confirmed that permits were acquired from the village government. This mainly applied in Mbarali District (7.7%). Mbarali District is where respondents lost their land through it being confiscated by the government. Rather than continuing to rent land for farming most of the respondents decided to purchase land from neighbours who permanently own land given by their relatives.

As observed above, the village government was crucial in facilitating the adaptive capacity of resettled pastoralists. It was found that 67% of the respondents agreed that their village leadership was good. On the contrary, 31.8% of the respondents were dissatisfied with their village leadership (Table 26). In the FDGs, it was noted that livestock keepers were not involved in decision making concerning activities carried out in the village, sometimes even those that directly affected their day-to-day life.

Historically, the tendency of excluding pastoralists from decision making has been noted; pastoralists have frequently been socially, politically and economically marginalized. Kipuri and Sorensen (2006) and Walsh (2007) described how colonial and post-colonial policies marginalized pastoralists. Most of the policies were and still are based on the underlying notion that pastoralism does not involve the efficient use of land. Mattee (2007) noted the limited engagement of pastoralists in NGOs and CBOs during the policy preparation process. Many pastoral communities have remained in a state of despair and totally disengaged from the political participation process.

**Table 26: The perception of pastoralists on village leadership (n=110)**

| Quality of Leadership | District |      |        |      |         |      |       |      |
|-----------------------|----------|------|--------|------|---------|------|-------|------|
|                       | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|                       | n        | %    | n      | %    | n       | %    | n     | %    |
| Very good             | 0        | 0    | 0      | 0    | 1       | 0.9  | 1     | 0.9  |
| Good                  | 30       | 27.3 | 13     | 11.8 | 31      | 28.2 | 74    | 67.3 |
| Bad                   | 10       | 9.1  | 17     | 15.5 | 8       | 7.3  | 35    | 31.8 |

#### 4.7.2 Adaptation technologies

The term “technology” has been defined as “a piece of equipment, technique, practical knowledge or skills for performing a particular activity (Bailet, 2012). Adaptation technologies can thus be defined as “the application of technology in order to reduce the vulnerability, or enhance the resilience, of a natural or human system to the impacts of eviction” (CIDSE/CARITAS, 2009). The following technologies/ skills were identified during the study.

##### 4.7.2.1 Skills in oxenization

The results from the current study revealed that 90.9 % of the respondents were skilled in oxenization (Table 27). They used oxen to cultivate farms and deliver farm-based

products. Through the use of oxen, pastoralists were able to cultivate larger areas. Crops were mainly utilized for food and as a source of income after selling the surplus. Cultivation of large farming areas was observed in Kilwa (34.7%) and Chunya (35.5%) districts. Resettled agro-pastoralists were allocated relatively large areas in Kilwa and Chunya districts. Agricultural extensification is one type of livelihood strategy (Scoones, 2008). Skills in agricultural production among evicted pastoralists were one of the key drivers of adaptive capacity in the resettlements.

In their studies, Lynn (2010) and Bee *et al.* (2002) found that the Maasai, who are classified as pure pastoralists, were becoming agro-pastoralists. Most of their households are engaged in small and large-scale crop farming. They started farming as an adaptive strategy after realizing that keeping livestock only was no longer a sustainable occupation. They further realized that changes in government policy do not favour pastoralism and neither do climatic changes (Lynn, 2010).

**Table 27: Distribution of respondents according to knowledge and skills (n=110)**

| Skills   | District |      |        |      |         |      |       |      |
|--|----------|------|--------|------|---------|------|-------|------|
|  | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|  | n        | %    | n      | %    | n       | %    | n     | %    |
| Skills in oxenization                                      | 34       | 30.9 | 30     | 27.3 | 36      | 32.7 | 100   | 90.9 |
| Knowledge on how to use traditional herbs to treat animals | 33       | 30   | 22     | 20   | 7       | 6.4  | 62    | 56.4 |
| Knowledge on how to protect animals from diseases          | 25       | 22.7 | 27     | 24.5 | 5       | 4.5  | 57    | 51.8 |
| Knowledge how to construct a local dam                     | 7        | 6.4  | 12     | 10.9 | 0       | 0    | 19    | 17.3 |
| Good Management of crop production                         | 8        | 7.3  | 15     | 13.6 | 22      | 20   | 45    | 40.9 |
| Skills in animal business/trade                            | 14       | 12.7 | 11     | 10   | 12      | 10.9 | 37    | 33.6 |



#### 4.7.2.2 Knowledge on how to protect animals from diseases

From the findings, 56.4% of the respondents reported that they had indigenous knowledge, such as using traditional herbs to treat their animals (Table 27). They agreed that this knowledge saved a good number of animals, especially during the eviction process. During their transit to new areas, they passed through thick forests where they obtained useful herbs. During the FGDs, they reported that they identified some useful medicinal plants for treating common diseases, such as black-quarter, East coast fever and diarrhoea, especially in calves. The knowledge was still useful in the resettlement areas. It was also clear from Table 25 that 51.8% of the respondents knew how to protect animals against different diseases. During and after eviction most pastoralists could not afford veterinary drugs, and so they resorted to using herbs. This enabled them to adapt to the resettlement areas. During and after eviction, because they could not purchase veterinary drug, this therefore made it easy for them to settle in the new areas.

Before eviction, they had learnt from veterinary officers what drugs would protect their animals from different diseases. One of the respondents reported that, “While in transit and after resettlement we used to send one of our family members to town to purchase veterinary drugs for treating or protecting animals from tick diseases. This was done because the dips constructed by the government were still not operational” (case 7).

#### Case 7: Skills and knowledge on how to treat animals

*Knowledge on how to use local herbs to control some common livestock diseases saved some of the evicted pastoralists from completely losing their livestock. While in transit to the designated resettlement areas, they managed to identify some herbs to control diseases, such as Trypanosomiasis (a disease transmitted by tsetse flies). For cases that are more complicated, they opted for recommended drugs such as Samorin and other antibiotics. They used to assign one family member to travel to a nearby town to purchase specific drugs. They managed to treat sick animals based on the knowledge gained from extension staff while living in Madibira.*

#### **4.7.2.3 Crop production**

From the study, the results indicated that 40.9 % of the respondents, 20% in Mbarali and 13.6% in Chunya districts, had good skills for managing crop production process. These skills included land preparation and the use of agricultural inputs such as improved seeds, fertilizer and herbicides. The respondents who opted to settle in Mbarali District reported that, due to land scarcity after losing land in their former areas of residence, the skill enabled them to intensify crop production. They further mentioned that even with a small acreage they could get good yields through improved crop management.

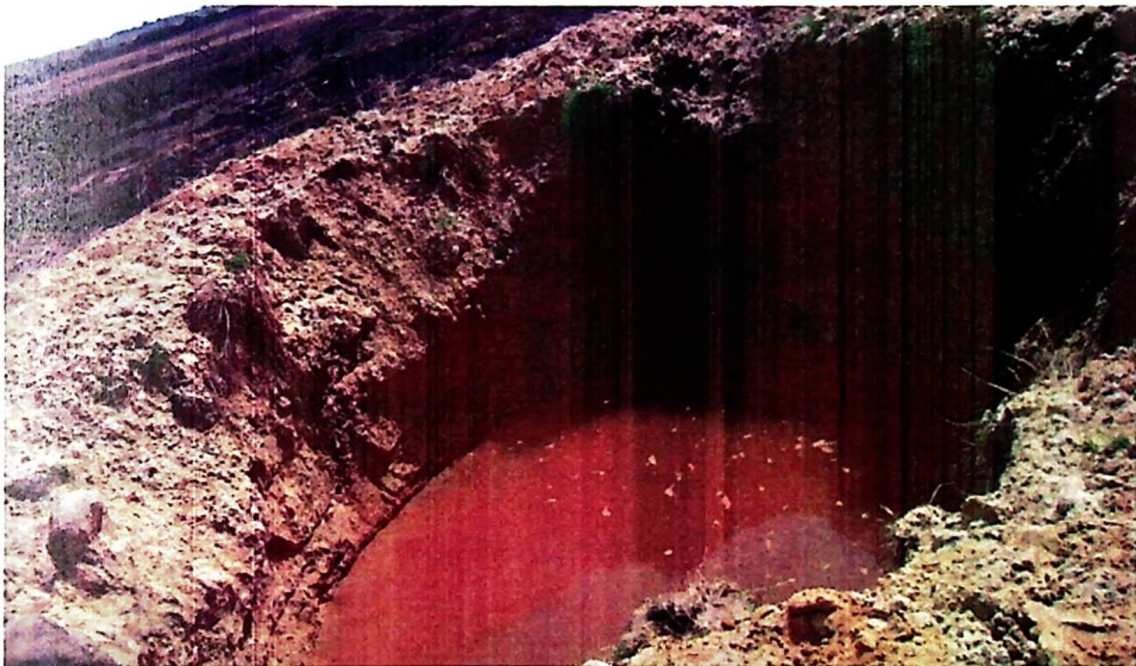
#### **4.7.2.4 Skills in animal marketing**

One of the skills of evicted pastoralists was being able to sell live animals (33.6%) (Table 27) to markets as far as away as Dar-es-Salaam, where, because they had strong bargaining power, they could negotiate better prices that could pay for the cost of raising, managing and transporting animals. About 97.7% of the respondents were able to obtain market information on their mobile phones. They shared this information with friends and relatives located in different places in Tanzania.

#### **4.7.2.5 Knowing how to construct a local dam**

From the study, it was established that 6.4 % of the respondents in Kilwa and 10.9% in Chunya districts knew how to locate underground water sources and construct local dams. They were capable of identifying or locating underground water by observing existing plant species in the area so that they knew that by boring through the earth they were likely to get water. Some plant species were identified by the respondents including; “Miwengi” Water berry tree (*Syzigium species*) and “Makuyu” in Kisukuma or “Mikuyu” in Kiswahili (*Ficus sychomorus*).

Indigenous knowledge was crucial for adapting to new areas. In other areas, they had no other source of water such as a river or water from a well. By locating underground water sources, it helped them to survive although the water was largely unsafe for family use (Plate 2). Indigenous knowledge was the basis for local-level decision making concerning agriculture, health care, food preparation, education, natural-resource management and a host of other activities in rural communities (Gupta, 2012).



**Plate 2:** A locally constructed well at Miteja Village in Kilwa District

#### **4.7.3 Social institutions**

From the study, it was observed that the culture and traditions of the respondents played a major role in their adapting to resettlement in the new areas. Table 28 shows the culture/traditions and their role in adapting new areas.

**Table 28: Culture that helped pastoralists adapt after eviction (n=110)**

| Culture/traditions       | District |      |        |      |         |      |       |      |
|--------------------------|----------|------|--------|------|---------|------|-------|------|
|                          | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|                          | n        | %    | n      | %    | n       | %    | n     | %    |
| Extended families        | 40       | 36.4 | 30     | 27.3 | 40      | 36.4 | 110   | 100  |
| Use of traditional herbs | 37       | 33.6 | 28     | 25.5 | 17      | 15.5 | 82    | 74.5 |
| Kinship networks         | 37       | 33.6 | 29     | 26.4 | 40      | 36.4 | 106   | 96.4 |
| Traditional dances       | 34       | 30.9 | 24     | 21.8 | 36      | 32.7 | 94    | 85.5 |

#### 4.7.3.1 Extended families

All (100%) of the respondents mentioned that extended families were very important in helping them to cope and adapt after the eviction process. They also reported that, with extended families, it was easy for them to assist each other with activities such as farming large areas, which required a lot of manpower for weeding, harvesting crops and grazing animals. However, the study found that children at the age of attending school were engaged in grazing animals instead of attending school.

#### 4.7.3.2 Traditional dances

Most of the respondents (85.5%) mentioned traditional dances as a most important tradition (Table 28). They emphasized that traditional dances united them and provided emotional support during troubled times. Such traditional dances took place during crop farming such as land preparation, wedding ceremonies and during off-season ceremonies when the majority of people gathered from different parts of the country to share food and locally prepared brew and other drinks. Traditional dances also facilitated the majority of families in familiarizing themselves with the new environment and its associated challenges, as well as providing emotional support to pastoralists after moving into new areas.



#### 4.7.3.3 Pastoralists' networks

Pastoralists' networks were strong among the respondents (96.4%) (Table 29), which was another important tradition for improving the adaptive capacity of resettled agro-pastoralists. The majority of respondents (94.4%) were of the opinion that the network assisted them in establishing a new life in the resettlement areas. This was observed during the eviction process whereby the risk of losing animals was minimized while in transit to Chunya District or Lindi Region. The risk was also minimized through allocating animals to close relatives who had already had resettled in different places in Tanzania. Moreover, 96.4% of the respondents said the networks assisted agro-pastoralists with financial support. They further mentioned that, during the early days of resettlement, it was impossible to sell animals as most of their animals were weak and farm produce was limited. Most agro-pastoralists received financial support from relatives in other resettlements, such as Pawaga in Iringa Region, Morogoro, and other regions (Case 8; Table 29). Not only was there financial support but also the networks were used to disseminate information, enforce norms and facilitate trade.

#### Case 8: Pastoralists' networks assisting adaptive capacity

*Mr. Juma made the following confession that: life at Miteja village would have been difficult without the presence of earlier resettled family members to support the incoming evicted pastoralists. For instance, in Pawaga Village in Iringa Region they had their father who had been farming in the area for 15 years. Upon their arrival at Miteja Village their father provided them with Tzs 2 000 000 which they spent on purchasing a few cattle to raise new stock.*

*After resettlement now they can afford to grow food on their own and deliver a portion of their harvest to support their aged parents in Mbarali District. In addition, they have encouraged some of their families from Mbarali to join them in Miteja Village following the assurance of food security.*

These findings concur with Nombo (2007), who reported that social networks were vital for individuals and households in achieving a secure livelihood. It is often assumed that

extended families provide members with social security and sometimes support for economic activities. Sometimes an individual or household may commit resources to supporting vulnerable kin members, not because they expect to be reciprocated in the future but because of social norms. These gifts of animals given to vulnerable kin members consolidate kinship relations (Trautman, 2008; Maximillan, 2004).

**Table 29: How culture/traditions enabled pastoralists to adapt to new areas  
(n=110)**

| Importance of Culture/traditions         | District |      |        |      |         |      |       |      |
|--|----------|------|--------|------|---------|------|-------|------|
|  | Kilwa    |      | Chunya |      | Mbarali |      | Total |      |
|  | n        | %    | n      | %    | n       | %    | n     | %    |
| Supporting crop cultivation              | 40       | 36.4 | 30     | 27.3 | 40      | 36.4 | 110   | 100  |
| Supporting each other in grazing animals | 37       | 33.6 | 28     | 25.5 | 17      | 15.5 | 82    | 74.5 |
| Moral support during ploughing           | 37       | 33.6 | 29     | 26.4 | 40      | 36.4 | 106   | 96.4 |
| Financial support                        | 34       | 50.9 | 24     | 21.8 | 56      | 32.7 | 94    | 85.5 |
| Food security support                    | 23       | 20.9 | 25     | 22.7 | 24      | 21.8 | 72    | 65.5 |
| Helping diversify risks                  | 37       | 33.6 | 28     | 25.5 | 39      | 35.5 | 104   | 94.5 |

#### **4.7.4 Role of Government and NGOs in agro-pastoralists' resettlement**

Based on the FGDs, key informant interviews and the mapping of resources and NGOs, it was noted that government policies made a major contribution to the adaption of resettled pastoralists. The Ministry of Livestock and Fisheries Development is fully responsible for putting these policies in place. To ensure the success of the eviction process and resettlement, the same Ministry was supposed to prepare effective policies for after the eviction process.

During the study, it was observed that the Department of Livestock and Fisheries Development in Kilwa District had constructed three dips and six charcoal dams in six



villages, respectively. It was further noted that four charcoal dams were operating while the dips were being finalized. In Kilwa at least extension services were available in all the villages in which the pastoralists were being resettled. Despite the above specified preparations, the lack of clear boundaries for the areas allocated for incoming pastoralists was one of the key challenges.

On the other hand, in Chunya District quite a number of essential services such as extension services in the resettlement areas were lacking. However, TANAPA in Luwalanje Village had established a windmill in collaboration with the Ministry of Livestock and Fisheries Development. The areas for evicted agro-pastoralists had been allocated but the marking of boundaries had still not been done.

It was evident that, during the meetings that involved making crucial decisions on pastoralist issues, such as their wellbeing, pastoralists were not involved. Confiscating pastoralists' grazing areas and converting them into national parks under TANAPA is one of the decisions made without the participation or representation of pastoralists. To resolve this, agro-pastoralists have established working associations, which focus on organizing pastoralists to demand their right to collaborate with other associations, such as PINGOS, an umbrella association that harmonizes and unites all livestock-keeping associations from different regions in the country. Despite the existence of such associations, the capacity to unite pastoralists in establishing supportive policies to defend their rights was still lacking.

## CHAPTER FIVE

### 5.0 CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusions

Although the government found it necessary to evict pastoralists from the Ihefu Basin, yet from the present study it was evident that the government and its institutions had insufficient preparation to accomplish the eviction process. The decision was made swiftly with no regard of the existing policies and consultative decision making.

Most of the resettled agro-pastoralists had a negative attitude to the whole eviction process. Although there was agreement on the need for eviction from Mbarali District, most agro-pastoralists were unhappy with the exercise due to fact that the government conducted the process in such a harsh way. That is, if enough time were given to prepare for the move, it was possible to reduce household vulnerability due incurred loss during the eviction process.

Based on the study, changes in livelihoods among resettled agro-pastoralists were evident. Although majority of the resettled pastoralists suffered substantial loss of their animals during the eviction process, their creativity and capabilities enabled them of adopting new economic activities, which assisted in improving their wellbeing. The ability of agro-pastoralists to cope were based on the existing situation in the resettlement.

The resettled agro-pastoralists adopted different coping behaviours and livelihood strategies in order to adapt to the resettlement areas. These included rebuilding herds, agricultural extensification and sending family members to different evicted areas of the

country. Family division strategy enabled them to engage in different activities which improved their livelihoods through sharing income.

Based on the adaption theory, resettled agro-pastoralists had various ways of adapting, this had an attribute to ability to use different adaptive strategies and access several livelihood capitals and institutional processes. The agro-pastoralists who demonstrated high ability were considered to bear good adaptive capacity.

Availability of good pastures and water, organizations, different skills, culture and tradition were good drivers for pastoralists to adapt in the resettlement areas. The government and its institutions were important in enhancing adaptive capacity of the resettled agro-pastoralists.

## **5.2 Recommendations**

In view of the above conclusions, the following recommendations are made to different stakeholders for securing pastoral livelihoods in Tanzania. They include government leaders, policy makers, donors, and current and future pastoralists.

- i) Based on the study, failure by Government to have insufficient plans for proper implementation of the eviction process led to a substantial property loss of the resettled agro-pastoralists. The following are recommended ;
  - a) Government and its institutions should establish sufficient plans for handling pre and post resettlement plans. This includes compensation of property loss such as cost of land, animals and other assets before and after eviction. Preparations should be made on how the exercise should be implemented; covering both eviction and the resettlement areas, and the host communities

where pastoralists will be resettled should be properly prepared to receive them.

- b) Pastoralists should be part of the decision-making process especially issues affecting livelihoods. This will create positive attitude among pastoralists and the Government and facilitate strategies for improving their livelihoods. Also, enough awareness should be created among target community i.e. pastoralists on the importance of diversification in livelihoods sources and environmental management.
- c) Planning for the provision of economic and social services in the resettlement areas must take into account the needs of both the resettled pastoralists and host communities in order to minimize conflicts and ensure the success of the resettlement process. The resettlement plan should have an adequate budget to facilitate the whole resettlement process. The development of good plan should provide for the careful planning, consultation and coordination of stakeholders.
- d) Land tenure should properly be addressed. The government should reallocate land in the resettlement areas and set authentic boundaries in the places in which pastoralists are directed to resettle. This will give pastoralists the confidence that the land they own is protected, so that they can construct permanent houses and, in collaboration with the government, construct animal-based infrastructure such as cattle dips, charcoal dams and infrastructure for marketing animals and animal by-products, as well as having access to good pasture.

- e) Policymakers need to create an enabling institutional environment at national and local government level that is sensitive to the specific needs and constraints of pastoralists and will provide them with the authority to make decisions. Close attention should be paid to various laws and regulations governing the expropriation of pastoralist resettlements. National laws regarding the movement of animals should not be violated.
- ii) In order to improve the adaptive capacity of resettled pastoralists the following should be done:
- a) Infrastructure such as rural roads, rural water supply, schools, extension and veterinary services, markets and marketing information are important for reducing production costs and increasing the productivity of agriculture and livestock keeping. Good roads would facilitate the efficient distribution of factors of production and commodities to various outlets, while education, veterinary and extension services would improve production techniques and animal and farm productivity. The state has a duty to provide such things, not only to improve agricultural productivity and livestock keeping, but also to enhance non-farming economic activities.
  - b) The system of providing microcredit to resettled pastoralists has to be improved. According to its definition, microcredit involves the provision of small loans and other financial services (such as saving accounts, cash advance and insurance) for poor people, who do not qualify for formal credit as they lack credit history (European Commission, 2005). Thus, more effective credit financing institutions need to be established and well supported. Making microcredit accessible to resettled pastoralists would allow them to plan for the future and move out of poverty by increasing their earnings and savings, thereby reducing vulnerability.

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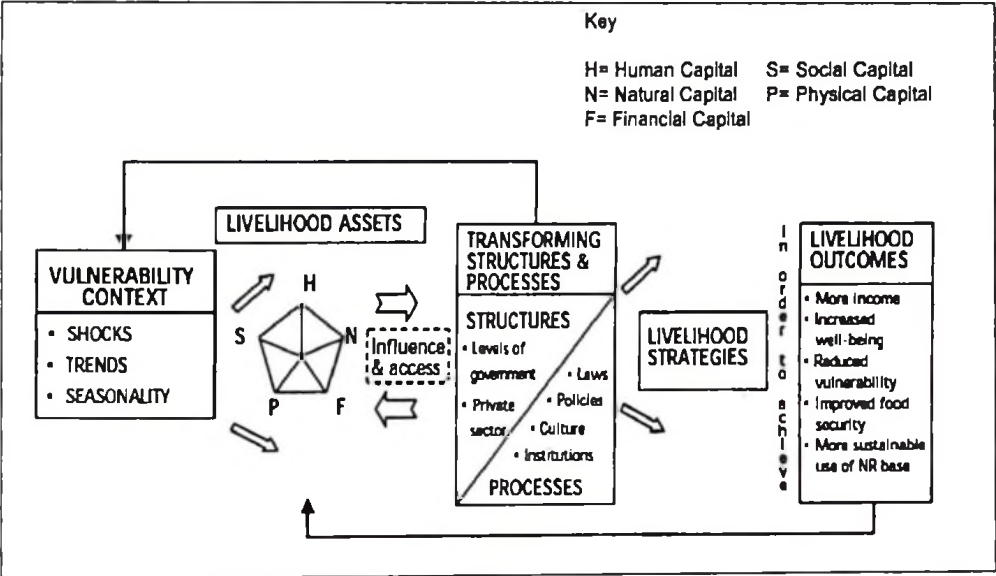
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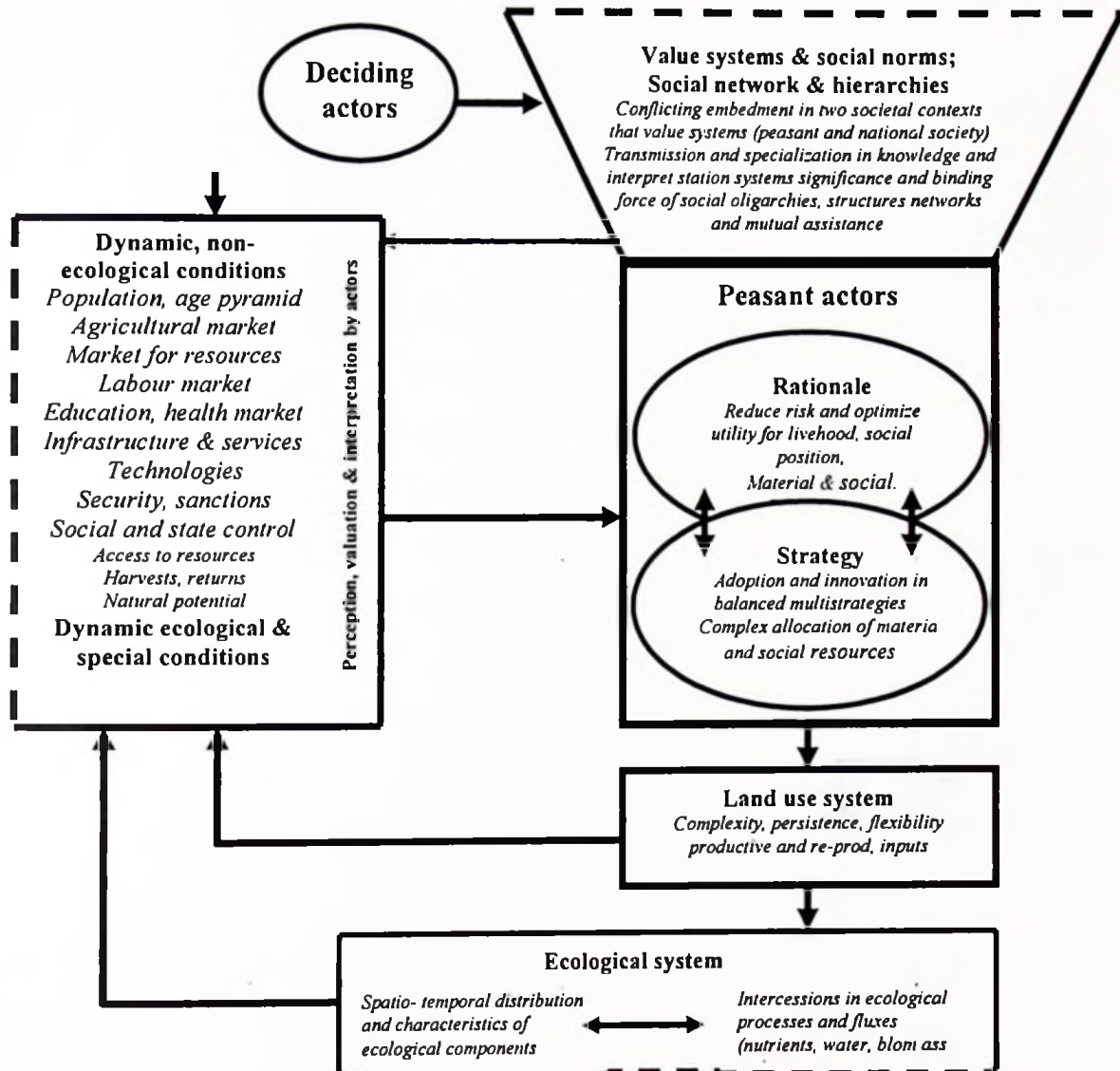
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APPENDICES

Appendix 1: DFID's Sustainable Livelihoods Framework



## Appendix 2: Actor-oriented model of smallholder areas in rural Africa



**Appendix 3: Villages in Kilwa District in which evicted pastoralists were assigned to  
resettle**

| S/N | DIVISION     | WARD                | VILLAGE      | LAND<br>SIZE<br>(HA) | PROPOSED<br>NUMBER OF<br>CATTLES | ACTUAL<br>NUMBER<br>OF<br>CATTLES | DEFICIT<br>OF<br>CATTLE<br>S |
|-----|--------------|---------------------|--------------|----------------------|----------------------------------|-----------------------------------|------------------------------|
| 1   | Miteja       | Kinjumbi            | Marendego    | 4 500                | 2 250                            | -                                 | 2 250                        |
| 2   | Miteja       | Kinjumbi            | Somanga      | 7 500                | 3 750                            | 2978                              | 772                          |
| 3   | Miteja       | Tingi               | Njia Nne     | 1 000                | 500                              | 6                                 | 496                          |
| 4   | Miteja       | Miteja              | Miteja       | 8 000                | 4 000                            | -                                 | 4 000                        |
| 5   | Pwani        | Kikole              | Kimbarambara | 8 000                | 4 000                            | -                                 | 4 000                        |
| 6   | Pwani        | Kivinje/Singi<br>no | Matandu      | 4 000                | 2 000                            | 1580                              | 420                          |
| 7   | Pwani        | Kivinje             | Nagurukuru   | 54 000               | 27 000                           | 8000                              | 26 200                       |
| 8   | Pande        | Mandawa             | Mavuji       | 6 000                | 3 000                            | 2300                              | 700                          |
| 9   | Pande        | Mandawa             | Kiwawa       | 10 000               | 5 000                            | -                                 | 5 000                        |
| 10  | Pande        | Mandawa             | Hoteli Tatu  | 12 000               | 6 000                            | -                                 | 6 000                        |
| 11  | Pande        | Mandawa             | Mandawa      | 10 000               | 5 000                            | -                                 | 5 000                        |
| 12  | Pande        | Kiranjerenje        | Mirumba      | 3 000                | 1 500                            | -                                 | 1 500                        |
| 13  | Pande        | Kiranjerenje        | Kiranjeranje | 6 000                | 3 000                            | 2640                              | 360                          |
| 14  | Pande        | Kiranjerenje        | Mbwemkuru    | 6 000                | 3 000                            | 2250                              | 750                          |
|     | <b>JUMLA</b> |                     |              | <b>149 000</b>       | <b>70 000</b>                    | <b>12 554</b>                     | <b>57 446</b>                |

Source: Department of Agriculture and Livestock Development, Kilwa District

(2010)

# Appendix 4: Household Questionnaire for Research on

## 1. CHANGING LIVELIHOODS AND ADAPTIVE CAPACITY OF IHEFU

### RESETTLED PASTORALISTS IN TANZANIA

(For resettled pastoralists in Chunya and Kilwa)

District ..... Region .....  
 Division ..... Ward .....  
 Village ..... Date of interview .....

#### 1: Household information in new resettled areas

1.1 

|         |           |
|---------|-----------|
| 1. Male | 2. Female |
|---------|-----------|

 Sex:

1.2 Age of respondents: .....

1.3 Marital status:

|            |            |             |           |
|------------|------------|-------------|-----------|
| 1. Married | 2. Widowed | 3. Divorced | 4. Single |
|------------|------------|-------------|-----------|

1. 4 Religion

|              |           |          |              |
|--------------|-----------|----------|--------------|
| 1. Christian | 2. Muslim | 3. Pagan | 4. Other.... |
|--------------|-----------|----------|--------------|

1.5 Education Levels:

|                        |
|------------------------|
| 1. Primary Education   |
| 2. Secondary education |
| 3. Adult Education     |
| 4. No formal education |

1.6 Number of children in the household .....



## 1.7 Age distribution of children

|                    |               |                |
|--------------------|---------------|----------------|
| 1. Less than 5 yrs | 2. 6 – 15 yrs | 3. Over 16 yrs |
|                    |               |                |

## 1.8 Children in

|                                 |  |
|---------------------------------|--|
| 1. Primary School: Number       |  |
| 2. Secondary school: Number     |  |
| 3. Beyond secondary school      |  |
| 4. Not attending school: number |  |

## 1.8.1 Reasons for not attending school:

1. ....
2. ....
3. ....
4. ....

## 1.9 Total number of household members: .....

## 1.10 What is your ethnicity /tribe.....

## 1.11 How long have you been living here? ..... (Number of years)

## 1.12 Why did you decide to live in this village?

|  |
|--|
| 1.the government directed us to come here                            |
| 2. I came here voluntarily to fetch water and pasture for my animals |
| 3. other (specify)   |

## 1.13 The main occupation of head of the household

|                |                     |           |                         |
|----------------|---------------------|-----------|-------------------------|
| 1. Pastoralist | 2. Agro-pastoralist | 3. Farmer | 4. Other (specify)..... |
|----------------|---------------------|-----------|-------------------------|

1.14 If keeping livestock, what type of animals do you keep?

| No. | Type of animal | Total number |
|-----|----------------|--------------|
| 1.  |                |              |
| 2.  |                |              |
| 3.  |                |              |
| 4.  |                |              |
| 5.  |                |              |

1.15 If crop farming, what crops do you grow?

| No | Type of crop | No. of bags per year |
|----|--------------|----------------------|
| 1. |              |                      |
| 2. |              |                      |
| 3. |              |                      |
| 4. |              |                      |
| 5. |              |                      |

1.16 Assets ownership (mention)

|   |              |        |       |
|---|--------------|--------|-------|
| 1 | 1. Plough    | 1. Yes | 2. No |
| 2 | 2. Oxen-cart | 1. Yes | 2. No |
| 3 | Mobile phone | 1. Yes | 2. No |
| 4 | Bicycles     | 1. Yes | 2. No |
| 5 | motorcycles  | 1. Yes | 2. No |
| 6 | Power tiller | 1. Yes | 2. No |
| 7 | Radio        | 1. Yes | 2. NO |

|   |                 |       |
|---|-----------------|-------|
|   | .....           | Acres |
| 8 | Other (specify) |       |

1.16.1 How much land do you own?

## 1.16.2 What type of residence do you own?

|                    |
|--------------------|
| 1. Permanent:      |
| 2. Semi-permanent: |
| 3. Temporary:      |

## 1.17 How did you acquire land?

|                 |            |              |                               |                             |
|-----------------|------------|--------------|-------------------------------|-----------------------------|
| 1.<br>Inherited | 2. Renting | 3.<br>Bought | 4. Allocated by<br>government | 4. Other (specify)<br>..... |
|-----------------|------------|--------------|-------------------------------|-----------------------------|

## 1.18 Type of house

|                             |  |
|-----------------------------|--|
| 1. Bricks with iron sheets; |  |
| 2. Bricks with grass roof;  |  |
| 3. Mud and grass roofed;    |  |
| 4. Other (specify);         |  |

## 1.19 Is it easy for you to access the following resources in your new area?

|                   |        |       |
|-------------------|--------|-------|
| good pastures     | 1. Yes | 2. No |
| water             | 1. Yes | 2. No |
| free disease area | 1. Yes | 2. No |
| dips              | 1. Yes | 2. No |
| markets           | 1. Yes | 2. No |
| veterinary clinic | 1. Yes | 2. No |
| water dams        | 1. Yes | 2. No |

**2. Please, what are your feelings on the pastoralists' eviction process?**

| Statement  | Strongly agree | Agree | Disagree | Strongly disagree |
|--|----------------|-------|----------|-------------------|
|  | 4              | 3     | 2        | 1                 |
| 1. The eviction of pastoralists from Ihefu was necessary for conserving environment                    |                |       |          |                   |
| 2. Pastoralists were adequately aware of the eviction process  |                |       |          |                   |
| 3. The preparation time for pastoralists' eviction was adequate  |                |       |          |                   |
| 4. The support provided to pastoralists before and during eviction was adequate                        |                |       |          |                   |
| 5. The preparations at the receiving areas were adequate   |                |       |          |                   |
| 6. Formal and informal institutions facilitated you to cope with and respond to threats and challenges |                |       |          |                   |
| 7. Life has improved after resettling in new areas   |                |       |          |                   |
| 8. Life has remained unchanged since resettling in new areas.  |                |       |          |                   |
| 9. In spite of eviction kinship relations have been maintained to date                                 |                |       |          |                   |

**3. Information on pre-eviction process**

3.1 How long had you been in Mbarali District: ..... (Number of years)

3.2 What was the household size (Total number of people in the household):

3.3 What was the number of children in the household?

3.4 Children in

- 1. Primary School: Number: .....
- 2. Secondary school: Number: .....
- 3. Beyond secondary school:.....
- 4. Not attending school: number:.....

3.5 What were the reasons for not attending school?

- 1. ....
- 2. ....

3.6 What was the main occupation of the household head?

|                |                     |           |                         |
|----------------|---------------------|-----------|-------------------------|
| 1. Pastoralist | 2. Agro-pastoralist | 3. Farmer | 4. Other (specify)..... |
|----------------|---------------------|-----------|-------------------------|

3.7 If you were keeping livestock, what type of animals did you keep?

| No. | Type of animal | Total number |
|-----|----------------|--------------|
| 1.  |                |              |
| 2.  |                |              |
| 3.  |                |              |
| 4.  |                |              |
| 5.  |                |              |

3.8 If you grew crops, which crops did you grow?

| No. | Type of crop | No. of bags per year |
|-----|--------------|----------------------|
| 1   |              |                      |
| 2   |              |                      |
| 3   |              |                      |
| 4   |              |                      |

3.9 What is your approximate monthly income?

|  |     |
|--|-----|
|  | Tzs |
|--|-----|

3.10 Assets ownership (mention)

|   |                 |        |       |
|---|-----------------|--------|-------|
| 1 | Plough          | 1. Yes | 2. No |
| 2 | Oxen-cart       | 1. Yes | 2. No |
| 3 | Mobile phone    | 1. Yes | 2. No |
| 4 | Bicycles        | 1. Yes | 2. No |
| 5 | motorcycles     | 1. Yes | 2. No |
| 6 | Power tiller    | 1. Yes | 2. No |
| 7 | Radio           |        |       |
| 8 | Others(specify) |        |       |

3.11 How much land did you

|       |       |
|-------|-------|
| ..... | Acres |
|-------|-------|

own?

3.12 How did you acquire land?

|                 |            |              |                               |                         |
|-----------------|------------|--------------|-------------------------------|-------------------------|
| 1.<br>Inherited | 2. Renting | 3.<br>Bought | 4. Allocated by<br>government | 4. Other (specify)..... |
|-----------------|------------|--------------|-------------------------------|-------------------------|

3.13 Did you experience any land and water

|        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

shortage?

3.14 If yes, what coping strategies did you apply to deal with those shortages?

-----

-----

3.15 How did you get information on eviction from Mbarali district?

|                                   |                   |                     |                          |
|-----------------------------------|-------------------|---------------------|--------------------------|
| 1. Through government<br>leaders: | 2. Mass<br>media: | 3. Local<br>leaders | 4. Other (specify):..... |
|-----------------------------------|-------------------|---------------------|--------------------------|



3.16 Did the government provide guidance on where you were to resettle after leaving Mbarali

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

3.17 If yes, which areas were specified as the resettlement sites?

1. Lindi
2. Mtwara
3. Chunya
4. Other (specify).....

3.18 What preparations did your household make before eviction?(family, animals, assets, land etc)-----  
-----

3.19 Did you get any support for this from the government?

|        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

3.20 If yes, what support did you get from the government?

1. ....
2. ....
3. ....

**4. During the eviction process**

4.1 Did you move at once with all members of your household?

|        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

4.2 If not, why did you leave other members behind?

1. -----
2. -----
3. -----

4.3 Did you move with all your animals?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

4.4 If not, why and where did you leave your animals?

1. -----

2. -----

3. -----

4.5 What means did you use to transfer your animals from Mbarali to this new area?

1. by truck

2. on foot

3. 1 & 2

4.6 Any other losses you encountered during the eviction process?

1. -----

2. -----

3. -----

4.7 Did you receive any support from the government to mitigate the specified losses?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

4.8 If yes, what assistance did you receive?

1. ....

2. ....

3. ....

4.9 Upon arrival in the resettlement, did you find any preparations had been made?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

4.10 If yes, mention some preparations that were made in the resettlement area

1. ....

2. ....

3. ....

## 5. Strategies for coping with shocks and stress caused by the eviction process

5.1 How did you cope with such losses?

1. ....

2. ....

3. ....

5.2 Which means assisted you in coping in this new area?

.....

.....

## 6. The pastoralists' livelihoods after eviction

6.1 What are the main sources of income in your village now?

1. Selling milk

2. Selling cattles

3. Selling farm crops

4. Others (specify)

6.2 What is your approximate monthly income?

|  |     |
|--|-----|
|  | Tzs |
|--|-----|

6.3 Is it the same as in your former area?

|        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

If not, which sources of incomes have changed?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

6.4 Are these sources of income as important now as they were in your former area?

|        |       |
|--------|-------|
| 1. Yes | 2. No |
|--------|-------|

6.5 If not, why not?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

6.6 What are the common new activities which either were rare or did not exist in your former areas?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

6.7 How has life changed since eviction?

- 1. Is improving
- 2. Is worse
- 3. Unchanged

6.8 If life is worse, what are the main reasons for this?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_

6.9 If life is improving, what are the main factors contributing to this?

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

6.10 Was it easy for you to access the following resources in your former area?

|                      |        |       |
|----------------------|--------|-------|
| 1. good pastures     | 1. Yes | 2. No |
| 2. water             | 1. Yes | 2. No |
| 3. disease-free area | 1. Yes | 2. No |
| 4. dips              | 1. Yes | 2. No |
| 5. markets           | 1. Yes | 2. No |
| 6. veterinary clinic | 1. Yes | 2. No |
| 7. dams              | 1. Yes | 2. No |

6.11 Do you think it is easy for you to access land for cultivation in this new area?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

6.12 Is it easy for you to have access to forest and forest products  
(fuel wood, timber, etc)?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

6.13 Is it easy for you to access water for agricultural and domestic  
use?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

6.14 Is it easy for you to access grazing land for your animals?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

6.15 Are you experiencing any loss of kinship networks in the  
resettlement area?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

6.16 If yes or no, how are you managing to maintain or recover your kinship networks?

|   |
|---|
| 1. Visiting each other                    |
| 2. communicating through mobile phones    |
| 3. Joining together at wedding ceremonies |
| 4. Other (specify)                        |

7.     **Influence of institutions on livelihoods**

7.1     What would you comment on village leadership?

|              |         |        |             |
|--------------|---------|--------|-------------|
| 1. Very good | 2. Good | 3. Bad | 4. Very bad |
|--------------|---------|--------|-------------|

7.2 Are there particular activities in the village which require a special permit to accomplish?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7.3 What are those? For such activities, can you specify a person, organization or institution that is responsible for granting permits or issuing licences?

| Institutions | Activity |
|--------------|----------|
|              |          |
|              |          |

7.4     Is it easy to access permits or licences from the above institutions?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7.5     If no, what are those difficulties?

1.-----

2.-----

3.-----

7.6 Please, can you list the organizations in the village?

1. ....

2. ....

3. ....

4. ....



7.7 Among the village organizations /institutions, which one is more useful for improving the living standards of people?

1. ....
2. ....
3. ....

7.8 What is the organization doing to help people achieve better standard of living?

1. ....
2. ....
3. ....

7.9 What can you comment on the price of farm inputs (e.g. Land rents, ploughing services, seeds, fertilizer, pesticides and veterinary medicine)

|         |            |       |
|---------|------------|-------|
| 1. High | 2.Moderate | 3.Low |
|---------|------------|-------|

7.10 Do you have access to grazing land for your animals?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7.11 Is there an adequate market for your livestock and livestock by-products?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7.12 If not, how do you market your livestock and products?

1. ....
2. ....
3. ....

7.13 Do you have access to extension services?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7.14 Do you have access to credit societies for improving your product?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7. 15 Are you linked to any organization which can assist you?

|        |      |
|--------|------|
| 1. Yes | 2.No |
|--------|------|

7. 16 What adaptive strategies have you been using to improve your livelihood in this resettlement area?

- 1. ....
- 2. ....
- 3. ....

8. Action and behaviour

8.1 What actions were used to facilitate the creation of resources for recovering from resettlement shocks?

- 1. ....
- 2. ....
- 3. ....

8.2 What technologies have been used to help you to cope with resettlement shock and stress?

- 1. ....
- 2. ....
- 3. ....

8.3 As a pastoralist/agro pastoralist what traditions/culture have you been practising?

|                      |
|----------------------|
| 1. extended families |
| 2.Traditional dances |
| 3. kinship networks  |
| 4. other (specify)   |

8.4 How have these traditions and culture helped you cope with resettlement shock and stress in the new area?

8.4.1 If it is extended family.....

8.4.2 If it is traditional dances?

.....

8.4.3 If it is kinship networks?

.....

**Appendix 5: Interview Guide for Government Leaders, Policy Makers and NGO****Officers**

1. What were the reasons for the pastoralists' eviction?
2. Was the eviction of pastoralists from Ihefu necessary?
3. What were the policies that allowed pastoralists to inhabit the Ihefu valley?
4. What are the necessary plans for displacing pastoralists from one area to another?
5. What are the policies guiding pastoralists in the country?
6. How long have these policies been in practice?
7. How did these policies facilitate the eviction process such as from Ihefu valley?
8. What preparations were made for pastoralists and their animals before eviction?
9. What preparations were made by the government in areas where pastoralists were directed to resettle?
10. Was there any budget set by the government to facilitate the eviction process?
11. How were the pastoralists prepared for the eviction process?
12. What procedures were used to evict pastoralists?
13. Who were the main actors during the eviction process?
14. What was the condition of livestock infrastructure at the receiving area?

### Appendix 6: Interview guide for Life Histories

1. How long you have been in Mbarali District? .....(Number of years)
2. What was your occupation before being evicted from Mbarali District?.....  
.....  
.....
3. What was your income before being evicted from Mbarali District?.....
4. Would you explain how the eviction process was undertaken from the time you first received information on the exercise, the actual eviction process until the position you are now in.....  
.....
5. Can you explain what challenges you faced during the whole eviction process from Mbarali District.....
6. Explain what differences in life status you experienced before and after the eviction process or what differences you experienced in life status due to the eviction process.....  
.....
7. What were the useful means before the eviction process that enabled you and your family to live successfully and what means did you adopt after the eviction process.....

### **Appendix 7: Questions for guiding focus group discussions**

1. Were pastoralists were aware of the eviction operation?
2. Was the information regarding eviction adequate for different stakeholders?
3. Was the preparation time for evicting pastoralists adequate?
4. Was the assistance given to pastoralists before and during eviction adequate?
5. Was the eviction process done in a smooth way?
6. Were any preparations made in the receiving areas?
7. What stresses and shocks did pastoralists face during and after the eviction process?
8. How did resettled pastoralists respond to resettlement shocks and stress and how did they behave?
9. What abilities and actions are facilitating them to access different assets in the new areas?
10. What is the main source of income? Is it the same as before eviction?
11. What new activities are common now, those that were rare or did not exist before?
12. How important are these new activities now for the income of pastoralists?
13. What things have got worse since resettlement?
14. What things have improved?
15. What main agricultural/livestock problems have you faced since resettlement?
16. How do you manage the various risks in the new area?
17. How are you adapting to the social process?
18. How are you adapting to economic activities?
19. How is land distributed into various activities?
20. What is the extent of diversification of income portfolio?



21. How do formal and informal institutions help you cope with and respond to threats and challenges?
22. What livelihood resources are required for a different livelihood strategy?
23. How have the political powers facilitated the adaptive mechanism?
24. Is there any access to financial institutions?
25. What technologies are used improve your performance of pastoralists in the new areas?
26. Is the information you are given adequate?

**Appendix 8: Number of animals transferred from Mbarali District between August, 2006 and May, 2007**

## **HALMASHAURI YA WILAYA YA MBARALI**

MKOA WA MBEYA  
SIMU: 025 - 2590089/2590041

FAX: 025 - 2590108/2590089



Ofisi ya Mkurugenzi Mtendaji (W),  
Idara ya Kilimo na Mifugo,  
S. L. P 237,  
**RUJEW A**

Kumb Na.MDC/A.30/VOL.II/12/4860

15/05/2007

Katibu Mkuu,  
Wizara ya Maendeleo ya Mifugo,  
S.I.P 9152  
DAR -ES- SALAAM

**YAH; TAARIFA YA MIFUGO ILIYOHAMISHWA TOKA WILAYA YA  
MBARALI KWENDA LINDI NA KISARAWA KUANZIA 23/08/2006 HADI  
TAREHE 14/05/2007**

**A. MIFUGO ILIYO KWENDA LINDI NA KISARAWA**

| MAHALI<br>AENDAKO | IDADI YA<br>NG'OMBE | IDADI YA<br>MBUZI | IDADI YA<br>KONDOO | IDADI YA<br>PUNDA | IDADI YA<br>MBWA |
|-------------------|---------------------|-------------------|--------------------|-------------------|------------------|
| LINDI             | 120,275             | 4080              | 14020              | 501               | 100              |
| KISARAWA          | 6,986               | 472               | 396                | 22 35             | 19               |
| JUMLA             | 127,261             | 4552              | 14416              | 523               | 119              |

**B.MIFUGO ILIYOUZWA MINADANI KUANZIA AUGASTI 2006 - MAY 14,  
2007**

| NA. | MNYAMA  | IDADI |
|-----|---------|-------|
| 1.  | NG'OMBE | 21227 |
| 2.  | MBUZI   | 1273  |
| 3.  | KONDOO  | 126   |
| 4.  | PUNDA   | 18    |

*Dr. Kristian J. Mapunda*

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AFISA KILIMO NA MIFUGO(W),

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## **Appendix 9: History of key moments in the process of evicting pastoralists from**

### **Mbarali (Source: Walsh, 2007)**

**30 Dec.2005:** President Kikwete's speech. In his speech at the official opening of Parliament, the new President, Jakwaya Mrisho Kikwete, pledged that his government will modernize the livestock sector. He also announced that the new administration will make a special effort to conserve the environment and take measures to protect important water sources and so electricity. In this context he referred to the seasonal drying of the Great Ruaha River, and the fact that the hydropower schemes at Mtera and Kidatu have not been operating at full capacity. Noting the threat that this poses to other sectors of the economy, he observed that "The government leadership at all levels will have to assume greater responsibility for ensuring that the environmental destruction that has caused this alarming state of affairs is brought to a stop."

**2 Feb. 2006:** Severe power cuts begin. As the reservoir level at Mtera is critically low, daytime rationing of electricity started in Dar es Salaam with serious consequences for industry and other sectors of the national economy. This follows two years of intermittent power cuts, and serious shortages continued throughout most of 2006.

**2 Mar. 2006:** The Environment Minister's intervention. Following an official tour of Mbarali, the Minister of State in the Vice-President's Office responsible for Environment, Professor Mark Mwandosya, asked Mbeya regional authorities "to submit to him a report on measures they have been taken so far to address the invasion of Ihefu valley by Sukuma herdsmen". He called for "immediate action including a thorough evaluation of the invasion's impact on the natural environment", saying that "This evaluation should be a matter of urgency and must include a report to be presented to the Vice President's Office before it's forwarded to the President for further action".

**9 Mar. 2006:** The President's directive. The new President is reported to have told officials in the Vice President's Office that he is committed to taking unpopular steps in order to protect the environment for the benefit of the nation and future generations. "One of these steps is his directive that livestock keepers should be immediately evicted from Usangu Game Reserve for the good of the environment in the area." Following this directive, the Mbeya Regional Commissioner, John Mwakipesile, issued a seven-day ultimatum for the livestock keepers to move voluntarily from the area or be forcefully evicted. Two weeks later large numbers of livestock are reported to have been moved out of the game reserve by their keepers. Later reports suggested that this is only a temporary removal, and no more successful than similar evictions in the past.

**End Mar. 2006:** The Vice President Office's *Strategy*. The Vice President's Office issued *A Strategy for Urgent Actions on Land Degradation and Water Catchments*. Heading a list of twelve numbered "challenges" was "Environmental degradation arising from the invasion of water sources by pastoralists", with Ihefu wetland in Usangu cited as an example. First on the list of actions required to tackle this national problem was "Evacuation (voluntary or forced) of all those who have invaded the plains and water basins and water sources in general". The development and implementation of plans to relocate and resettle pastoralists in Usangu and other affected areas was to be completed by June 2006.

**1 Apr. 2006:** The Vice President's statement. The Vice President, Dr. Ali Mohamed Shein, issued a "Government Statement on Urgent Measures Aimed at Environmental Conservation and Preservation of Water Sources in the Country" reiterating the main points of the national *Strategy* and directing that "People who [are] settled in Usangu and Kilombero valleys should leave immediately. This directive also applied [to] livestock keepers and farmers who feed their animals and cultivate land in national parks and in

Ihefu and Kilombero wetlands protected under the UN Ramsar Convention and other similar areas. Regional and district commissioners of the respective areas should ensure that there will be no encroachment on these areas in future.”

**Mid Apr.2006:** PINGOs Forum’s fact-finding mission. A *Fact-Finding Mission on Land/Resource Use Conflicts and the Proposed Eviction of Livestock Keepers in the Usangu Basin*, commissioned by the PINGOs Forum (Pastoralists Indigenous Non-Governmental Organizations Forum), was conducted in Mbarali District. The subsequent report of the mission revealed that “The government under the district council has developed a strategic plan to evict the targeted communities, particularly pastoralists and agro-pastoralists, though the plan is not yet disclosed.” Drawing attention to the potentially

negative consequences of such an eviction for pastoral livelihoods and district revenue, the authors of the report asserted that “There is no doubt that the exercise will make use of excessive force that will be associated with loss and destruction of properties, a high degree of human rights abuse and violation.” Arguing that decision-making in Usangu should be based on research rather than the politicization of basic facts, they recommended the following immediate response: (1) the convening of a national stakeholders’ workshop to present expert opinion and to debate positive policy options; intensification of (pro-pastoral) advocacy, including the use of media campaigns; a (2) study should be conducted on “the plight of women and children during and [in the] aftermath of executing [the] intended eviction” from Usangu.

**27 Apr.2006:** Lobbying for “Usangu National Park”. A tour operator wrote to the Minister for Natural Resources and Tourism, Hon. Anthony Diallo, requesting that Usangu Game Reserve be upgraded to national park status, one of a number of proposals for protecting the Great Ruaha River and its catchment. This letter was bound up with earlier (2004)

correspondence about the “Ruaha River Disaster”, and was also later copied to the President. This was part of a coordinated lobbying campaign conducted by a coalition of investors associated with Ruaha National Park, targeting government ministers, national CCM officials, TANAPA Board members and others through personal meetings, presentations and correspondence.

**18 May 2006:** National Anti-Livestock Operation starts. In order to implement the Vice President’s *Strategy*, a *National Anti-Livestock Operation* was launched, with a particular focus on Usangu. The *Guardian* later reported the operation’s first month in Mbarali as follows:

“The full-scale military National Anti-Livestock Operation, aimed at evicting herdsmen from game reserves, water catchment areas and other protected areas in the country is in progress and has so far attained 90 per cent success. In Usangu Game Reserve, a heavily armed combined contingent of regular police, anti-poaching unit and game wardens has cleared the Ihefu Wetland of hundreds of pastoralists with over 300,000 head of cattle who moved out voluntarily.”

Mbeya Regional Commissioner, John Mwakipesile, told reporters that the operation, which began on May 18, would continue indefinitely to ensure the wetland is restored to guarantee the perennial flow of the Great Ruaha River. Mwakipesile said that the central government had so far allocated 200m/- to ensure the operation was sustained because of the importance of the Ihefu Wetland as a reservoir for the Great Ruaha River and the hydroelectric power generation.

Despite their voluntarily departure from the wetland, some 1,500 head of livestock were impounded and the owners fined a total of 14,450,000/-. “We will not allow them back even during the dry season. We are trying as much as possible to avoid confrontation,” said the head of the operation, Officer Commanding District (OCD), Senior



Superintendent of Police Komba Nonosius. This unprecedented operation involved heavy weaponry, ground and occasional air backup and patrols. Nonosius, who was briefing reporters, however declined to give the actual number of security personnel involved in the operation. "We have enough soldiers. But in the event of the need for more, we will reinforce. We have the capacity," said the operation's chief.

Addressing the press in his office, Mbarali District Commissioner, Msagama Dololo, said that the government would not relent on the operation until the Ihefu Wetland was restored to ensure a perennial flow of the Great Ruaha River. To secure the game reserve, Dololo said that the security personnel had set up camps at Ulanga, Nyota and Ikonga, from where day and night operations were anchored. The DC said that although the majority of herders had moved out, some were operating within the reach of the game reserve. The operation was part of the government's strategy to restore the flow and water levels of the Great Ruaha River by 2010. This was expected to guarantee hydro-electric power generation at the Mtera Dam and others.

Usangu Game Reserve Manager, Roman Masawe, said that besides the operation, the government planned to upgrade the facility to a national game park. With this status, Masawe noted that TANAPA had the capacity, resources and legal mandate to ensure the area was protected from invaders. "Besides general conservation, this is the only way we can ensure the continuous and sustainable flow of the Great Ruaha River by 2010," said Masawe.

However, he expressed optimism [sic] that although the operation had recorded initial success, trouble could begin in July when the entire region would be experiencing the dry spell and the herders could force their way back. He said that he expected violent confrontation at this stage during the operation. "This is not a simple assignment. It requires a great deal of power. It has been difficult, not many people have been arrested

and fined,” he cautioned. He said that the only solution to save the Ihefu Wetland was the planned annexure of Usangu Game Reserves to Ruaha National Park.

Dololo divulged that so far 70 000 pastoralists had been forced or voluntarily move out of the Usangu Game Reserve. However, he regretted that they had created spill-over conflicts in Rukwa, Songea, Mafinga, Chunya District and other areas where they had been relocated. The DC said that the pastoralists were also complaining of lack of cattle dips, dams and watering points in the areas where they had sought refuge.

**22-25 May2006:** Parliamentary Committee visits Mbarali. The Parliamentary Committee for Lands, Natural Resources and Environment visited Mbarali District together with officials from the Vice President’s Office - Environment, a trip sponsored by WWF-Tanzania’s Natural Resource Management Programme and its component for building the capacity of parliamentarians. During their visit the committee was reportedly convinced that the Ihefu Swamp and Usangu Game Reserve required greater protection, despite efforts by opponents of park expansion to persuade them otherwise.

**20 Jun. 2006:** Upgrading of Usangu Game Reserve announced. The Minister for Natural Resources and Tourism, Hon. Anthony Diallo, announced that Ruaha National Park would be expanded to incorporate Usangu Game Reserve. This announcement was made at a fund-raising dinner in Dar es Salaam organized by the Wildlife Conservation Foundation of Tanzania attended by President Kikwete, former President Benjamin Mkapa, and other dignitaries. This announcement was welcomed by investors who had lobbied for it, although they had hoped that Usangu would become a separate national park so that tourism revenues could be maximized.

**26 Jun. 2006:** PINGOs Forum lobbies the Parliamentary Committee. PINGOs forum shared the report of its fact-finding mission to Mbarali with the chair of the Parliamentary

Committee for Lands, Natural Resources and Environment, in response to the committee's own report and recommendations.

**14 Jul. 2006:** Expanded Ruaha National Park boundary proposed. A formal proposal from the Ministry of Natural Resources and Tourism for the expansion of Ruaha National Park to Mbarali District was discussed by the regional administration at a Regional Consultative Committee (RCC) meeting in Mbeya. It was recommended that park boundaries should be extended to include the eastern wetland of Usangu and village land outside the game reserve, increasing the area to be annexed and necessitating the resettlement and compensation of villagers. This proposal was developed after a visit to Mbarali and flight over the affected area in early July by officers from TANAPA and Wildlife Division headquarters.

**22-23 Jul. 2006:** Meeting of livestock sector stakeholders with the Minister. A group of stakeholders, supported by Oxfam-JOLIT (Joint Oxfam Livelihoods Initiative in Tanzania), met with the Minister for Livestock Development in Dodoma to raise their concerns over the Ihefu issue and the eviction of livestock-keepers.

**3 Aug. 2006:** Seminar for parliamentarians. The Rangelands and Livelihoods Taskforce (RLTF) held a seminar in Dodoma for the Tanzania Pastoralists' Parliamentary Group (TZPPG) and other interested MPs on *The Place of National Parks, Pastoralism in Modern Tanzania*. The CSOs and NGOs represented included the PINGOs Forum, the Ereto II Ngorongoro Pastoralist Project, RECONCILE/IIED (the International Institute for Environment and Development), the Tanzania Pastoralists and Hunter Gatherers Organisation (TAPHGO), TNRF, and VETAID. The focus of the briefing was a critical review of the policy environment as it affected pastoralism. The Mbarali question was also discussed and the Ministry of Livestock Development promised to organize a larger stakeholder forum in the coming months.

**16 Aug.2006:** The Prime Minister's Committee of Deputy Ministers. Responding to the questions asked by MPs about the eviction of livestock keepers from Usangu, the Prime Minister, Hon. Edward Lowassa, told Parliament that he had earlier formed a Committee of Deputy Ministers (*Kamati Ndogo ya Naibu Mawaziri*) and sent it to Mbarali to investigate the conduct of the anti-livestock operation. He announced that this committee had only found minor problems with the eviction process, and read out its recommendations, which included the advice that each district involved should prepare a Land Use Master plan. The Prime Minister also announced that he would chair a forthcoming meeting of stakeholders in the livestock sector, to be organized by the Ministry of Livestock Development.

**25 Aug.2006:** The Prime Minister's Committee of Ministers. Following a directive from the Prime Minister, the ministers concerned met in Ngurdoto, Arusha, to discuss the recommendations made by their deputy ministers.

**8 Sep. 2006:** The Committee of Ministers met again. The committee met a second time in Dodoma, together with Regional Commissioners and Executive Directors from eight regions involved in the eviction from Mbarali (Rukwa, Mbeya, Iringa, Dodoma, Morogoro, Coast, Ruvuma and Lindi). In this meeting the regions agreed on areas for the resettlement of livestock keepers from Usangu and other measures relating to this process.

**3 Oct. 2006:** Livestock Stakeholders' Meeting in Dodoma. The Meeting of Stakeholders in the Livestock Sector (*Mkutano wa Wadau wa Sekta ya Mifugo*) was opened by the President. In his speech welcoming the President, the Prime Minister recounted events from the Vice President's Strategy to the present and the eviction of some 100,000 livestock from Mbarali. The President began his own speech by quoting from the 2005 CCM Election Manifesto and recalling his instruction to the Ministry for Livestock Development in January 2006 to promote the modernization of livestock production and

marketing. One element of this was “abandoning mobile pastoralism in favour of modern, market-oriented, livestock keeping”.

**17 Nov. 2006:** Special patrol to remove livestock from Usangu. Following the meetings in Dodoma and decisions taken subsequently, the Mbarali District authorities directed that herders with 100 or more livestock (of any kind) should remove them from the area. The eviction process was thus extended to livestock kept outside the Usangu Game Reserve as well as to trespassers within the park-to-be. Village chairmen in Mbarali were asked to compile a list of local livestock holdings and these were used as the basis for forcing herders to move out of Usangu and into other designated districts in Mbeya, Lindi and Coast Regions. Later reports indicated that most of them were evicted from Mbarali between November 2006 and January 2007. Significant numbers of livestock were taken to districts other than those intended, including an estimated 16,000 cattle that were herded down the Great Ruaha valley and into the Mtera Basin in mid-December.

**31 Dec. 2006:** End of National Anti-Livestock Operation. The national operation officially ended, although eviction patrols and related activities in Usangu and elsewhere continued.

**Mid Jan 2007:** NGO meeting in Morogoro. HIMWA (*Huduma ya Injili na Maendeleo Kwa Wafugaji*), PINGOs Forum, and HakiArdhi (Land Rights Research & Resources Institute) held a meeting in Morogoro to discuss how to intervene in the Mbarali case and other projected evictions.

**23 Jan. 2007:** Journalists’ visit to Mbarali with PINGOs Forum. As a follow-up to the Morogoro meeting, PINGOs Forum took journalists to Mbarali to report on the impact of the evictions and make public the voices of those who suffered eviction.

**24 Jan. 2007:** The Committee of Ministers discussed abuses. In its third meeting, the Committee of Ministers Overseeing the Relocation of Livestock (*Kamati ya Mavaziri inayosimamia Uhamaji wa Mifugo*, chaired by the Minister for Livestock Development, now Hon. Anthony Diallo, debated a report on the relocation of livestock from Mbarali. A number of problems with the operation were discussed, including its unfortunate timing



and hastiness, the negative impact on herders' families, and the extortion of money from them in the form of ad hoc fines. Following one of the committee's recommendations, the Minister of Livestock Development issued an official statement on the eviction process, admitting that there had been shortcomings.

**20-27 Mar.2007:** Independent study on the eviction and resettlement of livestock keepers.

In response to reports of human rights and other abuses in the process of eviction and resettlement, a consortium of Tanzanian organizations undertook research in Lindi and Coast Regions with livestock keepers who had been forcefully moved there from Mbarali. The consortium comprised PINGOs Forum (Pastoralists Indigenous Non-Governmental Organizations Forum), HakiArdhi (Land Rights Research & Resources Institute), HIMWA (*Huduma ya Injili na Maendeleo Kwa Wafugaji*), Legal and Human Rights Centre (LHRC), ITV (Independent Television Limited) and the newspaper, *Majira*.

**3 Apr. 2007:** Fact-finding study press release. The NGO/CSO/media consortium issued a press release in Dar es Salaam alleging human rights violations in the process of evicting pastoralists from Mbarali and their resettlement in Lindi. The abuses cited included: theft of livestock, imposition of unjustified fines for environmental degradation, extortion of bribes, subjection of individuals to torture, the forced separation of families, denial of access to education for children, and widespread hunger. Among the demands made by the consortium was that the government should establish an independent commission to investigate the violation of human rights and take legal action against those involved.

**15 Apr.2007:** Presentation to the Parliamentary Committee for Natural Resources and Environment. PINGOs Forum and its partners presented the final report of their study (*A Report on Eviction and Resettlement of Pastoralists from Ihefu and Usangu-Mbarali District to Kilwa and Lindi District*) to the Committee for Natural Resources and Environment at a seminar in Parliament buildings in Dodoma. The advocacy consortium



reportedly persuaded the assembled parliamentarians (58 were present) that the eviction process was poorly implemented and that an independent commission should be established to investigate it further.

**20 Apr.2007:** Formation of an independent Commission of Enquiry. The Prime Minister, Hon. Edward Lowassa, announced to parliament that the government was forming a special commission to enquire into the eviction of livestock from Mbarali and make appropriate recommendations. The commission, which was to begin work immediately, was to be led by Judge Othman Chande, with the following members: Stephen Mashishanga, Hon. Dr. Chrisant Mzindakaya, Hon. Estherina Kilasi, Hon. Yonas Assechek, Wilson Mukama, Professor Rudovick Kazwala, Reuben Ole Kuney and Maulid O. Mvungi.

**Early May 2007:** Commission's visit to Mbarali. Shortly after it was formed, the Commission of Enquiry visited Mbarali District.

**6 Jun. 2007:** Commission report presented to the President. The finished report of the Commission of Enquiry was handed over to the President but not made public.

**8 Jun. 2007:** Parliamentary committee's visit to Kisarawe. The Parliamentary Committee for Natural Resources and Environment visited Kisarawe in Coast Region, together with officers from the Vice President's Office Environment, to see the area in which livestock keepers from Mbarali had settled.

**24 Jul. 2007:** Eviction process criticized during budget debate. The Minister for Livestock Development, Hon. Anthony Diallo, presenting his budget estimates for 2007-08, announced that out of a total of 303,254 livestock scheduled for removal from Mbarali, 218,000 had actually moved: 100,000 to Chunya, 65,636 to Rufiji, 18,000 to Kilwa, 8,000 to Kisarawe, 4,958 to Lindi Rural, 4,000 to Kilombero, Ulanga and Kilosa, and 17,406 to Singida, Tabora, Dodoma, Rukwa and Ruvuma districts. In response, the opposition

spokesperson, Hon. Mwadini Abbas Jecha, criticise the eviction process, citing the conclusions of the investigative report by the PINGOs Forum and its partners, calling for compensation to be paid to the livestock keepers. He also called for the completed report of the independent Commission of Enquiry.

**25 Jul. 2007:** Park expansion discussed during budget debate. The Minister for Natural Resources and Tourism, Hon. Professor Jumanne Magembe, announced that the decision to add Usangu Game Reserve to Ruaha National Park, increasing it in size from 10,300 km<sup>2</sup> to 20,226 km<sup>2</sup>, would be brought before parliament in the coming financial year. This would ensure that livestock did not invade the area again, and that this important wetland and water catchment would be fully protected in Africa's second largest national park, ensuring all-year round flow of the Great Ruaha River, higher reservoir levels at Mtera, and a more reliable supply of electricity. In the ensuing debate on the minister's speech, the MP for Mbarali, Hon. Estherina Kilasi, asked for clarification of plans to expand the park beyond the boundaries agreed at a meeting of the Regional Consultative Committee (RCC) in July 2006. The original agreement was that seven villages and two hamlets outside Usangu Game Reserve would also be added to the new park and their residents compensated. However, in a letter signed by the minister dated 27 April 2007, a further nine villages were added to the list, creating considerable disquiet in these communities, in addition to general uncertainty about resettlement and compensation.

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