

**ASSESSMENT OF SUSTAINABILITY OF STRATEGIES FOR MANAGEMENT
OF CONFLICT BETWEEN FARMERS AND PASTORALISTS OVER LAND
USE IN MAKOMELO VILLAGE, IGUNGA DISTRICT, TANZANIA**

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE
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ABSTRACT

Many conflicts between farmers and pastoralists have been witnessed in Tanzania. A number of measures were taken to mitigate these conflicts by government at various levels over the years. Unfortunately, these conflicts not only continue to persist, fast becoming a nationwide phenomenon. Conflicts between farmers and pastoralists occurred also in Makomelo village where efforts were done to mitigate the conflict. Due to this fact this study intended to assess the effectiveness and sustainability of strategies for management of conflict between farmers and pastoralists in Makomelo village, Igunga District, Tanzania. Simple random sampling (SRS) was used to obtain a sample size of 120 (60 farmers and 60 pastoralists). Data were collected from all 120 respondents by using questionnaire, where the instrument for data collection was interview schedule. Data were analyzed using SPSS computer program. Data from key informants was analyzed by content analysis method. The study findings revealed that no good result can be obtained by using power in solving conflict between farmers and pastoralists. Further, the study found sustainable resolution is obtained by creating awareness to the community members to know the importance of peace keeping in their society, and involve people and especially the conflicting groups to find out for their own what are the causes and what are the strategies suitable to end conflict . Also, the study found the need to use elders in resolving farmers and pastoralists conflicts because they know the root causes of the conflicts, they are close to their people and they are part of a particular society. The study recommends that farmers and pastoralists should be taught on how to use the available resources such as water and land for benefit of both groups. The conflicting groups should learn how to live by respecting and trusting each other and that the suffering for one is suffering for all.

DECLARATION

I, **Mdaki Stephen Michael**, do hereby declare to the Senate of Sokoine University of Agriculture that this dissertation 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.

Mdaki Stephen Michael

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Date

The above declaration is confirmed

Dr. F.T. Magayane

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Date

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DEDICATION

I dedicate this valuable work to my beloved wives, Flora Kupaza and Saada Hamis and our Sons and Daughters for their moral, material and spiritual support during my study.

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LIST OF ABBREVIATIONS

DAEE	Department of Agricultural Education and Extension
DALDO	District Agriculture and Livestock Development Officer
DC	District Commissioner
DED	District Executive Director
DF	Degree of freedom
RSA	Republic of South Africa
SPSS	Statistical Package for Social Sciences
SRS	Simple Random Sampling
SUA	Sokoine University of Agriculture
UN	United Nations
URT	United Republic of Tanzania

CHAPTER ONE

1.0 INTRODUCTION

1.1 Introduction and Background

Conflict as defined by Hocker and Wilmot (1985) is an expressed struggle between at least two interdependent parties who perceive incompatible goals, scarce resources, and interference from each other in achieving ones goal. There are a number of different causes of conflict. However, they can largely be classified under a limited number of headings, namely land disputes, political, religious and cultural differences and the distribution and use of resources. Other sources of conflict may be locally important but they are essentially tied to point enterprises, such as mines, large-scale farming, game parks or infrastructure projects (Richards, 1988). Most conflicts are caused by a combination of factors and it is very difficult, in most cases, to highlight dominant and less dominant causes.

Social life is a competition, and focuses on the distribution of resources, power, and inequality. The conflict perspective, or conflict theory, derives from the ideas of Karl Marx, who believed society is a dynamic entity constantly undergoing change driven by class conflict. According to the conflict perspective, society is constantly in conflict over resources, and that conflict drives social change. Change comes about through conflict between competing interests, not consensus or adaptation. Marx theorized that the work of producing consensus was done in the "superstructure" of society which is composed of social institutions, political structures and culture (Brian, 1998).

Conflict management is premised on the principle that all conflicts cannot necessarily be resolved. It entails acquiring skills related to conflict resolution, self-awareness about conflict modes, conflict communication skills, and establishing a structure for management of conflict. All communities possess ways of resolving or managing

conflicts. These mechanisms may be formal or informal, violent or peaceful, equitable or not. While specific mechanisms vary, communities rely on varying extents on the same basic procedural modes to handle conflicts: avoidance, coercion, negotiation, mediation, arbitration, and adjudication (Nader and Todd 1978; Pendzich *et al.*, 1994). In many places the nature and intensity of conflicts, as well as structures for their resolution, have changed due to increasing connections with outside social and economic forces, as well as internal pressures. Some local systems appear unable to respond effectively to the type or scale of conflict now being seen.

Conflict between pastoralists and farmers has existed since the beginning of agriculture but prevalence of low settlement densities kept the incidence of conflict at low frequency. In West Africa, farmers formerly associated pastoral peoples with large-scale military conquest. But with the coming of the colonial regimes and the collapse of indigenous states, conflict between farmers and pastoralists took on a different colouring, becoming more associated with competition for natural resources (Kaberry, 1959). In East Africa for this case Tanzania, the conflict between farmers and pastoralists in Igunga (makomelo village) was influenced by fresh pasture and water harboured by the Makomelo plains which were the central interest of the pastoralists. While the land on which fresh grasses Millennium grow and the water in Makomelo plains are objects critical to arable farming- thus the conflicting interest often result to violent clashes.

1.2 Problem Statement and Justification

Many conflicts between farmers and pastoralists have been witnessed in Tanzania, the worst being in Kilosa District which tragically culminated in the killing of 38 farmers on December 8, 2000. The fight in Kilosa recurred in December 2008, where eight people were reported dead and several houses were reported burnt to ashes and crops destroyed. It

was again reported in March 2013 despite the effort done by government and other organizations to end the conflict (Faustin, 2011).

Other areas such as Ngorongoro, Kiteto, Kilindi and Ikwilili where conflict occurred, a number of measures were taken to mitigate these conflicts by governments at various levels over the years. Unfortunately, these conflicts not only continue to persist, they are on the rise and fast becoming a nationwide phenomenon.

Conflict between farmers and pastoralists occurred also in Makomelo village Igunga District, Tanzania, where effort was done to mitigate the conflict but with little success. Due to this fact this study intends to assess the effectiveness and sustainability of strategies for management of conflict between farmers and pastoralists in Makomelo village, Igunga District, Tanzania.

The findings from this study will give some useful highlights to the government and other organizations involved in conflict resolution on strategies of conflict management and how to deal with conflict in a sustainable way, especially to this moment where we are experiencing many conflicts based on resource use. This will help to have society which is settled and which focuses on different production activities so as to achieve the first Development Goals (MDG's) whose targets are to halve, between 1990 and 2015, the proportional of people whose income is less than one dollar a day as well as to achieve full and productive employment and decent work for all particularly women and younger people.

1.3 Objectives

1.3.1 General objective

To examine effectiveness and sustainability of management strategies for conflict between farmers and pastoralists over land use in Makomelo Village.

1.3.2 Specific objectives

- i. To identify conflict management strategies available in the study area.
- ii. To measure perception of farmers and pastoralists towards each other.
- iii. To determine people's perception towards conflict.
- iv. To assess the effectiveness of conflict management strategies mechanism in the study area.

1.4 Research Questions

- i. What conflict management strategies are available in the study area?
- ii. What is the perception of farmers and pastoralists towards each other?
- iii. What is the perception of people towards conflicts?
- iv. How effective is conflict management mechanism in the study area?

1.5 Conceptual Framework

A conceptual framework binds facts together and provides guidelines towards collection of appropriate data or information (Katani, 1999). Based on empirical studies, independent variables in this study are determinants of effectiveness and sustainability of management of conflict between farmers and pastoralists. The government has been using a lot of effort to end conflict between farmers and pastoralists. One of the methods used by the government is use of the army and the police. The army and the police are sent in, usually days after an incident; they set up roadblocks for a month or so and then return to their barracks (Daniel, 2014). Other methods used to end the conflict include use of committee formed by farmers' group leaders, farmers' organizations, pastoralists' group leaders, pastoralists' organizations where they discuss to find solutions for the conflict between them. Also fine payments have been used as one of the method to end conflict especially

to those found guilty. Leaders, elders, farmer and pastoralist organizations play a major role in helping farmers and pastoralists to respect each other.

There are other independent variables which if taken care of can facilitate effectiveness and sustainability of management of conflict. Such independent variables include corruption, interest of farmers, interest of pastoralists, and interest of leaders. Other independent variables include crop destruction, water source destruction, land degradation, farm encroachment and cattle route encroachment. These must be taken care of because instead of helping in solving conflict, they lead to escalating the conflict.

Government Policy is the execution framework under which governmental and non-governmental organizations work to resolve one or more social, economic or political issues of a society. It defines the roles and responsibilities of various agents in the system and the allocation and distribution of resources to resolve issues. It is important because its consequences propagate through the entire cross section of society directly or indirectly. The policies take the form of providing incentives that encourage certain behaviour over others or disincentives to discourage particular actions (RSA, 2007).

Government policy is important in solving conflict between farmers and pastoralists. Land policy determines land acquisition and land ownership. Land policy must state clearly how to obtain, use and distribution of land to all users. Land which is the source of conflict between farmers and pastoralists its use is increasing and expanding and therefore the policy needs to be well known to all land users to avoid more conflict and to facilitate obtaining sustainable resolution related to land conflicts.

In order to make sure that conflict is managed effectively all stakeholders in the particular conflict must be involved to find out suitable strategies which will effectively handle the concerns of conflicting groups because the conflict is based on their concerns, this will facilitate to have sustainable resolution.

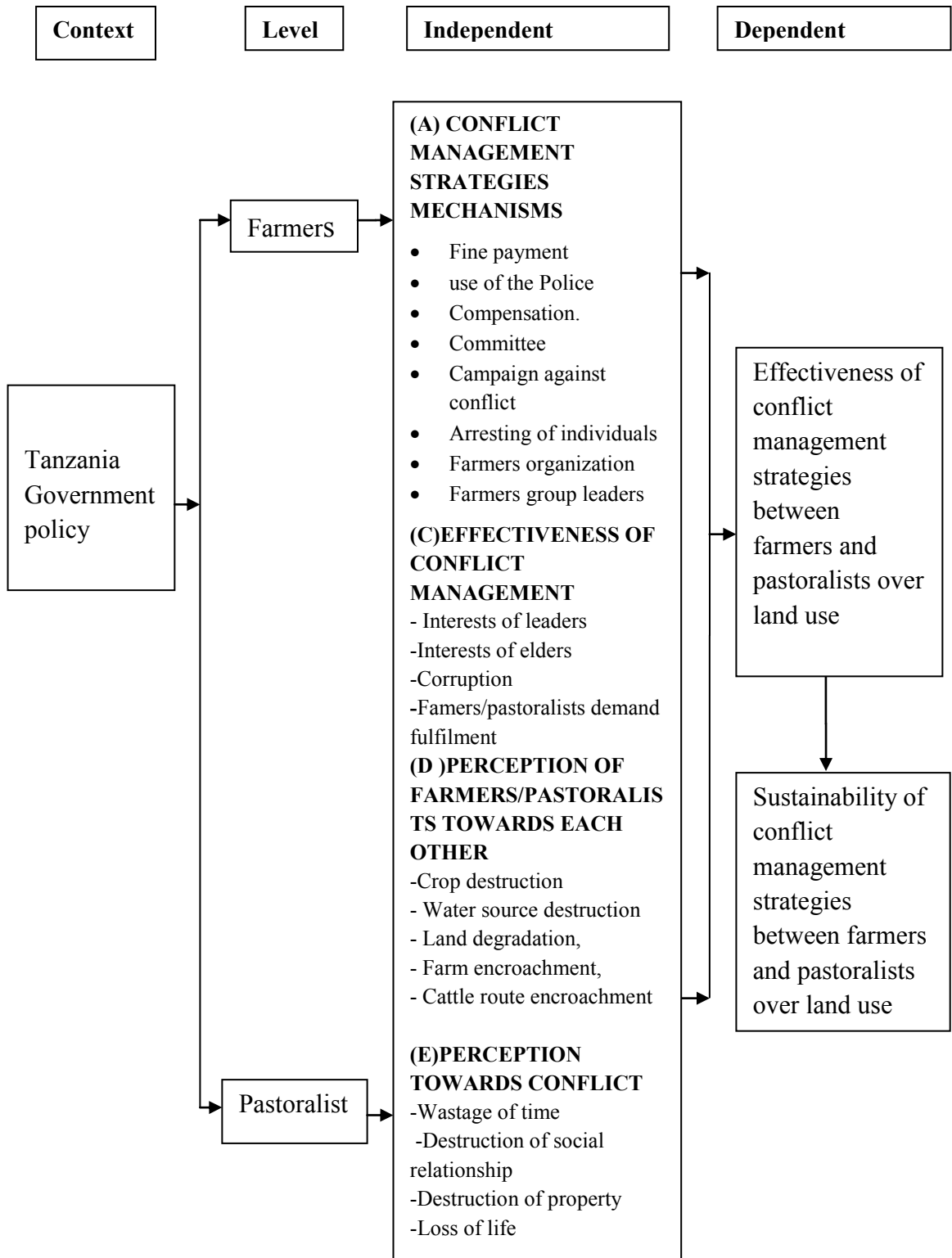


Figure 1: Conceptual framework showing independent variables which will determine sustainability of conflict management strategies between farmers and pastoralists

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definitions of Conflict

The term conflict refers to misunderstanding, disagreement, or divergence of ideas, which result into hating each other, and when management is delayed, it can lead into coercive measures that suggest forceful victory on either party. Conflict arises from differences, both large and small. It occurs whenever people disagree over their values, motivations, perceptions, ideas, or desires. Sometimes these differences appear trivial, but when a conflict triggers strong feelings, a deep personal need is often at the core of the problem. These needs can be a need to feel safe and secure, a need to feel respected and valued, or a need for greater closeness and intimacy (Norman, 2013).

Folger *et al.* (1997) defined conflict as the interaction of interdependent people who perceive incompatible goals and interference from each other in achieving those goals. These definitions have much in common. First, they indicate the inevitability of conflict in human affairs. Second, they reveal key features of conflict situations. Many of these definitions, for example, stress that conflicts involve interdependent parties who perceive some kind of incompatibility between them.

2.2 Sources of Conflict

Factors that generate conflict can be grouped into five: (i) control over resources (ii) preferences and nuisances, (iii) beliefs (iv) values and (v) nature of the relationship (Deutsch, 1991; Zartman, 2005). On the other hand, Signer (1996) identified territory, ideology, dynastic legitimacy, religion, language, ethnicity, self-determination, resources,

markets, dominance, equality, and, of course, revenge as the major factors that cause conflict.

Historically, many conflicts have been over the possession and control of vital resources such as water, arable land, gold and silver, diamonds, copper and petroleum. Conflict over resources figured prominently in the inter-imperial wars of the 16th, 17th, 18th, and 19th centuries and laid the ground for World War I. Resource conflict was less prominent during the Cold War period, when ideological disputes prevailed, but has become more prominent in the Post-Cold War era (Abiodun, 2007). Indeed, many of the conflicts of the 1990s, including those in Angola, Chechnya, Chiapas, Congo, Indonesia, Liberia, Sierra Leone, Somalia and Sudan, were driven largely on competition over the control of critical sources of vital materials. Conflict around natural resource has become a key preoccupation of development theorists and practitioners particularly since the end of Cold War, ushered in an era of growing instability in developing world, notably in Africa (Kaplan, 2000).

Conflict amongst farmers and pastoralists in Tanzania has taken a new dimension due to what can be termed as “scramble for land”. Land distribution has been critical due to many reasons, which include increased population, and increased development activities among the people both farmers, pastoralists and business people (Norman, 2013). The rapid growing human population on daily basis, necessities strategies for meeting the food requirement either for crops or livestock. The need to crops and animal based food to meet the growing demand due to population increased the opening up of land up till now uncultivated. For instance, the present world population of 6.5 billion rising from 2.5 billion in 1950 is estimated to reach 8.9 billion by the year 2050 (Ochi and Toro, 2007).

2.3 Conflict Management

Most of the time conflict management has been used interchangeably with conflict resolution. Essuman-Johnson (2009) contents that conflict resolution refers to the elimination of the causes of the underlying conflict, generally with the agreement of the parties. On the other hand conflict management refers to the elimination, neutralization or control of the means of pursuing either the conflict or the crisis. He adds that conflict resolution is a tall order. It is rarely accomplished by direct action and is more frequently achieved only over long periods although the proximate aspects of conflict can sometimes be eliminated by agreement among the parties (Zartman, 1985). Although the emphasis on conflict management or resolution seems to be a vein discussion, literatures have attempted to indicate through practice measures that have been taken to solve or manage the various conflicts manifested in Africa. Globally, conflicts have been occurring and will continue occurring. It is perhaps a permanent feature in human social relations. Conflict in resource use is not uncommon and perhaps not unnatural between and within living beings, including people (Alfonso and Erik, 2001).

Moore (2005) noted that conflict is not bad: it is rather necessary in order for societies to evolve and develop over time. Social conflict theory sees social life as a competition, and focuses on the distribution of resources, power, and inequality. A struggle for dominance among competing social groups (classes, gender, races, religions). When conflict theorists look at society, they see the social domination of subordinate groups through the power, authority, and coercion of dominant groups. In the conflict view, the most powerful members of dominant groups create the rules for success and opportunity in society, often denying subordinate groups such success and opportunities; this ensures that the powerful continue to monopolize power, privilege, and authority.

The conflict between the owners of the means of production and workers was at the heart of Marx's thinking. In an industrial, wealthy, society, how can so many people be poor? At the heart of Marx's thinking was social conflict, which is the struggle between groups in society over scarce resources. Marx primary concern, however, was class conflict, which arises from the way society produces material goods. Marx believed the owners of these industries were the capitalists, those people who owned and operated businesses in pursuit of profits. The system of capitalism turns most people in any society into proletariats, those people who sell their labour for wages. To Marx, such a system will inevitably lead to class conflict between the capitalist and proletariats. Conflict theory sees social change as rapid, continuous, and inevitable as groups seek to replace each other in the social hierarchy (Stuart, 2003).

Indeed Brown (1983), quoted in Driscoll (1994) opined that “conflict management can require intervention to reduce conflict if there is too much of it, or intervention to promote conflict if there is too little.” But when conflicts degenerate to violent and destructive clashes, they become unhealthy and counterproductive (Buckles and Rusnak, 1999). According to Aron (2002) “Conflicts in general affect the capacity and credibility of states to allocate and regulate towards growth, education and improved living standard.” There is a sense in which the prevalence of conflict creates a vicious circle because of conflict, government resources are diverted from development activities and invested in livelihood promoting activities.

There are several mechanisms proposed for solving and or managing conflicts. These range from third party intervention; use of standing committees or ad-hoc groups within the country or region; use of dignified leaders within the region who are perceived wise and adept of understanding, use of head of states within the same region who are mentors

(Koffi, 2010). These efforts have been a success in many countries including Rwanda, using Julius Nyerere and Thabo Mbeki who were presidents of Tanzania and South Africa respectively, the use of Kofi Annan, former UN secretary General to solve the conflict of 2007 General elections in Kenya. The challenge remains on the conflict within-intra conflict, which requires the intellect of the leaders in the particular country, region, district, division, ward and village. In emphasising on the importance of African solutions from within Africa, Kasomo (2010) reveals that religion can be used to arrest or mitigate conflicts in Africa. In other words, Africa is liable for the solvency of her problems, including conflicts.

Understanding farmers and pastoralists relations is a key to conflict management and resolution. This will improve understanding of the proximate and underlying causes of conflict, the behavioural patterns that are most conducive to provoking or avoiding conflict and the main mechanisms by which conflict between the groups are resolved or managed (Davis, 2015). The method used in resolving conflict depends on the nature and the magnitude of the conflict. In all cases where conflict has been occasioned by crop destruction and where the offending pastoralist admit guilt; interpersonal agreement may be reached, depending on the extent of the damage, compensation (varying in amount) is often demanded and paid where minimal crops have been destroyed. This is a situation where pastoralists and crop farmers have co-habited for a long time. In such cases, the herdsmen speak the local language very fluently, thereby enhancing social integration and neighborhood (Kamla-Raj, 2008). There are other instances where pastoralist and farmers interpersonal relationship is not very cordial; conflict arises if such situation is not usually resolved by personal intervention. The village head and the head of pastoralists are usually involved in settling the dispute (Kolawole *et al.*, 1993).

2.4 Perception of Farmers and Pastoralists toward Each Other

Farmers refer to people involved in the cultivation of land of various types of crops. Normally, farmers are differentiated from peasants by the number of acreage. Peasants are considered to cultivate farms for subsistence for enabling them to attain their daily meals but not for trading (Jan Douwe van der Ploeg, 2005). Farming mean more ability to produce surplus, hence farmers have large farms compared to peasants. Generally, farmers produce more than peasants do (Norman, 2013). However, in this study the referred conflict faces both farmers and peasants against pastoralists. On the other hand, pastoralist refers to a social and economic system based on the raising and herding of livestock. In Tanzania, ethnic groups that are well known for the raising of huge numbers of livestock are the Massai. Others include the Wasukuma and Wanyamwezi (Norman, 2013).

Perception is our sensory experience of the world around us and involves both the recognition of environmental stimuli and actions in response to these stimuli. Through the perceptual process, we gain information about properties and elements of the environment that are critical to our survival (Fournier and Gallimore, 2013). Perception not only creates our experience of the world around us; it allows us to act within our environment. Perception includes the five senses; touch, sight, taste smell and taste. It also includes what is known as proprioception, a set of senses involving the ability to detect changes in body positions and movements. It also involves the cognitive processes required to process information, such as recognizing the face of a friend or detecting a familiar scent (Kendra, 2012).

People respond to the perceived threat, rather than the true threat, facing them. Thus, while perception doesn't become a reality per se, people's behaviours, feelings and ongoing responses become modified by that evolving sense of the threat they confront. If we can

work to understand the true threat (issues) and develop strategies (solutions) that manage it (agreement), we are acting constructively to manage the conflict. Participants in conflicts tend to respond on the basis of their perceptions of the situation, rather than an objective review of it. As such, people filter their perceptions (and reactions) through their values, culture, beliefs, information, experience, gender, and other variables. Conflict responses are both filled with ideas and feelings that can be very strong and powerful guides to our sense of possible solutions.

Farmers and pastoralists conflict has attracted considerable empirical and theoretical analyses. However, there seems to be little or inadequate research literature on the conflict actors' perceptions and coping strategies of mutual conflict. Perception of disasters and stressful farm-related situations among farmers and pastoralists has not received adequate analytical discussion in literature, despite the fact that farming is among the most stressful occupations (Walker, 2000; Daniels, 2006).

Perception of a conflict situation by actors is very crucial to its resolution or management. Bell (2000) described the role of what was referred to as 'meta conflict'- on going disagreement as to what the conflict itself is about. She opined that until there is substantial agreement about the cause of the conflict, reaching agreement on how the divided society reconcile may be almost unattainable. This lack of agreement, according to Bell (2000) is essentially tantamount to waging further conflict. Individual characteristics, according to Walker (2000) determine conflict perception, and conflict resolution can be attained by controlling or redirecting individual characteristics (Schellenberg, 1996). A study of farmers' and pastoralists' respective perceptions of mutual conflict with reference to their personal characteristics would be desirable for meaningful conflict management/resolution. The importance of investigating 'stakeholders' perception of

agriculture and livestock related problems have also been underscored (Mwajaide *et al.*, 2009).

The conflict between farmers and pastoralists goes back to the earliest written records and is mythically symbolized in many cultures (Chatwin, 1989). The Chinese emperors built the Great Wall to keep out the raiding of Asian nomads. The association of highly mobile pastoralists with raiding and warfare has been crucial in establishing negative stereotypes throughout history. In West Africa, farmers formerly associated pastoral people with large scale military conquest. But with the coming of colonial regimes and the collapse of indigenous states, conflict between farmers and pastoralists took on a different colouring, becoming more associated with competition for natural resources (Kaberry, 1959).

According to de Haan (2002), ‘destruction of crops by cattle and other property (irrigation equipment and infrastructure) by pastoralists are the main direct causes for conflicts cited by farmers. Damage to crops was the first reported cause of conflict between farmers and herders. Crop damage is not limited to growing crops on the field but also unauthorized livestock grazing of crop residues after harvest.

2.5 Effectiveness of Conflict Management

Gauging success is important in any conflict resolution obtained. Observation made in subsequent years on persistence of conflicts among farmers and pastoralists in Hai District realised that there were cordial relationships. For three years consecutively peace and order has been observed, farmers and pastoralists live without conflict. The understanding has happened to know the dos and the don'ts; improved relationships have lead to more participation in economic and developmental activities. The manifested conflicts have

been resolved. Perceptions that the government was in favour of the farmers and peasants have now gone (Norman, 2013).

Some of the problems which may cause discontentment and make resolution seem not fair to all parties involved in conflict is disequilibrium of power at the local level; for example meetings which include some pastoralists and farmers, it is likely to find everyone in the room knows that those calling the meeting and setting the rules represent the farmers. Pastoralists are uniquely vulnerable compared with farmers; their cattle can be confiscated and can be seized and only released on payment of a fine which they can pay by selling stock. Pastoralists organizations look better on paper than in reality, partly because there can be a financial interest for the mediator in resolving, for example, crop damage disputes (Kaufmann *et al.*, 1986).

Also the behavior of government is reactive; where the level of complaints are relatively low they hold meetings and committees sit and produce sonorous resolutions on which no action is taken. Where the situation is more serious, they send in the military, set up road-blocks for a few days and hope the problem goes away. The heightening pitch of conflict, especially in the Langtang area, strongly suggests that this reactive approach has no long-term effect except to increase public distrust of soldiers (Mallam, 2003).

CHARPTEER THREE

3.0 RESEARCH METHODOLOGY

3.1 Description of the Study Area

The study area was Makomelo village in Igunga District. Igunga is one of the six districts of Tabora Region of Tanzania. Igunga is bordered to the north by Shinyanga Region, to the east by Singida Region, to the south by Uyui District and to the west by Nzega District. The district covers 315 013 hectares of land where 210 009 is suitable for crop production and 105 004 hectares of land is suitable for livestock keeping (URT, 2012). The population of Igunga District in 2012 was 399727 people where 204120 were female and 195607 were males (URT, 2012).

According to the Tabora Regional profile (URT, 2012), the district has an average temperature ranging between 22° C and 39° C annually with a mean annual rainfall ranging between 450mm and 600mm. Rain season starts on December and ends in April implying that rain season exists for only four months. The short rain period is one of the reasons to why for many years livestock keeping has been the main activity to Taturu and Sukuma pastoralists until when irrigation projects were introduced. Irrigation projects attracted farmers to engage in crop production especially paddy production. Other economic activities carried out in the district include cultivation of food crops - maize, sorghum and paddy. Cash crops cultivated are cotton and sunflower. The District has got a number of livestock as follows; cattle 411 568, goats 76 396 and sheep 91 454 (DED, 2013).

3.2 Makomelo Village

Makomelo (one of the 92 villages in Igunga District) has a total land area of 3510 hectares where 2760 hectares are suitable for crop production and 750 hectares are ideal for livestock keeping (URT, 2012). Most of the people living in Makomelo village are

pastoralists and this makes most of the land including land suitable for crop production to be used for livestock keeping. Crop production is the second land use in Makomelo village and paddy is the main crop produced in the area. According to the Tabora Regional profile (URT, 2012), Makomelo village population in 2012 was 4441 people where 2620 were female and 1821 were male. Makomelo village was ideal for this study because Taturu pastoralist and Nyiramba farmers had a conflict for eight years over land and water for irrigation, grazing and drinking animals. The conflict led to destruction of irrigation infrastructures, school buildings, prohibition of land which would normally be used for cultivation and grazing in addition, destruction of social relationship. Attempts were made by government and various groups to resolve the conflict, up to now the conflict seem to be dormant.

3.3 Research Design

This study employed a cross-sectional design where by data was collected at single point in time from a sample selected to represent a large population (Babbie, 1990). The design is favourable due to limited resource and time available for data collection while being adequate for descriptive study as well as for determination of relationship between variables. This study design is suitable because it is fast and it can accommodate a large number of study units at a low cost (Casley and Kumar, 1988). The internal validity of a cross-sectional survey design is critically determined by the researcher's understanding and inclusion of relevant variables.

3.4 Study Population, Sampling and Sample Size

The target population of this study involved all farmers and pastoralists in Makomelo village. The whole village was stratified into two groups, a group of all farmers and that of pastoralists. From the list of all farmers in the village, simple random sampling (SRS) was

used to obtain a total number of 60 farmers. The same method was used to obtain 60 pastoralists. This made a total sample size of 120. According to Bailey (1994), a sample or sub-sample of 30 respondents is a bare minimum for a study in which statistical data analysis is to be done regardless of the population size. Moreover, most of the time decisions about the sample size are affected by consideration of time and cost. Therefore, invariably decisions about sample size represent a compromise between the constraints of time and cost, the need for precision, and a variety of further considerations that will now be addressed (Bryman, 2008).

For that matter then, a total sample size of 120 was selected for this study comprising the following:

- 60-farmers
- 60-pastoralists

3.5 Data Collection

Both primary and secondary data were collected. Primary data is a type of information that was obtained directly from first-hand sources by means of surveys and observation. It is data that has not been previously published and was derived from a new or original research study and collected at the source while secondary data are those which were previously been collected that are utilized by a person other than the one who collected the data.

3.5.1 Qualitative data and quantitative data

Qualitative data describe some quality methods used to collect qualitative data from interviews, checklists, and observations of the real situation of conflict between farmers and pastoralists in the study area. Quantitative data describe the quantity in numerical

values (Dodge, 2003). By using interviews and the instrument for data collection was interview schedule, quantitative data was collected.

3.5.2 Primary data collection

These were collected from all 120 respondents by using interviews, where the instrument for data collection was interview schedule. Data collected through interview schedule includes, respondent's demographic information, conflict management strategies mechanism available in the study area, land ownership and use, the way farmers and pastoralist's concerns such as crop destruction, grazing land encroachment and water for animals and for irrigation are handled, effects of conflict to farmers and pastoralists, farmers and pastoralist assessment about the people responsible for fulfilling their concerns such as village leaders, district leaders and elders also perception of farmers and pastoralist towards each other.

Data from key informants was from Village Extension Worker, Village Executive Officer, three farmers' group leaders and three pastoralist's group leaders. The data from key informants included issues on Makomelo Village profile, elements of conflict management mechanism available in the study area, attitude of farmers towards pastoralists and pastoralists towards farmers and how people perceive on effectiveness of conflict management in a study area. All this information was collected by use of checklist.

3.5.3 Secondary data

Secondary data was obtained records in District Executive Officer (DED) and District Agriculture and Livestock Development Officer (DALDO) office such as population in the district, district total land area, and land area used for cultivation and for grazing. In the village information such as number of people in the village, total land area used for

farming and livestock keeping, number and type of livestock kept in the village and type of crops grown in the village. Secondary data was also obtained by reading documents from previous studies on farmers' and pastoralists conflict at Sokoine National Agricultural Library, Department of Agricultural Education and Extension (DAEE) Library, journals and website.

3.6 Data Processing and Analysis

Data collected from respondents was edited, coded and summarized using Statistical Package for Social Sciences (SPSS) Version 16 computer software. Descriptive statistics such as frequencies and cross tabulations were used to analyze all specific objectives in this study. By using cross tabulation Chi-square statistics was used in order to assess level of dependency between one variable and another by using 5% as level of significance. Data from key informants was analyzed by content analysis method.

CHAPTER FOUR

4.0 RESULTS AND DISCUSSION

4.1 Respondents Demographic Information and Characteristics

In examining the effectiveness and sustainability of management strategies for conflict between farmers and pastoralists over land use in Makomelo Village, discussion about respondents' demographic information and characteristics become imperative since the former influences individual behaviour and therefore individual decision making. In this study, demographic information includes respondents' sex, age, marital status and education.

4.1.1 Respondents age, sex, marital status and level of education

Age greatly influences one's decision making that is, as cognitive functions decline as a result of age, decision making performance may decline as well (Finucane *et al.*, 2005). With respect to age, there is evidence to support the notion that older adults prefer fewer choices than younger adults (Reed *et al.*, 2008). For both farmers and pastoralists, results in Table 1 show higher proportion of male respondents than female respondents. Results further shows that 80% of the respondents involved in the study were male and 20% were female. Farmer's households consist of 40% young people aged between 18 to 35 years while pastoralists have 27% young people of the similar age. At the same time result shows that farmer's households and pastoralists households have got the same (32%) old people aged 56 – 75. This result indicates that both farmers and pastoralists have got enough elders who are able to help in reaching a sustainable resolution between farmers and pastoralist's conflict.

Table 1: Respondents Demographic Information (n=120)

	Farmers (n=60) %	Pastoralists (n=60) %	Overall (n=120) %	P-Value	Chi-square	DF
Respondent						
sex				0.208	0.410	1
Male	78	82	80			
Female	22	18	20			
Total	100	100	100			
Respondent age						
18-35 years	40	27	33	0.210	3.120	2
36-55 years	28	41	35			
56-75 years	32	32	32			
Total	100	100	100			
Marital status						
Single	11	5	5	0.014	10.600	3
Married	62	77	72			
Widowed	12	12	12			
Separated	15	6	11			
Total	100	100	100			
Respondent education						
None	27	47	37	0.050	6.788	3
Primary	63	48	56			
Secondary	10	5	8			
Total	100	100	100			

4.1.2 Marital status

Married families are more responsible as compared to single families and this state of affair has an influence in decision making. Results in Table 1 show that 77% of the

pastoralist's households are married while for farmer's households 62% are married. Farmers and pastoralists have got the same number of widowed families that is 12% and for separated families farmers have got 15% while for pastoralists is 6%. Pastoralists have 5% single families while farmers have got 11%. The result reflects pastoralists' tradition which does not allow young men who are not married to separate from their parents for fear of reducing family manpower to take care of animals.

4.1.3 Respondent education

In examining the effectiveness and sustainability of management strategies for conflict between farmers and pastoralists over land use in Makomelo Village in Igunga Ward, the issues regarding respondent education cannot be ignored. Studies on the importance of education have revealed that education motivates self-assurance and provide things we need to partake in today's world. It makes us more independent and aware of what is going on in the world today, along with the awareness of opportunities and rights (Barry, 2000).

Results in Table 1 show a higher proportion of farmer's households with more education than pastoralist's households. Results show that 47% of the pastoralist households and 27% of farmer's households have no formal education. On other hand, while 63% and 10% of the farmer households have primary and secondary education respectively, for pastoralist households it is about 48% have primary education and 5% have secondary education. In this study, on overall, there is significant variation of educational levels between farmers households and pastoralist households (Chi-square=6.788, P= 0.049). Results show that there is difference in education between these two communities which can cause differences in their thinking on how to solve conflict between them.

4.1.4 Household size

Household size has long been of interest to researchers, particularly because of the strong empirical regularity that children from larger families tend to have poorer outcomes in general life. There is an extensive theoretical literature on the tradeoff between child quantity and quality within a family that dates back to Becker (1960). Table 2 shows distribution of farmer households and pastoralist households at the age of 1 to 5 years, 6 to 17 and 18 and above. The result shows that Households of both farmers and pastoralists are highly populated. The reason attributed to higher household size could be contributed by inadequate knowledge in family planning among pastoralists and farmers communities and the tradition of these communities which in most cases consider having many children is connected to economic advantages for obtaining manpower for agricultural production and livestock keeping. Another reason is due to existence of extended family which is a characteristic of most African communities. Higher household size among these two communities means high population density in the village which entails more demand for different resources including land which is the main cause of conflict among farmers and pastoralists.

Table 2: Household Size

Family size	Farmers (n=60) %	Pastora lists (n=60) %	Overall (n=120) %	p- value	Chi square	DF
Number of people in the household to the age of 1- 5 years						
Children (Non)	7	5	5	0.024	11.279	4
1 - 2	25	30	23			
3 - 5	41	53	53			
6 - 10	20	7	10			
Above 10	7	8	9			
Total	100	100	100			
Number of people in the household above 6 to 17 years						
1 - 2	30	10	20	0.002	12.576	2
3 - 5	53	48	51			
6 - 10	17	42	29			
Total	100	100	100			
Number of people in the household with at least 18 years of age						
Children(Non)	5	7	6	0.004	15.118	4
1 - 2	38	13	22			
3 - 5	40	60	52			
6 - 10	12	15	13			
Above 10	5	5	7			
Total	100	100	100			

4.1.5 Land ownership and use

Farmers and livestock keepers are the main users of what is termed as Village Land and General Land. They grow crops and rear animals on the land. As a matter of fact, their

economic and social development to a large extent depends on the availability of land. Land scarcity is mainly caused by overpopulation and people not willing to move to new areas where land is not a problem. Past and current land conflicts in Tanzania are caused by the absence of a countrywide land use plan, which indicates clearly the demarcation and utilization of every piece of land (Angel, 2011).

Results from the study show a significant difference in land size owned between farmers and pastoralists (Chi-square=13.115, P=0.000). Results in Table 3 show that 10% farmer households own land whose area measures 1-2 hectares while pastoralist own land of 5% that size. Further results shows that 25% farmers own 3-5 hectares of land while 7% of pastoralists own land of the same size, 45% farmers own land of 6-10 hectares while 30% pastoralists own land of the same size. Its only 20% farmers who own land of above 10 hectares while 58% pastoralist own land of that size. Results also shows method of land acquisition where 20% farmers obtained land by purchasing while only 5% pastoralists owned land by the same method, Farmers who owned land through inheritance were 65% while 90% pastoralists owned land through inheritance.

The other method of acquiring land identified was allocation by government where 2% farmers reported to have acquired land by this method. Basing on the results about the method used in acquiring land, results show that there is significant variation in the land acquisition method (Chi-square=14.110, p=0.000). Further results show how land is used in the village, where 90% farmers and pastoralist reported to use land which they own for farming and for grazing respectively. The results show that there is no equal distribution of land between farmers and pastoralists in the village, because pastoralists own large land area compared to farmers which can be the possible cause of conflict between these two communities.

Table 3: Land Ownership and Use

	Farmers	Pastoralists	Overall			
	(n=60)	(n=60)	(n=120)	p-value	Chi-square	DF
	(%)	(%)	(%)			
Land size (Ha)						
1 – 2	10	5	8	0.000	13.115	3
3 – 5	25	7	16			
6 – 10	45	30	37			
Above 10	20	58	39			
Total	100	100	100			
Method of land acquisition						
Purchase	20	5	12	0.000	14.110	3
Inherited	65	95	80			
Allocation by government	2	0	1			
Other(compensation)	13	0	7			
Total	100	100	100			
Land Use						
Cultivation	90	10	50	0.000	15.210	1
Grazing	10	90	50			
Total	100	100	100			

4.2 Conflict Management Strategies Available in the Study Area

This section focuses on conflict management strategies available in the study area by looking into different ways and efforts used to address the conflict and obtaining resolutions. Literature indicates that conflict is a normal part of any healthy relationship and they add that learning how to deal with conflict rather than avoiding it is crucial. When conflict is mismanaged, it can cause great harm to a relationship, but when handled in a respectful, positive way, can provide an opportunity to strengthen the bond between

two people (Burton, 1990; Diez *et al.*, 2004; Sandole 1998; Davies, 1973; Smith, 2005; Harbom and Wallensteen, 2005).

Different ways were used by leaders and other organization in trying to solve the conflict between farmers and pastoralists in Makomelo village. The strategy which was employed especially by district leaders in solving the conflict in was use of police force. The police were sent in the conflict area when the conflict was at its peak. At this time five farmers had been killed, ten houses had been burnt and more than 15 heads of cattle had been killed, 20 pastoralists and 15 farmers were arrested on being suspected to have taken part in the fighting. Arresting these few individuals who were thought of having been involved in fighting was achieved by involving people whose houses had been burnt, their relatives killed and those individuals whose cattle had been killed.

Police set four roadblocks and each roadblock was guarded by two armed police men and two members of the village council, who were responsible to make sure that no one was allowed to leave or enter the village. When it was necessary for anyone to enter or leave the village she/he was required to fill in a logbook and explain where she/he was going, for how long was she/he going to stay and the purpose of the visit in or outside the village. The operation lasted for seven days and after seven days all activities in the village resumed to normal. Police left the village assuming the conflict was over. The fighting between farmers and pastoralists kept occurring and every time when the fight occurred, the police were brought in. Accordingly, it was realized that the use of police approach was not a reliable solution to the existing conflict.

The second strategy was use of public communication campaign. Public communication campaigns encompass strategies for producing effects on the knowledge, attitudes, and

behaviour of large populations across a variety of domains, including political, social, environmental, and health outcomes.

Public communication campaigns can be broadly defined as purposive attempts to inform, persuade, or motivate behaviour changes in a relatively well-defined and large audience, generally for non-commercial benefits to the individuals and/or society at large, typically within a given time period, by means of organized communication activities involving mass and online/interactive media, and often complemented by interpersonal support (Charles *et al.*, 2012).

This strategy was established by Igunga District Commissioner (DC) and it involved district leaders such as DED, Chairperson of District Council, DALDO, Councillors, Ward and village leaders. These campaigns aimed at meeting with conflicting group and to finding the source of the conflict. The campaigns were conducted by leaders to explain on the importance of conflicting parties in improving peace and tranquillity of the society. Before starting campaigns, all village, ward and district leaders formulated guidelines which were required to be followed by all leaders during meeting in the village. They formed five teams which were divided to go through three sub villages for each team. The leader of sub village was responsible to make sure that every member of the sub village got the information one day before the team conducted the meeting in a particular sub village.

The sub village leader was responsible to make sure time and place for meeting was well known to all members of the sub village. It was agreed that all teams must have visited and conducted meetings for all sub villages within one month. After completing meeting with people in sub villages, all five teams met and every team leader was required to

produce a report on how the campaign was conducted in different sub villages, the report was discussed by all leaders from five teams. It was followed by meeting with the whole village. During the meeting with the whole village another strategy was established. This was establishment of a committee. The committee was established in order to make sure that strategies which were suggested during meeting in sub villages get close implementation with specific team. It was suggested that committee should involve 30 elders, 15 from farmers and 15 from pastoralists' communities. Every community was given an opportunity to choose among them 15 elders who were announced during the village meeting to join the committee. The village meeting gave the mandate to the committee to select its leadership and implement all the strategies suggested to end conflict in different meetings in sub village and village meeting. The committee established by-laws which restricted pastoralist to trespass. It was agreed that when animals caught trespassing, the owner is required to pay five of the particular animals caught trespassing. It was agreed that farmers also are restricted to cultivate near water sources and stock route. No complains are expected to crops destroyed by animals in restricted areas. This is a strategy to which to some extents managed to calm the conflict up to now.

The study shows that no good result can be obtained by using power in solving conflict between farmers and pastoralists. The conflict kept recurring despite extra power used especially by police force. The study further shows that, sustainable resolution is obtained by creating awareness to community members with the aid of the population the importance of peace keeping in their society. The awareness should involve people and especially the conflicting groups to find out for their own what are the cause and what are the strategies suitable to end conflict.

4.2.1 Farmers `main concern in conflict involvement

Farmers` main concerns in this conflict include the following; crop destruction, recovery of land for cultivation, unauthorized livestock grazing, destruction of irrigation infrastructure and land destruction. Results in Table 4 show farmers` main concerns in conflict where 75%farmer respondents reported that crop destruction, recovery of land for cultivation and unauthorized livestock grazing was their concerns in that conflict. Other concerns of farmers in this conflict include; recovery of land for cultivation and crop destruction (15%), destruction of irrigation infrastructure, recovery of land for cultivation and crop destruction (5%), crop destruction and land destruction (3%), and restoration of land for cultivation only (2%).

Table 4: Farmers Main Concern in Conflict Involvement (n=60)

Concern as farmer in the conflict	Farmers (%)
Crop destruction, restoration of land for cultivation and unauthorized livestock grazing	75
Recovery of land for cultivation and crop destruction	15
Destruction of irrigation infrastructure, recovery of land for cultivation and crop destruction	5
Crop destruction and land destruction	3
Recovery of land for cultivation only	2
Total	100

4.2.2 Pastoralist Main Concern in Conflict Involvement

On the other hand, pastoralists` main concern in conflict involvement were; grazing land, cattle route encroachment, water for animals and grazing land encroachment. Results in Table 5 shows that pastoralists` main concern in conflict involvement was land and cattle

route encroachment (68%) Other concern were water for animals, grazing land and cattle route encroachment (30%) and land encroachment only (2%).

Table 5: Pastoralist Main Concern in Conflict Involvement (n=60)

Concern as pastoralist in the conflict	Pastoralist (%)
Grazing land and cattle route encroachment	68.0
Water for animals, grazing land and cattle route encroachment	30.0
Grazing land encroachment only	2.0
Total	100

4.2.3 Effects of conflict to farmers and pastoralists

The effects resulting from farmers and pastoralists conflict involvement are many. Effect of conflict to farmers included; crop destruction, burning of homes, land given to pastoralists displacement from the village for five months, farming area taken by pastoralists, destruction of irrigation infrastructure and jailed suspected to involve in fighting. On the other side, the effect of conflict to pastoralist includes the following: animals were stolen, animals were killed, forced to leave grazing area, deaths, got wounded and injured, grazing land were taken by farmers, forced to pay cattle for the committee, grazing land was burned by farmers and grazing land taken by farmers. Farmer's response on how conflict affected them is shown in Table 6.

Table 6: Effects of Conflict to Farmers (n=60)

Effects of conflict	Farmers (%)
Crop destroyed	46
My home was burnt to ashes	14
My land was given to pastoralists	11
We were displaced from village for five months	11
The area of farming was taken by pastoralists	6
Destruction of irrigation infrastructure	3
Jailed being suspected to involve in fighting	3
Total	100

Results in Table 6 show that 46% of farmer respondents mention crop destruction as the main effect. Other effects reported by farmers include; burning of homes (14%), land given to pastoralists (11%), running out of village (11%), area for farming taken by pastoralists (6%), destruction of irrigation infrastructure (3%) and jailed being suspected to involve in fighting (3%).

Table 7 shows affects of conflict to pastoralists, where it is seen that 17% of pastoralists reporting that their animals were stolen. Results further show the following effects; (i) displaced from home (13%), (ii) house destruction by farmers (13%), (iii) killing of animals (11%), (iv)forced to leave grazing area (9%), (v) hay ban burned by farmers(9%), (vi) deaths, got wounded and injured (9%), (vii) grazing land burned by farmers(9%), (viii) grazing land taken by farmers (6%) and forced to pay cow for the committee (4%). The study shows that pastoralists are complaining that all effects were caused by farmers.

Table 7: Effects of Conflict to pastoralists (n=60)

Effects of conflict	Pastoralists (%)
Animals were stolen	17
Displaced from home	13
My house was destroyed by farmers	13
Animals were killed	11
Forced leave my grazing area	9
My hay ban was burned by farmers	9
Deaths, got wounded and injured	9
My grazing land was burned by farmers	9
Grazing land were taken by farmers	6
Forced to pay cow for the committee	4
Total	100

4.3 Perception of Farmers and Pastoralists towards Each Other

In examining the effectiveness and sustainability of management strategies for conflict between farmers and pastoralists over land use in Makomelo Village in Igunga Ward, the study sought the measurement of perception of farmers and pastoralists towards to each other this is because perception is one of the most important aspects of human behaviour. Perception is the organization, identification, and interpretation of sensory information in order to represent and understand the environment. All perceptions involve signals in the nervous system, which in turn result from physical or chemical stimulation of the sense organs. The following section therefore focuses on the perception of farmers towards pastoralists and vice versa.

4.3.1 Perception of farmers towards pastoralists

In most cases farmers have a negative perception towards pastoralists which could be the main cause of conflict between these two groups. Results in Table 8 show 91% of farmers reporting that pastoralists tend to value only their animals.

Table 8: Perception of farmers towards pastoralists

Farmers' opinion on pastoralists	Agree (%)	Uncertain (%)	Disagree (%)
Pastoralists are not responsible with crop destruction	0	0	100
Destruction of crops is not done intentionally by pastoralists	0	7	93
Pastoralists take care on other properties	1	6	93
Pastoralists tend to value only their animals	91	0	7
Pastoralists have got large number of animals; they fail to control their animals	78	0	22
Pastoralists are not involved in land degradation	10	5	85
Pastoralist are the main cause of farm encroachment	90	5	5

Results show that farmers agreed and reported as follows; 78% agreed that pastoralists have got large number of animals and that they fail to control their animals and 90% farmer respondent said that pastoralists are the main cause of farm encroachment. Findings go further by showing that 100% farmers agree that pastoralists are responsible for the crop destruction. Results which show farmers to disagree are such as; 93% farmers disagree on the statement that destruction of crops is not done intentionally by pastoralists, 93% farmers disagree that pastoralists take care on other properties and also 85% farmer respondents disagree on the account that pastoralists are not involved in land degradation. The study indicates that farmers see pastoralists as very bad people and see them to be responsible for every bad thing such as crop destruction, land degradation and farm encroachment. This tendency of farmers to look pastoralist in a negative way can increase hatred between these two groups which can increase the rate of conflict among these communities.

4.3.2 Perception of pastoralists towards farmers

On the other hand pastoralists also perceive farmers in a negative way. Pastoralists see farmers as the barrier to their activities. They see farmers as being responsible for encroach grazing area, cattle route encroachment, poor farming method which is the main cause of land degradation and the main cause of grazing land encroachment, water sources distraction and use of more water for irrigation. Table 9 show results on perception of pastoralists towards farmers.

Table 9: Perception of pastoralists towards farmers

Pastoralists' opinion on farmers	Agree (%)	Uncertain (%)	Disagree (%)
Farmers are not responsible for encroaching grazing area	0	0	100
Farmers are not responsible for cattle route encroachment	0	0	100
Poor farming method cause land degradation which is the main cause of grazing land encroachment	70	5	25
Water sources destruction is not done by farmers	2	0	98
More water is not used by farmers for irrigation	0	0	100
Farmers are not always good people	80	10	10

The results show that 100% pastoralist respondents disagreed with the statement that farmers are not responsible for encroaching grazing area. Results further show that 100% pastoralists disagree with the following statement; farmers are not responsible for cattle route encroachment, water is not used by farmers for irrigation and water sources destruction is not done by farmers. 98% pastoralists did not agree on this statement. 80% pastoralists agreed that farmers are not good people and also pastoralist agree by 70% that

poor farming method cause land degradation which is the main cause of grazing land encroachment.

The study shows that pastoralists also perceive farmers as very bad people and see them to be responsible for cattle route encroachment, responsible for encroaching grazing area, use more water for irrigation, water sources destruction and poor farming method which cause land degradation and the main cause of grazing land encroachment. The perception of farmers towards pastoralists and pastoralists towards farmers shows that each of the two groups is asserting each other the result which makes it difficult to resolve the conflicts.

The group of farmers and that of pastoralists have got negative perception towards each other and every group sees the other group as bad. Farmers see pastoralists as destructive to their crops; they believe that large number of livestock owned by pastoralists is responsible for land degradation and they graze on the area which could be suitable for crop production. Pastoralists blame farmers for encroaching their grazing area and cattle route. They blame farmers for using more water to irrigate their farms and use of poor farming method which cause land degradation which may results in grazing land encroachment.

4.4 Perception towards Conflict

This section focuses on farmers' and pastoralists' perception towards conflicts. Both farmers and pastoralists got the same perception towards conflict. They agree that conflict is not good because it causes destruction of social relationships in the community. Farmers and pastoralists understand the effect of conflict which includes loss of life, time, money and other resources. Results in Table 10 show that 100% respondents from both farmers

and pastoralists share the same opinions of disagreeing that destruction of properties does not occur during conflict.

Table 10: People’s perception towards conflict

Peoples' opinion towards conflict	Farmers			Pastoralists		
	Agree (%)	Undecided (%)	Disagree (%)	Agree (%)	Undecided (%)	Disagree (%)
Destruction of properties does not occur during conflict	0	0	100	0	0	100
Loss of life is one of the effects of conflict	100	0	0	100	0	0
Destruction of social relationship does not occur during conflict	0	0	100	0	0	100
All parties involved in conflict suffered with the conflict	100	0	0	100	0	0
Everybody is doing enough to make sure that no more conflict in the village	20	0	80	22	0	75
Time, money and other resources are wasted during conflict	100	0	0	100	0	0

Other results where farmers and pastoralists share the same opinion include; disagree by 100% on the idea that destruction of social relationship does not occur during conflict, 100% agree that loss of life is one of the effects of conflict, all parties involved in conflict suffer from conflict, this opinion was agreed by both farmers and pastoralists by 100% of all respondents. Both farmers and pastoralists agreed that time, money and other resources are wasted during conflict. Farmers and pastoralists differed on opinions on how everybody was doing to make sure that conflict would not emerge in the village. Farmers said everybody is doing enough to end conflict in the village (20%) while 22% pastoralists

said the same. Farmers 80% said that no enough effort done to end conflict in the village while 75% pastoralists said the same. Basing on the results of this study, both farmers and pastoralists share the same opinions about the effects of conflict.

4.5 Effectiveness of Conflict Management in the Study Area

This section deliberates on the effectiveness of the conflict management strategies utilized in the study area by looking at the way leadership addresses farmers and pastoralists concerns relates to conflict between them, and way the farmers and pastoralists assess the leadership efforts in resolving the conflict between them.

4.5.1 The way farmers and pastoralists concerns are handled

Leaders are responsible for handling concerns of farmers and pastoralists. Effective handling of concerns is a major key towards solving conflict between farmers and pastoralists because the conflict between these two groups is based on their concerns. Leaders in different areas where conflict occurred have been blamed for not addressing farmers` and pastoralists` concerns. Results in Table 11 show farmers and pastoralists` responses related to how leaders address their concerns.

Table 11: The way farmers and pastoralists concerns are handled opinions of farmers and pastoralists on how their concerns were fulfilled

The way concerns handled	Farmers (n=60) (%)	Pastoralists (n=60) (%)	Overall (n=120) (%)	p-value
Concerns are not fulfilled at all	55	60	58	
Concerns are partly fulfilled	45	40	43	
Total	100	100	100	0.580

Results show that 55% the farmers reported that their concerns not fulfilled at all and 60% of pastoralists reported the same while 45% farmers respondents said that their concerns are partly fulfilled and 40% pastoralists said the same. Results further show no significant variation between the two groups (Chi-square test: $p= 0.580$) meaning that the two groups have the same opinion about the way the leadership addresses to the conflict. The study shows that farmers and pastoralists were not satisfied and they are still complaining because they were expecting their leaders to help fulfilling their concerns which were the source of conflict, the aspect not achieved.

4.5.2 Farmers and pastoralists assessment of leaders in fulfilling their demands

In considering the reasons as to why farmers and pastoralists demands are either partially or not fulfilled, the study have established three main levels categories of leaders who are usually involved in conflict resolution. These include village leaders, district leaders and elders.

4.5.2.1 Village leaders

Village leadership is a very important factor in solving conflict in the village. It would stop problems and also change conflicts into positive ways through their authority. Village leadership could solve conflict before sending them to the court or before small conflict grow to higher stage. They perform their roles based on their skills of disputes as well as conflict situations. Village leaders include the following; Village executive officer, Village chairperson and all members of the village council. Table 12 show results on how farmers and pastoralist assessed village leaders in fulfilment of the demands of farmers and pastoralists.

Results in Table 12 show that 30% farmers and pastoralists' each reported that village leaders are corrupt. The result further shows as follows; bad approach used to end the conflict, farmers (5%) and pastoralists (7%). Village leaders were ignorant of the cause, 2% farmers reported while pastoralists reported by 5% of respondents, no transparency on the decision reached reported by 5% farmers and 15% of pastoralists.

Results show significant variation in the assessment of village leaders by the two groups, which imply that these two groups have different opinion toward their leaders. (Chi-square test: $P=0.000$). The study shows that village leaders were blamed by farmers and pastoralists for being corrupt, for using bad approach to end conflict, not being transparent, being in favour of pastoralist and selfishness. On the other hand, the two groups reported good performance by village leaders for being able to bring farmers and pastoralists together and advising the two groups to talk and being able to stop fighting.

Table 12: Farmers` and pastoralists` assessment on concerns fulfilment by village leaders

Opinions	Farmers	Pastoralists	Overall	p-value
	(n=60) (%)	(n=60) (%)	(n=120) (%)	
Corruption	30	30	30	
Ignorance of cause	2	5	2.3	
Bad approach used to end the conflict	5	7	6	
No transparency on the decision reached	5	15	10	
They were forcing people to agree to issues people do not like	7	11	9	
They were in favour of pastoralists/farmers	23	0	11.5	
They were selfish	20	12	16	
Used to force people	3	2	2.5	
Brings farmers and pastoralists together	1	7	4	
They advise farmers and pastoralists to talk	1	4	2.2	
They tried to put down the fight	3	7	5	
Total	100	100	100	0.000

4.5.2.2 District leaders

The district Commissioner is top leader in the district and is responsible for maintaining peace to all people in the district and works with District Executive Director (DED) and other heads of departments to stimulate and coordinate the work of the district to meet district goals. Results in Table 13 show farmers` and pastoralists` assessment on the performance of fulfilling farmers` and pastoralists` concerns by district leaders was bad.

Table 13: Farmers` and pastoralists` assessment on concerns fulfilment by district

Leaders				
Opinions	Farmers	Pastoralists	Overall	p-value
	(n=60) (%)	(n=60) (%)	(n=120) (%)	
Ignorance on cause of the conflict	11	11	11	
Corruption from pastoralists	5	1	3	
Use of police	27	27	27	
Disliked the idea of separating grazing area and farming area.	5	5	5	
Did not listen to the source of conflict	2	4	3	
Did not mind to know the cause of conflict	2	6	4	
Ignored to people`s ideas	2	2	2	
Not recognize pastoralists as important as farmers	3	11	7	
Interest of their group (Farmers/Pastoralists)	4	2	3	
Preaching peace without maintaining it	2	8	5	
They were threatening people and forced people to agree with what they wanted	4	2	3	
They did not know the importance of Farmers/Pastoralists	2	2	2	
Do not have knowledge on conflict resolution	2	6	4	
They kept preaching peace without telling how to obtain it	5	5	5	
They were forcing things of no interest to Farmers/Pastoralists	8	10	9	
They were forcing things instead of making negotiation	6	2	4	
Because did not listen to complain	9	9	9	
Total	100	100	100	0.000

Farmers and pastoralists (27%) reported on the use of police by district leaders as one of the strategies used in solving the conflict between farmers and pastoralists, a practice disliked by farmers and pastoralists. Pastoralists (11%) reported that District leaders ignored pastoralists not being important as farmers. Other opinions of farmer and pastoralists include; (11%) farmers and pastoralists reported on district leader's ignorance about the cause of conflict, (10%) pastoralists said that district leaders were forcing things of no interest to pastoralists and (8%) farmers said the same. Farmers and pastoralists reported that district leaders do not listen to pastoralists and farmers complains (9%), farmer and pastoralists (5%) reported that district leaders disliked the idea of separating grazing area and farming area which was the cause of conflict in the village, corruption from pastoralists was reported by farmers (5%) and pastoralists (1%) as one of the poor performance of district leaders and (6%) pastoralists said that district leaders did not have knowledge on conflict resolution while reported it for (2%).

Results on farmers and pastoralist assessment on concerns fulfilment by district leaders shows that farmers and pastoralists were not satisfied by performance of district leaders in fulfilling their concerns hence obtaining resolution for conflict between farmers and pastoralists. Farmers and pastoralists reported on corruption among district leaders, ignorance of the cause of conflict, lack of knowledge on conflict resolution, ignore people's ideas and use of police. All these could not help in solving farmers and pastoralist's conflict instead it was speeding up the conflict within these two communities.

4.5.2.3 Elders

Taturu and Nyiramba have a rich tradition of organizing and addressing community problems. This tradition plays a crucial role in resource mobilization, resource management, service provision, information exchange and conflict resolution through their

elders. The main role of elders in both ethnic tribes of Taturu and Nyiramba has been to maintain peace. They have been able to resolve conflicts in ways that are familiar to them and to avoid government intervention. Taturu and Nyiramba culture provides that elders are representatives of their clans. They speak on behalf of their clan and also have full authority to make decisions on its behalf. They have enormous power that they can exert on two conflicting parties (Edward, 2004).

Farmers' and pastoralists' assessment on elders about the way concerns are fulfilled does not vary significantly (Chi-square test: $P=0.123$). Further to that, unlike the case of district leaders where both farmers and pastoralists blamed district leaders as bad, results in Table 14 show that elders' performance in fulfilling farmers and pastoralist concerns is good. Results in Table 14 show that, both farmers and pastoralists reported elders' performance in fulfilling their demands was good, and both reported the same on the following: elders from both farmers and pastoralists managed to make the conflicting groups talk (8%), elders give good advice which helped to settle down the conflict (6%).

Table 14: Farmers and pastoralist assessment on concerns fulfilment by Elders

Opinions	Farmers	Pastoralists	Overall	p-value
	(n=60) (%)	(n=60) (%)	(n=120) (%)	
Elders were not given enough chance in solving this conflict	4	4	4	
Interest of their group	1	3	2	
Suggestion and recommendation based on interest of their groups either farmers or pastoralists	2	2	2	
Suggestion/recommendation of elders based on their groups either farmers or pastoralists	1	1	1	
They based on ethnic groups	4	2	3	
They were after interest of their tribes	1	5	3	
They were speaking for peoples' needs	4	4	2	
Helped to solve the conflict	2	6	4	
Made people talk but based on their ethnic groups	7	7	4	
Managed to make farmers and pastoralists to talk	8	8	8	
Managed to putdown the heat of conflict	5	5	5	
Settling the conflict	3	1	2	
Their efforts made to stop fighting	12	12	12	
They advise farmers and pastoralists to talk	1	3	2	
They advised to separate farming area and grazing area	4	4	4	
They asked farmers and pastoralists to stop fighting	6	2	4	
They give good advice which helped to settle down the conflict	6	6	6	
They helped to settle the issue	2	2	2	
They made farmers and pastoralist talk	4	4	4	
They were speaking for peoples' needs	8	8	8	
They managed to make farmers and pastoralists talk	2	4	3	
They were helping to solve the conflict	1	1	1	
They were trying to solve the conflict	8	8	8	
Total	100	100	100	0.123

Further results reported by farmers and pastoralists include: elders were speaking for peoples' needs (8%), elders were not given enough chance in solving this conflict just from the beginning of that conflict (4%), elders managed to putdown the heat of conflict (5%) of both farmers and pastoralist, elders advised to separate farming area from grazing area this was said by 4% respondents, and 12% respondents said that efforts done by elders achieved to stop fighting. These results show the need to use elders in resolving farmers and pastoralists conflicts because in African culture elders are most respected and they are able to give constructive ideas which may be useful in their community, they know the root causes of the conflicts, they are close to their people and they are part of a particular society and therefore they do not need favours from their people like corruption so that to solve the conflicts in their societies.

4.5.2.4 Sustainability of strategies for conflict management

Results show that the main cause of conflict between farmers and pastoralist in Makomelo village is land which is used by farmers for cultivation and grazing for pastoralists. This concern was not solved neither by leaders nor elders. Results show that leaders rejected the concept of separating farming from grazing area the idea which could have reduced direct collision between farmers and pastoralists. The study indicates that farmers see pastoralists as very bad people and see them to be responsible for every bad thing such as crop destruction, land degradation and farm encroachment. This tendency of farmers to look pastoralist in a negative way can increases hatred between these two groups which can increase the rate of conflict among these communities. The study shows that pastoralists also perceive farmers as very bad people and see them to be responsible for cattle route encroachment, responsible for encroaching grazing area, use more water for irrigation, water sources destruction and poor farming method which cause land degradation and the main cause of grazing land encroachment. The perception of farmers

towards pastoralists and pastoralists towards farmers shows that each of the two groups is asserting each other the result which makes it difficult to resolve the conflicts. Leaders in any society are responsible in peace maintenance within a particular community. The results show that farmers and pastoralists do not trust their leaders because they blamed them for involving in corruption. These results indicate that strategies for managing the conflict between farmer and pastoralists and the resolution obtained are not sustainable.

CHAPTER FIVE

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study shows that there is no good result can be obtained by using power in solving conflict between farmers and pastoralists. The study shows that conflict kept occurring despite extra power used especially by police force. The study further shows that, sustainable resolution is obtained by creating awareness to the community members to know the importance of peace keeping in their society, and involve people and especially the conflicting groups to find out for their own what are the causes and what are the strategies suitable to end conflict.

The study indicates that farmers perceive pastoralists as very bad people and see them to be responsible for every bad thing such as crop destruction, land degradation and farm encroachment. This tendency of farmers to perceive pastoralists in a negative way it can increase hatred between these two groups which can increase conflict among these communities.

The study indicates that pastoralists also perceive farmers as very bad people and see them to be responsible for cattle route encroachment, responsible for encroaching grazing area, use more water for irrigation, water sources distraction and Poor farming method which cause land degradation and hence the main cause of grazing land encroachment. The perception of farmers towards pastoralists and pastoralists towards farmers shows that each of the two groups is blaming each other the result which makes it difficult to resolve the conflicts.

Basing on the results of this study, both farmers and pastoralists share the same opinions about conflict meaning that both farmers and pastoralists have the same experience on the effects of conflict. In the first place both farmers and pastoralists agree that conflict leads to loss of life and destruction of properties and social relationship which make life to become difficult.

The study shows that village leaders were blamed by farmers and pastoralists for being corrupt, for using bad approach to end conflict, not being transparent, being in favour of pastoralist and selfishness. These were bad things which leaders can do because instead of putting down the conflict these acts were speeding up the conflict.

These results show the need to use elders in resolving farmers and pastoralists conflicts because in African culture elders are most respected and they are able to give constructive ideas which may be useful in their community, they know the root causes of the conflicts, they are close to their people and they are part of a particular society and therefore they do not need favours from their people like corruption so that to solve the conflicts in their societies.

These results indicate that strategies set to managing the conflict between farmers and pastoralists and the resolutions obtained are not sustainable instead it's a short lived resolution.

5.2 Recommendations

- i. Corruption among the village and district leaders was reported as a problem in ending the conflict among farmers and pastoralists. To avoid corruption the Government should make sure those leaders who are involved in solving the

conflict among farmer and pastoralists are faithful and devoted to the people they serve.

- ii. Grazing land should be separated from farming land and when doing it must involve farmers and pastoralists. This will avoid competition for the available few resources of land and water because it will enhance farmers and pastoralists to make effective use of their respective areas.
- iii. Elders should be fully involved in resolving farmers and pastoralists conflicts since they seem to know the root causes of the conflicts, they are close to their people, they are part of the particular society and therefore they do not need favours from their people like corruption.
- iv. The study shows no efforts being put in trying to establishing the root causes of the conflicts. It is therefore recommended that the government should address itself the problem by making sure that the cause of conflict is undoubtedly known.
- v. Government leaders should find out peaceful ways of solving the conflict rather than using force because force will provide just short lived resolution.
- vi. The government, Government leaders and all stakeholders involving in resolving conflict between farmers and pastoralists should take each group as important as another group.
- vii. Farmers and pastoralists should be taught on how to use the available resources such as water and land for benefit of both groups.
- viii. The conflicting groups should learn how to live by respecting and trusting each other and that the suffering for one is suffering for all.

REFERENCES

- Abiodun, A. (2007). Natural resources and conflict in Africa. The tragedy of endowment. [https://www.google.com/search?q=conflict+over+resources+in+africa] site visited on 14/7/2014.
- Alfonso, P. C. and Erik, N. (2001). Environmental science and policy. Indigenous people and co-management: Implications for conflict management. pp 229-239. [http://www.sciencedirect.com/science/article/pii/S1462901101000223] site visited on 21/5/2014.
- Angel, N. (2011). Land conflicts in Tanzania uncalled for. [http://www.ippmedia.com/frontend/functions/print_article.php?l=27916] site visited 15/7/2014.
- Aron, J. (2002). *Building Institution in Post-Conflict African Economies*. Discussion Paper No. 124. World Institute for Development Economic Research. Helsinki, Finland. 24pp.
- Babbie, E. (1990). *Survey Research Methods*. (2nd Ed.), Wadsworth publishing company, Belmont, California. 395pp.
- Bailey, D. K. (1994). *Methods of Social Science Research*. The free press collier Macmillan, London. 135pp.

- Barry, J. Z. (2000). Self-Efficacy: An essential motive to learn. Graduate school and university center of city university of New York. *Contemporary Educational Psychology* 25: 82–91.
- Becker, G. S. (1960). *An Economic Analysis of Fertility Demographic and Economic Change in Developed Countries*. Princeton University Press, Princeton. pp. 209–231.
- Bell, C. (2000). *Peace Agreements and Human Rights*. Oxford University Press, Oxford. 288pp.
- Brian, B. (1998). Social exclusion, social isolation and the distribution. [<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&ved>] site visited on 12/07 2014.
- Bryman, A. (2008). *Social Research Methods*. Oxford University Press Inc., New York. 179pp.
- Buckles, D. and Rusnak, G. (1999). *Conflict and Collaboration in Natural Resource Management*. in: (Edited by Buckles, D.), *Cultivating peace. Conflict and collaboration in natural resource management*, Ottawa. 14pp.
- Burton, J. W. (1990). *Conflict: Human Needs Theory*. St. Martin's Press, New York. 189pp.

- Casley, D. J. and Kumar, K. (1988). *The Collection, Analysis and use of Monitoring and Evaluation of Data*. The international bank for reconstruction and development, Washington, DC. 172pp.
- Charles, K. A. and Ronald, E. R. (2012). Communication campaigns. Theory and principles of public. [https://www.sagepub.com/sites/default/files/upm-binaries/46948_CH_1.pdf] site visited 14/7/2014.
- Chatwin, B. (1989). *Nomad Invasions, In What am I Doing Here?* Picador, London. pp. 216 – 229.
- Daniel, S. (2014). Farmers, pastoralists, conflicts: Where have we failed? [<http://www.ippmedia.com/frontend/?l=63745>] site visited 16/5/2014.
- Daniels, A. M. (2006). Farming, ranching and stress: It's a family issue. [<https://www.aiaee.org/attachments/article/500/adisa%2018%281%29.pdf>] site visited on 26/5/2014.
- Davies, J. D. (1973). Aggression, violence, resolution, and war. In: *Handbook of Political Psychology*. (Edited by Jeanne, N. K.), San Francisco. pp. 234 – 260.
- Davis, M. (2015). Persistence of Farmer-Herder conflicts in Tanzania. *International Journal of Scientific and Research Publications, Volume 5, Issue 2*.
- DED (2013). *District Development Annual Report*. Igunga District Council. Igunga, Tabora. 150pp.

- De Haan, C. (2002). *Nigeria Second Fadama Development Project*. Preparation mission report, livestock component, Nigeria. 13pp.
- Deutsch, M. (1991). *Subjective Feature of Conflict Resolution: Psychological, Social and Cultural Influences*. In: (Edited by Vayrnen, R.), *New directions in conflict theory conflict resolution and conflict transformation*, New Bury Park Sage. pp. 26 – 56.
- Diez, T., Stetter, S. and Albert, M. (2004). *The European Union and the Transformation of Border Conflicts*. Theorizing the impact of integration and association. working paper No1. European Union. pp 1-47.
- Dodge, Y. (2003). The oxford dictionary of statistical terms. *Journal of Pharmaceutical Statistics* 3(3): 228 – 229.
- Driscoll, C. (1994). *Diversity, dialogue and learning: the case of the forest round table on sustainable development*. Thesis for Award of PhD Degree at Queen's University, Kingston, Canada. pp 120-127.
- Edward, M. (2004). *Tribe or Nation? Nation building and public goods in Kenya versus*. *World Politics Vol. 56(3): 327-362*.
- Essuman-Johnson, A. (2009). *Regional conflict resolution mechanisms: A comparative analysis of two African security complexes*. *African Journal of Political Science and International Relations* 3(10): 409 – 422.

Faustin, P. M. (2011). The Kilosa killings political ecology of a farmer herder conflict in Tanzania. [<http://www.researchgate.net/publication/230265512>] site visited on 12/03/2015.

Finucane, M. L., Mertz, C. K., Slovic, P. and Schmidt, E. S. (2005). Decision Making: Factors that influence decision making, heuristics used, and decision outcomes. [https://www.google.co.tz/?gws_rd=cr&ei=8omNU73eElmyOYD9gegH#q=Finucane%2C+et+al%2C+%282005%29] site visited on 29/5/2014.

Folger, J. P., Poole, M. S. and Stutman, R. K. (1997). *Working Through Conflict: Strategies for Relationships, Groups and Organizations*. (3rd Ed). Harper Collins, New York. pp132-152.

Fournier, L. R. and Gallimore, J. M. (2013). What makes an event: *Temporal Integration of Stimuli or Actions?* 75(6):1293-305. doi: 10.3758/s13414-013-0461-x. [<http://www.ncbi.nlm.nih.gov/pubmed/23661159>] site visited on 12/04/2013.

Harbom, L. and Wallensteen, P. (2005). Armed Conflict and Its International Dimensions. [https://www.google.co.tz/?gws_rd=cr&ei=8omNU73eElmyOYD9gegH#q=Harbom+L%2C+Wallensteen+P+%282005%29] site visited on 22/5/2014.

Hocker, J. L. and Wilmot, W. W. (1985). *Interpersonal conflict*. International Institute for Environment and Development, London. [<http://books.google.co.tz/books?>] site visited on 21/5/2014.

- Jan Douwe van der Ploeg, (2005). Rural development. The Peasant Mode of Production Revisited. [<http://www.jandouwevanderploeg.com/EN/publications/articles/the-peasant-mode-of-production-revisited/>] site visited 15/7/2014.
- Kaberry, P. M. (1959). Farmer-grazier relations and the changing pattern of agriculture in Nsaw. [<http://www.questia.com/library/journal/1P3-3025227021/access-to-land-in-the-anglophone-regions-of-cameroon>] site visited on 5/7/2014.
- Kamla-Raj (2008). Factors associated with pastoral and crop farmers conflict in Nigeria. *Journal Hum. Ecol.* 23(1): 71-74.
- Kaplan, R. (2000). The coming anarchy shattering the dreams of the post-cold war. Random House. London. [<http://www.nytimes.com/books/first/k/Kaplan-anarchy.html>] site visited on 20/5/2014.
- Kasomo, D. (2010). The position of African traditional religion in conflict prevention. *International Journal of Sociology and Anthropology* 2(2): 23 – 28.
- Katani, J. Z. (1999). The role of gender bases indigenous knowledge coping strategies against deforestation. A case study of Mwanza District. Dissertation for the Award of MSc. Degree at Sokoine University of Agriculture, Morogoro, Tanzania. 110pp.
- Kaufmann, R., von, S. C. and Blench, R. M. (1986). Livestock systems research in Nigeria's subhumid zone. Proceedings of Sub-humid zone Livestock Conference. Kaduna 29/10-2/11/84. Addis Ababa: International Livestock Centre for Africa.

- Kendra, C. (2012). Perception and the Perceptual Process. [<http://psychology.about.com/od/sensationandperception/ss/perceptproc.htm>] site visited on 12/04/2013.
- Koffi, A. (2010). Alternative land tenure conflict management mechanisms: Analytical. December, 2010. [<http://www.sciencedirect.com/science/article/pii/S1462901101000223>] site visited on 12/06/2015.
- Kolawole, A., Awogbade, M. O. and Voh, J. P. (1993). Sustainable use of the Fadama in Northern Nigeria. *Proceedings of the National Policy Workshop (Abstracts) held in Maiduguri. Centre for Social and Economic Research and International Institute for Environment and Development, London.* 16pp.
- Mallam, D. (2003). The Transformation of Conflict between Pastoralists and Cultivators in Nigeria. Paper in press for a special issue. *Journal of Africa*, ed. Moritz, M. 1: 1-12.
- Moore, K. M. (2005). Conflict, social capital and managing resources: A West African case study. Commonwealth for Agriculture Bureau International, Wallingford, UK. pp266. [<http://www.org/attachments/article/500/adisa%201%281%29pdf>] site visited on 20/5/2014.
- Mwajaide, F., Miller, J. D., Wailes, E. and Petersen, L. (2009). The value of focus group discussions for understanding barriers to agriculture-tourism linkages in developing regions. *Journal of International Agricultural Education and Extension* 16: 59 – 64.

- Nader, L. and Todd, H. (Eds) (1978). *The Disputing Process*. University of California Press, Berkeley. [https://www.google.co.tz/?gws_rd=cr&ei=KXmNU-u7BoqB4gSdhYCgDA#qNader%2C+L.+and+H.+Todd+%28eds.%29%2C+%281978%29] site visited on 5/4/2014.
- Norman, A. S. (2013). Conflict management among the farmers and pastoralists in Tanzania. *International Journal of Business and Social Sciences* 1:2.
- Ochi, J. E. and Toro, A. (2007). Comparative analysis of socio-economic dynamic of inorganic and organic fertilizers use in small-scale maize production in Bauchi State, Nigeria. *Journal of Agriculture Technology* 1: 106 – 118.
- Pendzich, C., Garry, T. and Tim, W. (1994). *The Role of Alternative Conflict Management in Community Forestry*. Food and Agriculture Organization, Rome, Italy. 498pp.
- Reed, A., Mikels, J. and Simon, K. (2008). Older adults prefer less choice than young adults. *Psychology and Aging* 23(3): 671 – 675.
- Richards, A. (1988). Kaolin vs forest and river: A dilemma in Dar es Salaam. *Splash* 4(3): 228-356.
- RSA (2007). Policy framework for the government-wide monitoring and evaluation system. [<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CDcQFjADahUKEwjMpMuCvLfHAhWGodsKHW>] sited visited on 15/04/2015.

- Sandole, D. (1998). A comprehensive mapping of conflict and conflict resolution: A three pillar approach. *Peace and Conflict Studies* 5(1): 1 – 25.
- Schellenberg, J. (1996). *Conflict Resolution*. State University of New York Press, New York. 198pp.
- Signer, D. J. (1996). Armed conflict in the former colonial regions: From classification to explanation. Between development and destruction: An enquiry into the causes of conflict in post-colonial states. London: Cambridge. [https://www.google.co.tz/?gws_rd=cr&ei=JGeNU5SPLIrN4QSm1IFY#q=Signer%2C+DJ+%281996%29] site visited on 25/5/2014.
- Smith, D. (2005). Trends and causes of armed conflict. Bergh of handbook for conflict transformation Berlin. [http://www.berghofhandbook.net/article/smith_handbook.pdf] site visited on 5/2/2014.
- Stuart, E. (2003). International socialist review issue 32, November–December 2003 Marx's theory of economic crisis. [http://isreview.org/issues/32/crisis_theory.shtml] site visited on 12/03/2015.
- URT (2012). Population and housing census. Tabora Regional profile, Bureau of statistics and planning commission, Dar es Salaam. [<http://www.odi.org.uk/resource/s/docs/3341.pdf>] site visited on 8/6/2014.
- Walker, J. L. (2000). Recognizing farm stressors. [<http://www.gov.mb.ca/agriculture/hometc/cba/htm>] site visited on 26/5/2014.

Zartman, I. W. (1985). *Ripe for resolution: Conflict and intervention in Africa* Oxford.

[<http://www.ilri.org/ilrnews/index.php/archivesoxfordjournals.org/cgi/reprint/86/345/5pdf>] site visited on 26/2/2014.

Zartman, I. W. (2005). *Traditional cures for modern conflicts: African conflict*

“medicine”. Lynne Rienner publishers. [<http://sociology.about.com/od/Sociological-Theory/a/Conflict-Theory.htm>] site visited on 26/4/2014.

APPENDICES

Appendix 1: Assessment of effectiveness and sustainability of strategies for management of conflict between farmers and pastoralists over land use in Makomelo Village, Igunga

Farmers/Pastoralists Interview Schedule

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

A: Farmers/Pastoralists Characteristics (Circle where required)

1. Age

- 1. 18yrs – 35yrs
- 2. 36yrs – 55yrs
- 3. 56yrs – 75yrs

2. Sex.

- 1. Male
- 2. Female

3. Marital status

- 1. Single
- 2. Married

3. Widowed
4. Abandoned/divorced/separated

4. Level of education of the respondent:

1. None
2. Standard four
3. Standard seven
4. Form four
5. Form six
6. College
7. University

5. Number of people in the household

1. Children up to 5 years of age. Total
2. Above 5 years of age up to 16 years. Total
3. Above 18 years of age. Total

6. What are sources of income for your household? Rank them according to the amount earned per year

1. Farming
2. Livestock
3. Paid employment
4. Off-farm income generating activities (specify)
5. Casual labor

7. What crops do you grow? (For farmers)

1. Maize
2. Cassava
3. Both maize and cassava
4. Paddy
5. Other crops (specify)

8. What type of livestock do you keep? (For pastoralist)

- 1. Cattle
- 2. Goats
- 3. Sheep
- 4. Poultry
- 5. Pigs
- 6. Other livestock (specify)

9. What is the size of your farm/grazing area (in hectares)?

.....

10. How did you obtain it?

- (1) Purchase (2) purchased (3) Inherited (4) Allocated by government
- (5) Others (Specify).....

11. For how many years do you own it?

Years.....

12. How land is used?

- (1) Cultivation (2) Grazing (3) Both (4) Others (Specify).....

13. Does the village have a communal grazing area? (**For pastoralists**)

- (1) Yes (2) No

14. If yes is the area enough in relation to number of livestock available in the village?

(For pastoralists)

- (1) Yes (2) No

B: Effectiveness of Conflict Management Strategies Mechanism (Circle where required)

15. Do you recall any conflict between farmers and pastoralists?

(1) Yes (2) No

16. Were you in any way affected by this conflict?

(1) Yes (2) No

17. What effect did you get?.....

18. Did any member of your family participate in this conflict?

(1) Yes (2) No

19. What exactly did you do that entails participation in conflict?.....

20. What are your main concerns as a pastoralist in this conflict? **(For Pastoralists)**

(Circle where required)

(1) Water for animals

(2) Grazing land encroachment

(3) Cattle route encroachment

(4) Others (specify)

21. How fully was your demand fulfilled?

(1) Fully fulfilled

(2) Partly fulfilled

(3) Not at all

22. If NO, do you think who caused your demand not fulfilled?

(a) Village leaders

(b) District leaders

(c) Elders

(d) Farmers

(e) Pastoralists

24. If you demand not met what do you expect to do so that to obtain your demands?

- (1) Continue the conflict
- (2) Continue demanding them following the regulation
- (3) Decide to follow the decision reached
- (4) Others (specify)

25. What was the main concern for farmers in the conflict? **(For Farmers)**

- (1) Water for irrigation
- (2) Crop distraction
- (3) Land for cultivation
- (4) Unauthorized livestock grazing of crops residues
- (5) Others (specify)

26. How fully was your demand fulfilled?

- (1) Fully fulfilled
- (2) Partly fulfilled
- (3) Not at all

27. If NO, do you think who caused your demand not fulfilled?

- (a) Village leaders
- (b) District leaders
- (c) Elders
- (d) Farmers
- (e) Pastoralists

28. If you demand not met what do you expect to do so that to obtain your demands?

- (1) Continue the conflict
- (2) Continue demanding them following the regulation
- (3) Decide to follow the decision reached
- (4) Others (specify)

29. Did leaders do a good job or a bad job in resolving conflict between farmers and pastoralists?

29a. Village level leaders

29b. District level leaders

Explain.....

30. Did elders do a good job or a bad job in resolving conflict between farmers and pastoralists? Explain.....

31. Are there other people in the village who are not neither farmers nor pastoralists?

(1) Yes (2) No

32. If yes what was their side in this conflict?

(1) For farmers

(2) For pastoralists

(3) Non

33. What are their views for resolution obtained?

(1) Very fair (2) Fair (3) Unfair (4) Non

34. What is your comment on decision reached to end this conflict?

(1) Seem to favor pastoralists

(2) Seem to favor farmers

(3) Were neutral

C: Perception of Farmers and Pastoralists towards Each Other (Circle where required)(For Farmers)

35. Pastoralists are not responsible with crop destruction.

(1) Strongly agree (2) Agree (3) Neutral (4) Disagree (5) Strongly disagree

36. Destruction to crops is not done intentionally by pastoralists?

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

37. Pastoralists takes care on others property.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

38. Pastoralists tend to value only their animals.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

39. Pastoralists have got large number of animals; they fail to control their animals.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

40. Pastoralists are not involved in land degradation

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

41. Pastoralists are the main cause of farm encroachment

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

For Pastoralists

42. Farmers are not responsible for encroach grazing area

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

43. Farmers are not responsible for cattle route encroachment.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

44. Poor farming method cause land degradation which is the main cause of encroachment

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

45. Water sources distraction is not done by farmers.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

46. More water is not used by famers for irrigation

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

47. Farmers are not always good people

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

D: People's Perception towards Conflict (Circle where required)

48. Distraction of properties does not occur during conflict.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

49. Loss of life is one of the effects of conflict.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

50. Distraction of social relationship does not occur during conflict.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

51. All parties involved in conflict suffered with the conflict

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

52. Everybody is doing enough to make sure that no more conflict in the village

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

53. Time money and other resources are wasted during conflict.

(1) Agree (2) strongly agree (3) Neutral (4) Disagree (5) Strongly disagree

THANKS FOR YOUR COOPERATION

**Appendix 2: Assessment of Effectiveness and Sustainability of Strategies for
Management of Conflict between Farmers and Pastoralists over Land
Use in Makomelo Village, Igunga**

Checklist for Key Informants

Name.....

Village.....

Ward.....

1. How negotiation contributed to reach an agreement between the opposing parties?.....
2. Who were involved in the negotiation?.....
3. How mediators helped opposing parties reach an agreement?.....
4. What do you think it required law interpretation in this conflict?.....
5. What was the contribution of lawyers in solving conflict?.....
6. How government forces used in solving the conflict between farmers and
pastoralists?.....
7. What was the contribution of elders in solving the conflict?.....
8. What was the role played by government in ending the conflict?.....
9. How religious institutions helped in obtaining resolution?.....
10. What were the contributions of local leaders to this conflict?.....
11. Was there any committees involved in solving the conflict?.....
12. On your views, how effective was the committee?.....