

The Role of Community Based Knowledge and Local Structures in Disaster Management

A Case Study of Landslide Occurrences in Nametsi Parish of Bukalasi Sub County in Bududa District, Eastern Uganda

Misanya Doreen

Supervisor

Professor Jonathan Baker

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University of Agder, 2011
Faculty of Economics and Social Sciences
Department of Development Studies

DECLARATION BY CANDIDATE

I, **Misanya Doreen** hereby declare that this thesis: *The Role of Community Based Knowledge and Local Structures in Disaster Management: A Case Study of Landslide Occurrences in Nametsi Parish of Bukalasi Sub County in Bududa District, Eastern Uganda* is my original work and has not been previously submitted either as a whole or in part to any institution of higher learning for any kind of award.

Name: Misanya Doreen

Date: 27.05.2011

Place: Kampala

ABSTRACT

All over the world, disasters are known to destroy developments which have taken years to be achieved in just a few hours or even minutes. Evidence in this study and in the literature investigated suggests that both developed countries like Japan and the USA, and developing countries like Haiti, Sri Lanka and Uganda have experienced disasters; the effects of which have been similar. By implication, disaster management does not only require finances but also adequate preparation involving all stakeholders. Specifically, stakeholders like community members must be well prepared and adequately equipped to cope with disasters.

This study explored the role of community based knowledge and local structures in disaster management and especially how these could be used for disaster management. This was premised on the thesis that when disasters occur, communities constitute key primary actors in relief provision and they do this on the basis of their knowledge through structures in their communities.

Qualitative methodologies were used in this study with the resonance that it would help gather community perceptions in relation to the causes and effects of the disasters and how these perceptions shape their knowledge, practices and general responses to the phenomenon.

Findings from the study revealed that explanations for causes of the disasters are as varied and diverse as there are responses to them. Whereas some community members acknowledged that their actions have contributed to disasters, others said that natural happenings like rainfall and volcanism triggered the landslide, while others maintained that there were evil and godly/ divine powers behind it all.

Whilst community based knowledge and local structures were found to be very significant at the various strands of disaster management, it was also found that they are not without limitations during their application as well as utilisation.

The study further revealed the loose synergy between government, civil societies and communities and therefore recommended cooperation, coproduction, and interdependence as key solutions

Different forms of community based knowledge and local structures in Nametsi Parish were established and the study suggested that these could be put to use by directly and actively involving communities, changing attitudes towards them, harnessing and documenting CBK and capacity building and empowering communities.

Key words: Community based knowledge (CBK), local structures, disaster, and disaster management (DM).

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BDLG	Bududa District Local Government
CBK	Community Based Knowledge
CS	Cultural Site
DEOs	District Environmental Officers
DDMC	District Disaster Management Committee
DFG	District Forest Guard
DM	Disaster Management
FGDs	Focused Group Discussions
GISO	Gombolola Internal Security Officer
HDR	Human Development Report
HIV	Human Immune-deficiency Virus
IFRCs	International Federation of Red Cross and Red Crescent Societies
MDGs	Millennium Development Goals
NGO	Non Government Organisation
OCHA	Office for the Coordination of Humanitarian Affairs
UPDF	Uganda People's Defence Force
UN	United Nations
UNDP	United Nations Development Program
UNEP	United Nations Environmental Program
UNICEF	United Nations Children's Educational Fund
UNISDR	United Nations International strategy for Disaster Reduction
URCS	Uganda Red Cross Society
WDR	World Disaster Report
WFP	World Food Program
WHO	World Health Organisation

CHAPTER ONE: BACKGROUND TO THE STUDY

1.0. Introduction

Today, the world is facing disasters on an unprecedented scale and as Watkins (2008) notes natural disasters tend to reverse development gains, for example, they destroy important infrastructure and they have the potential to change a country's growth path or they can even destroy much of what took years to build in just a few days, hours or even minutes. A case in point is the Asian Tsunami which took place on December 26, 2004. This tsunami greatly affected Sri Lanka and Indonesia (UNEP, 2005). Achim Steiner the UN under- secretary general and executive director UNEP also resonates that different forms of disasters including earthquakes, floods, cyclones and tsunamis are becoming more destructive as they spell distress for large numbers of victims who suffer misery, death and loss of livelihoods (UNEP, 2007).

In response to disasters and emergencies several actors come into play including local communities. As suggested by Helsloot and Ruitenbergh (2004) in Scharffscher (2005), local communities represent a crucial resource in the initial stages of an emergency. In fact, Scharffscher (2005) observes that it is more of a myth to think that people become paralysed and passive in the face of disaster, rather people behave rationally and in an organised manner. In most cases, people will be temporarily shocked and then reorganise themselves to help the survivors before the relief agencies come to assist. Although community based knowledge and local structures are important at this level, they are scarcely recognised as compared to international donors' and relief agencies' roles which are always highlighted and documented.

Despite this crucial role that local knowledge plays, Escobar (1994:7) reveals that, non-western knowledge systems have been marginalised and disqualified. He however proceeds to suggest that 'the remaking of development must start by examining local constructions, to the extent that they are the life and history of the people, as the conditions for and of change' (Escobar (1995:98) in Briggs (2005:99, 100). To this end, relief agencies need to work closely with local communities and also there is need to understand how local and western knowledge systems and structures can be used alongside each other.

This report presents findings from a study carried out in Nametsi Parish of Bukalasi Sub County in Bududa District to assess the role of Community Based Knowledge (CBK) and Local Structures in disaster management (DM). The author chose this parish because it has been repeatedly affected by landslides, some of them having incomprehensible impacts on human wellbeing.

In the following sections, a presentation is made on: the main research objectives and questions; the research area, literature review, qualitative methodologies used for the study, empirical findings, analysis and discussion of findings, and conclusions and recommendations drawn.

1.1. Statement of the problem

In many countries, meeting the Millennium Development Goals (MDGs) is extremely challenged by losses triggered by natural disasters. Direct losses from disasters include destruction of infrastructure, erosion of livelihoods, damage to the integrity of ecosystems and architectural heritage, injuries, illness and deaths. To make matters worse, these losses interact with and can also aggravate other stresses and shocks such as a financial crisis, a political or social conflict, disease (e.g. HIV/AIDS), and environmental degradation (UNDP, 2006). Uganda and Bududa District in particular, is no exception as the recent landslides which occurred led to deaths, psychological traumas, injuries and internal displacement of many people (Kitutu et al, 2009).

The stagnation and retrogression that disasters cause to development paths especially of poor countries can in no way be underestimated (Watkins. 2007). Poor countries and particularly the poor in those countries suffer most since most of them live on marginal lands and depend on high-risk, low return livelihoods like rain-fed agriculture. As such the idea of collective responsibility towards natural disaster management becomes handy and indeed timely.

Interestingly Legarda in the WDR (2009) observes that timely preventative response to disaster risk requires technically sound, politically viable and communally acceptable early warning systems. This partly implies that disaster risk reduction should be people-centred and communities should be helped to be resilient. She further argues that in order to curb increasing disaster risks and climate change impacts, it is vital to unite and take concrete concerted actions for securing human life and livelihoods and protecting socio-economic gains and opportunities.

Legarda (WDR, 2009) seems to re-emphasize the greater significance of communities' participation compared to other stakeholders in disaster risk reduction since they are directly affected by disasters. It can therefore be suggested that one feasible way of integrating communities in disaster management processes is by putting to use community resources like knowledge and local structures. Consequently, this study delves into examining the role and extent of applicability and utilisation of community based knowledge and local structures in disaster management.

1.2. Research objectives and questions

1.2.1. Main objective

To examine the role and extent of applicability of community based knowledge and Local Structures in disaster management in Nametsi Parish of Bukalasi Sub County, Bududa District.

1.2.2. Research questions

1. How do communities perceive disaster situations with respect to causes and response?
2. What are the effects of disasters on livelihoods of communities?
3. What types of community based knowledge and local structures exist in regard to disaster preparedness and management?
4. To what extent can community based knowledge and local structures be utilised in disaster preparedness and management?
5. Is there any synergy between relief agencies and communities in regard to disaster management?

1.3. The research area: Bududa District

Location: Bududa District lies at the South Western slopes of the Mount Elgon volcano in Eastern Uganda. Like many districts of Uganda, it was named after its chief town 'Bududa'. It was initially part of Manafwa District as Manjiya County but it was made a district in 2006. It is bordered by Manafwa District to the south, Sironko District to the north, Mbale District to the

west, and the Republic of Kenya to the east. Bududa District headquarters are located approximately 23km by road southeast of Mbale, the largest city in the sub-region.

Climate and Relief: According to Kitutu et al (2011) Bududa District is geographically bound by latitude 1° 04'N and 1° 00' N, longitude 34° 15'E and 34° 26'E with an average precipitation of above 1500mm of rainfall per year. The district has two distinct wet seasons distinguished by dry seasons during December to February and July. The precipitation usually peaks in May and October and it is largely influenced by the high altitude of 1250-2850m and an average of 1,800 m (5,900ft) above sea level. The district is also characterised by steep slopes which are V-shaped indicating river incisions (Kitutu et al, 2011).

Bududa District also has a unique relief consisting of ridges, cliffs and bamboo forests and according to Kitutu et al (2009), Mt. Elgon National Park covers approximately 40% of the district.

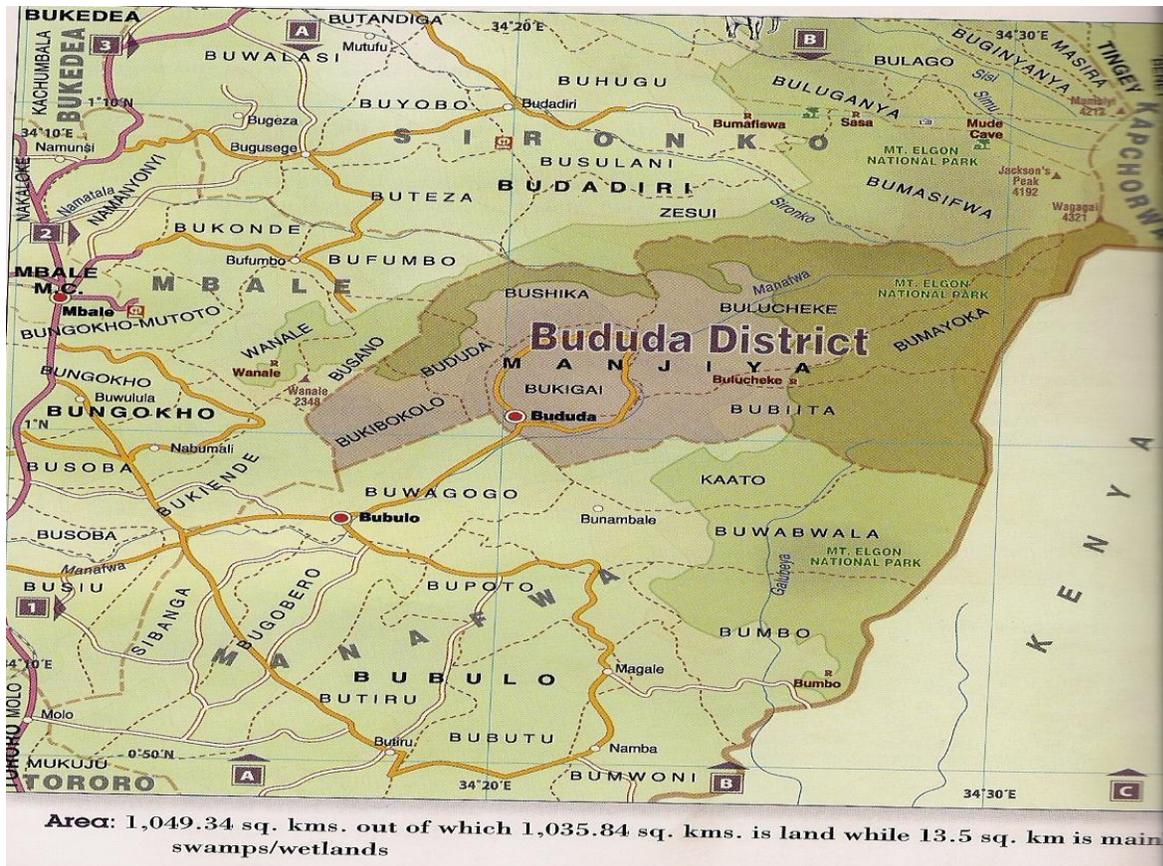
Economic Situation: The major economic activity in this district is subsistence agriculture which is facilitated by the fertile volcanic soils and abundant rainfall (average: 1,500mm/year). This ensures ample production of food crops as well as cash crops such as coffee, beans, plantain, carrots, cabbage, tomatoes, and green vegetables. Other activities include small-scale and medium medium-scale businesses including retail shops, food kiosks, restaurants, bars, and transportation. Some of these activities provide the only and yet infrequent income to the owners (Rwabwogo and Karibije, 2007).

Administration: Bududa is largely a rural district with nine urban growth centres which also serve as lower local governments, eight of which are sub-counties and one town council as listed; Bududa, Bukalasi, Bukibokolo, Bukigai, Bulucheke, Bumasheti, Bumayoka, and Bushika sub-counties and Bududa Town Council (Bududa District Local Government (BDLG, (2007).

Population: By 2006 the district census report revealed that the district had a total of 73,861 females and 74,468 males. This places the ratio at approximately 1:1 respectively. The population is steadily growing at a rate of 3.8% per annum (Uganda Population and Housing Census Report (2002) in BDLG, 2007). As of recent, Kitutu et al (2011) reveals that Bududa District is densely populated with about 952 persons per square kilometer. It seems the

them the central focus for this study. It is also worth noting that these villages have also had repeated occurrences of landslides. Their location on the steep slopes of Mt. Elgon, loose soil types, bi modal rainfall patterns and high population growth rate makes them more vulnerable to landslides and their consequences (Kitutu et al, 2009).

Map 2: Map of Bududa showing the Sub Counties and Mount Elgon national park



Source: Rwabwogo and Karibije (2007)

The History of Landslides in Bududa District

The Office of the Prime Minister (OPM) defines landslides as rock, earth and debris that flow down a hill due to gravity (OPM, 2010). The pattern of the flow is usually from a higher to a lower altitude. The OPM further advances that landslides are triggered by rains, floods, earthquakes and other natural causes as well as human-made causes like grading the landscape, deforestation, over cultivation, terrain cutting/alteration and filling, and excessive development.

Evidence by scholars like Kitutu et al (2004) and Kitutu et al (2009) suggests that the landslide of March 2010 was not the first landslide the district had faced. Bududa District and other districts around the Mt. Elgon region have had several landslides since 1989.

The landslide of 1989: In 1989, Bubiita³ Sub County faced a major landslide. However this landslide was not disastrous since fewer lives, livelihoods and property were destroyed. Scholars argue that this is because by then the population was smaller, the slopes were forested and the mountain slopes where the landslide occurred were not inhabited (Kitutu et al, 2004). According to a Uganda Red Cross Society (URCS) official, this landslide caused flooding which also resulted in diseases like malaria and cholera attracting the attention of the URCS. In this landslide, 11 people lost their lives

The 1997 to 1999 landslides: This two years' period witnessed various landslides in different parts of Manjiya County which is the present day Bududa District. The landslides were accelerated by the El Nino rains. In the process, 48 people lost their lives and 10,000 others were displaced (Kitutu et al, 2004). Out of the 48 people who died, 43 were from Bubiita Sub County (Kitutu et al, 2011).

The March 2010 landslide: This landslide took place in Nametsi and Ulukusi Parishes of Bukalasi and Bumayoka Sub Counties respectively. It was a major landslide that had several devastating consequences ever recorded in the history of the districts around the Mt. Elgon region. The slides mingled with rocks and vegetative debris, swept down slopes and houses, people, household property and livestock burying a church and three villages of Nametsi Parish (i.e. Nametsi, Kubewo and Namangasa), and causing loss of six lives in Ulukusi Parish (OCHA, 2010). The three villages in Nametsi Parish were highly populated with about 3,000 people located high in the mountain (OCHA, 2010). As revealed by OPM (2010), on March 1st 2010 the landslide in Nametsi Parish erupted at about 18.30 from 800m above Nametsi Trading Centre. The mudslide covered an area of about 80m wide from the initial point up the slope and 250m wide down the slope. A number of 250 people were found missing after the tragedy and over 8,500 survivors were left helpless in the two sub counties.

³ Two years after the advent of Bududa district, Bubiita Sub County was split up to give birth to present day Bubiita and Bukalasi Sub Counties

Figure 1: Diagrammatic representation of the landslide in Nametsi Parish



Source (OPM, 2010)

CHAPTER TWO: LITERATURE REVIEW

2.0. Introduction

In this section, a review and analysis of existing literature related to the topic of study is made. The presentation is premised on the research questions. Specifically, the chapter examines literature regarding community perception of the causes of disasters and the nature of response, effects of disasters on livelihoods, community based knowledge, local structures, and synergy that exist among relief agencies, governments and communities in disaster management.

2.1. How communities perceive disaster situations

The purpose of this section is to draw the reader's attention to some of the perceptions that communities have in regard to disaster causes and responses. The thesis here is that the way communities perceive causes of a disaster shapes their responses towards it.

Much as policy makers seek to be responsive to citizen's demands and concerns as emergency preparedness and response solutions are deployed, little attention is given to understanding individual, household and community perceptions that may enable or impede citizen preparedness for natural disasters.

The explanations offered for the occurrence of landslides differ widely depending on a number of circumstances like the nature of the disaster, experience, class, race, religion, and education.

A study carried out by Kitutu et al (2011) about 'farmers' perceptions on landslide occurrences in Bududa District...' indicates that out of the experience accumulated over time, most farmers have developed knowledge about causes of landslides. In this study, many farmers expressed knowledge of characteristics of areas with landslides. They identified these as; steep slopes, water flowing from underground, concavities, low and prolonged rainfall, sandy and stony soils. Farmers in Bubiita and Bulucheke also said that slope undercutting for instance to make terraces and flatlands for house construction and deforestation also greatly contributed to landslide. This suggests that these farmers acknowledge that their activities or better stated activities of man can contribute to disasters like landslides.

Similarly, Alexander (1993:571) says that, people who have had recent or frequent experience of disasters tend to be more knowledgeable about the causes and risks involved and are thus sensitive to disasters. He however argues that severe and intense events can elicit responses that are highly influenced by the personalities of the respondents such as inherent fatalism or ability to face up to danger.

Further still, Alexander is of the view that wealthier people perceive disasters more accurately since they see the role of God in disaster situations as benign and removed than the poor folk who tend to explain it in a magical way. Indeed as Baumann and Sims (1974) in Alexander (1995:573) observe, 'people in many third world countries perceive the role of God in disasters to be much more immediate, simple and direct'. They thus see disasters as acts of God but not as a consequence of their actions on the environment. To them, natural disasters are something that cannot be predicted, prepared for or even prevented; it is only God 'the almighty' who can inhibit disasters on behalf of people (Alexander 1993). Haiti has faced numerous disasters overtime, but even then, Haitians still perceive disasters as something that God is in full control of. They thus maintain their dignity as children of God and see God as always good even in disaster situations. Mooney reveals that attendees at recent religious services in Haiti proclaimed loudly that, although the earthquake hurts, and even though the world can be very perplexing, there is still hope. In such a context, it is as if religious rituals and beliefs generate cognitive processes of self-efficacy and hope that even the worst tragedy can be endured if one believes firmly that justice and progress are not a mirage. On such a premise, it is arguable that religious beliefs and professions become the main sources of resilience for people in disasters and to some degree it signifies man's attempts to allocate responsibility for natural disasters to God, an aspect that has greatly shaped their responses.

Nonetheless, Alexander adds that the level of perception depends on the ability to estimate risk and perceive its causes, the level of past experience with hazards, propensity to deny that risk exists and the level of access to appropriate information. Arguably, some people would deny existence of risk and attempt to attribute natural disasters and its effects to God because they lack adequate information to enable them to explain the occurrences in a different way (WDR, 2009). Indeed Legarda in WDR (2009) argues that people need to be given adequate environmental

information because it is possible that their fatalistic perceptions are a result of inadequate information to perceive them otherwise. This also means that communities should be facilitated to develop up-datable sources of environmental information (WDR, 2009).

A reflection on the preceding discussion thus suggests that there is a divide as to whether natural disasters are acts of God or a consequence of man's activities on the environment and indeed as Whyte in Alexander (1993:573) contends 'few data exists that indicate the extent to which people regard disasters as natural or manmade'.

The way communities perceive causes of disasters as well as other contextual variations largely shape their responses to disasters. Therefore, different communities respond to disasters differently. As reflected in the Hugo Framework of Action (UNISDR, 2005), people are usually very active in looking after themselves; depending on the circumstances, they work hard to interact with and adapt to hazards, manage risks, demand rights, develop resilience and secure livelihoods. Similarly, the WDR (2009) advances that rather than people being vulnerable, they can be capable, resilient and able to protect themselves. Consequently, also suggests that strategies meant to address disaster issues must extend beyond information provision to engage community members in ways that facilitate their adoption of protective actions (Paton, 2006 in the WDR, 2009).

UNEP (2008) appends that the cultural and belief system of a community so much influences its response to disasters. For example, people of Mfangano Island in Kenya and people in some local communities of South Africa knew that disasters only occurred when people were not at peace with God or spirits. These people also knew they could not stop the disaster but they could curb the effects of it. Among communities in South Africa, there is a strong belief that hydrological hazards are caused by human action. These are released by specific deities in response to human behaviour. Therefore mitigation is usually in 'repentant behaviours' of people towards the environment. These behaviours like tree planting are meant to restore divine balance (UNEP, 2008).

Even within the same region, responses to disaster risks can be different basing on class and race (Elliot and Pais, 2006). These cite Reed (2005) as arguing that income, wealth, access to material resources and safety nets of social connection are major descriptors of class as well as race. Reed

points out those in rich possession of these descriptors were seen evacuating before Hurricane Katrina struck while those who were deprived of them were left behind much as they were aware of the hurricane. It is also arguable that those without much class usually reside in places deprived of improved road and communication networks. This makes it difficult to mitigate possible disasters. Elliot and Pais further mention that Hurricane Katrina left hundreds of black Americans desperate for help and to many viewers class and race which are almost synonymous could account for this scenario.

Furthermore Alexander (1993) also argues that many people especially the poor believe that disaster management is either impossible or a luxury of rich countries where governments and civil societies are particularly charged with post disaster recovery. But of course such kind of attitude erases the fact that disaster management should be a collective activity involving both the poor and the rich.

2.2. Challenges that Local Communities Face in Disaster Situations

A number of studies indicate that when a natural hazard strikes, the poor in local communities become more vulnerable to disaster risks than those in well-off communities (for example Bishnu and Kenji, 2005, UNISDR, 2005 WDR 2009). The extent of vulnerability could be measured by the risks and challenges paused by a disaster as seen in the succeeding discussion.

Loss of lives and livelihoods: In most communities where disasters like (landslides) have occurred, it had been reported that unprecedented numbers of lives have been lost. Some die directly because of disasters while others die due to long-term effects of disasters such as poor health and sanitation, poverty, injuries and other illnesses that arise because of disasters (Guha-Sapir et al, 2004). It is arguable that some of the lives lost once constituted the energetic flock in communities. This leaves the community with limited manpower to perform community roles. Some disasters such as floods, landslides and storms destroy gardens and crops, leaving people vulnerable to famine in future. Kitutu et al (2011) specifies that landslides destroy farmlands and spell future food shortages.

Muttock (2005) in Cosgrave (2006) reveals that devastation by disasters goes beyond lives lost and economic damages caused to include psychological and social consequences. These consequences also have a bearing on the speed and nature of recovery.

Deteriorating health and sanitation: Upon occurrence, some disasters destroy essential health and sanitation facilities exposing people to health-related risks like diseases. For example, the World Health Organisation (WHO) reports that the landslide which occurred in March 2010 in Bududa district, submerged many latrines and water sources raising a concern for an outbreak of water-borne diseases. To aggravate the situation, even the roads to surviving health centres had been blocked by a mudslide. Sadly even some of those who managed to access the health centre did not receive immediate and or adequate health care due to the insufficient number of health personnel (WHO, 2010a) in relation to the number of patients. Arguably, the district suffered a compounded and complex health risk.

Destruction of infrastructure and internal displacement of people: Disasters such as earthquakes, floods, and storms destroy homes leaving people homeless and desolate, destroys medical centres exposing them to health risks, block roads and breaks bridges hindering mobility and transportation of produce, and destroy schools (UNISDR, 2005, Dekens, 2007, and WHO, 2010a) . For example the earthquake which hit the island of Sumatra on the 26th of December 2004 is known to have destroyed 141,000 homes and caused loss of livelihoods for over 600,000 people (Cosgrave, 2006). Sadly, the replacement of some of these infrastructures especially in impoverished communities is not easily done.

Also, WHO (2010) reports that in disasters, some people go missing and some have never been found. Displacements and deaths leave a number of children orphaned or vulnerable, adding to already high numbers brought about by pandemics like HIV/AIDS.

Increased vulnerability of women: In most African societies women compared to men do not usually receive fair treatment and are poorer. This can be attributed to numerous cultural rigidities that place women on an unfavourable footing with men. Women do not have as much access to and control over scarce societal resources as men. In most cases, they suffer social exclusion and hardly participate in decision making and or economic activities. The harassment and violence they experience in their day-to-day lives from their male counterparts make them

doubly vulnerable. WHO (2010b) observes that in addition to the general effects of a disaster, women suffer reproductive problems and both women and children face health challenges in addition to general effects of a disaster (Enarson, 2000). Women also look after those with injuries, the sick, children and the elderly in disaster situations. This greatly increases their workload and aggravates their emotional stress.

Environmental effects: Disasters are also known to have far reaching consequences on the environment. For example, Cosgrave (2006) argues that the earthquake on Sumatra Island led to contamination of land by salt, damaged forests and disturbed ecosystems. According to Kitutu et al (2009) landslides also destroy farmland by covering it with stones and mud.

2.3. Community based knowledge in disaster management

Despite advancement in knowledge and technology like satellite coverage and surveillance techniques, vulnerability to and risks from natural hazards has been increasing in developing and developed countries (Dekens, 2007). This implies that abundant data and technology may not always help to reduce the level of vulnerability to hazards. Moreover, Scharffscher (2005) states that local communities and voluntary groups are central actors during initial relief work as relief supplies and services by governments and other relief agencies usually start arriving later. And even after relief agencies have withdrawn, communities keep sustaining themselves and surviving on their own. They usually do this based on CBK. It is this knowledge that the study explores in this section.

Community based knowledge as far as this proposal is concerned will stretch to cover indigenous knowledge, local knowledge, traditional knowledge and folk knowledge. It includes all forms of knowledge like technologies, skills, practices and beliefs that enables a community to achieve stable livelihoods in their environment. In most cases, this knowledge is specific to a given locality, an attribute that also makes it local knowledge. It thus becomes local knowledge because different localities face different problems and so the knowledge developed to respond to these problems is also different and rather specific depending on the environmental challenges and resources available. CBK may also be called folk or traditional knowledge because it has been developed within the cultural boundaries of a given community. It is noteworthy that CBK

is not static since it can change due to environmental changes and a host of other external influences.

Importance of community based knowledge in disaster management

Kamara (2009) points to the fact that African countries have well developed knowledge for environmental management and coping strategies making them more resilient to environmental change. Such knowledge has allowed people to live in harmony with nature for generations (Briggs, 2005). Kamara argues that this knowledge has a high degree of acceptability among the people who have preserved it. This knowledge facilitates community understanding of certain modern scientific concepts for environmental management for example disaster prevention, preparedness, response and mitigation. The integration of CBK in modern scientific knowledge may thus turn out to be cost effective and help to build on sustainable ways of disaster management.

Additionally, UNEP (2007) suggests that CBK helps to inform and shape local decisions regarding preparation against such hazards as drought and famine. And indeed, large groups of people owe their survival to the time-tested application and use of this knowledge in agricultural practices and food preservation.

This knowledge also helps local communities to detect early warning systems of impending disasters and how to respond to them including which plants to conserve and protect, which medicines to use, and where to find water or food in crisis situations. Most importantly, CBK knowledge keeps communities afloat after a disaster before external aid arrives (UNEP, 2007).

Appreciating CBK which people have survived on for a long time and integrating it into modern scientific methods of disaster management is one of the important ways through which we can ensure that local people participate in disaster management (DM). When people participate alongside modern practitioners in disaster management it is likely that the existing disconnection between local communities and relief providers may be purged. Taking CBK into account during design and implementation of DM programs by implementing organisations will improve project acceptance, performance, ownership and sustainability by local communities.

Similarly, Dekens (2007) suggests that understanding CBK and local practices will help identify what is needed and acceptable locally, and how peoples' participation can be solicited to ensure their support for external action. Arguably such projects for which local communities feel a sense of ownership are likely to be carried on even when project initiators have withdrawn.

CBK is known to be based on peoples' cultures, beliefs and myths from which they derive their identities. Therefore integrating it into modern scientific methods will make local communities identify themselves with such knowledge generation and the integration may also make the Western World value CBK.

CBK for sustainable environmental use

UNEP (2008) presents a number of ways through which CBK has been utilised to promote sustainable environmental use.

The use of simple tools: Many local communities used and still use rudimentary tools to cultivate land, to cut down trees (like hand hoes, crude iron blades) and to fish (like nets, traps, and canoes). These tools limit the capability of these local communities from cutting down wide areas of (large) trees, from over-cultivating and also from over fishing. This consequently helps to control soil erosion and depletion of aquatic species. For example, the Luo of Kenya and many other local communities in Africa are known to have used and to still use simple tools.

Slash and burn: This was the most common method of clearing land for tilling. By use of their simple tools, local communities would clear a small piece of land, collect grass and set it on fire under careful supervision. The soil would then be left for some time to rest and regenerate since burning is known to kill some soil nutrients. The burning also contributed to pests and vector control. However this method of environmental conservation is highly criticised by environmentalists as being unsustainable because the fire could destroy some nutrients and other living organisms (UNEP, 2008)

Shifting cultivation: This was a very common practice in the Miombo Woodlands of Tanzania. Shifting cultivation involved cultivating a piece of land for a few years and then leaving it to rejuvenate naturally for some time as cropping was being done on another piece of land. In the

Uluguru Mountains of Tanzania, shifting cultivation helped to control soil erosion as it allowed natural vegetation to reclaim the land. Communal land ownership also supported rotational grazing, transhumance and helped to avoid over cultivation of a piece of land. However UNEP (2008) reveals that as time went by, population increased and so the possibility of shifting cultivation reduced. Consequently, local communities developed other ways of ensuring soil fertility such as mixed cropping, intercropping, agro-forestry, zoning, and minimal tillage. Mixed cropping in particular helped to curb the problem of crop failure which could arise from growing one type of crop.

Sacred places: Many places were known to be sacred places for worship for some communities. These places were usually found in the middle of big forests. The trees in the forests were not to be cut anyhow. One needed to get permission from the traditional leaders responsible to even access the forest. Indirectly, this helped to preserve these forests which serve a myriad of functions (e.g. as helping in rainfall formation). Examples include; the Ongonye Forest in South Africa and the forest cover over Chaluja and Mfangano rivers in Western Kenya (UNEP, 2008).

CBK at different levels of disaster management

a) Disaster early warning and prediction

In most local communities, elders took the responsibility to predict disasters and guide people on which actions to take to prevent or mitigate these disasters. In most cases local communities believed in these elders and always acted as instructed without hesitation. These elders (and sometimes community experts) had developed and tested means for early warning and disaster predictions. UNEP (2008) reveals that prediction and early warning was mainly based on keen observation of the behaviour of birds, animals, insects, vegetation, trees, wind, air and water temperatures as well as clouds, earth movements and celestial bodies. Since different communities faced different environmental challenges, they had developed different ways of understanding and explaining them.

UNEP (2008) further reports that, in Kenya, the presence of snakes, reptiles and other animals around the homestead in search for water and food indicated an eminent drought. Around Lake Victoria, arrival of a common swallow (*Hirundo Ongolenss*) in large numbers circling the sky

indicated a rain onset whereas changing songs and cries of the robin indicated that it would not rain that day. In expectation of the wet season, the gema cocks would make more nests and in anticipation of drought, they would make fewer nests. The baobab tree in Kenya would shed all its leaves at the end of a wet season, while its prolific fruiting indicated a poor season ahead. A red moon in South Africa announced the coming of drought while raping of elderly women or children brought floods (In my view some of this information was for purposes of enforcing good morals in society although it was associated with disaster).

Additionally, in Swaziland, one of the ways of predicting coming floods was the height of nests of the 'emahlokohloko' bird. When floods were likely to occur, nests were very high in the trees near rivers and when floods were unlikely, nests were low. Further, towering wet clouds in the west and fast blowing wind were signs of an impending fierce hailstorm, thunder and lightning. Abundance of butterflies during the farming season and army worms was also used to predict famine and drought in Swaziland (UNEP, 2008).

In early warning and prediction systems in Tanzania, animals feature most. For example the signs on the intestines of a goat were read by Masaai Elders to divine disease, drought and famine.

The tribal communities on India's Andaman and Nicobar Islands used their early warning system to predict natural disasters. The frenzy of smaller mammals, the cry of birds and swimming patterns of marine animals gave them a clue of forthcoming tidal waves and storms. Based on this knowledge, they were able to survive the tsunami of 2004 compared with any other island communities in the region (UNEP, 2007 and Morrissey, 2005).

Communities living in typhoon prone areas of Saigasaki and Tano districts in Japan usually observe the behaviour of the swallows which usually build their nests on the second floor of houses in the neighbourhood. When they build their nests on the third or fourth floors, it shows that the typhoons will be high (UNEP, 2007).

b) Preparedness and response

The use of CBK to grow drought resistant and early maturing crops was a common strategy adopted by many local communities in Africa in preparation against famine and drought. Drought resistant crops included cassava, pumpkins, cocoyam, cowpeas and sorghum. These

were commonly grown in Tanzania, Kenya and parts of Swaziland. Cocoyam was known to endure all seasons and also to stay underground for as long as one wanted it there.

For crops harvested especially in surplus, there was CBK developed on how to process, preserve and store so as to guard against food insecurity in periods of famine and drought. Common ways of storage included the use of local granaries. UNEP indicates that other tactics of survival included mixed cropping, intercropping, planting crops according to rainfall predictions, and water conservation (2008:60).

In most local communities, there were developed ways of disseminating information regarding a given disaster and how to deal with it. In Kenya for example drums were beaten to convene emergency meetings, a motor known as kinu was used in Tanzania to alert distant villagers about an incoming calamity. It would be beaten at night when silence prevailed and the sound signalled a need for the community to meet immediately to get a message that was in most cases disaster related.

As revealed by UNEP (2007), in Budalang'i Village in Kenya a number of preparedness strategies were adopted. For example each family had to possess a dugout canoe for transport in case of heavy flooding, land preparation had to start from November-January during the dry season, and fish was caught in big quantities during the rainy period in the months of April and August. It was then preserved by smoking and sun drying. In Bangladesh, local communities prepare movable cookers to preserve local food, fuel and fodder before floods. They also prepare boats and rafts for emergency rescue operations.

c) Disaster prevention, mitigation and recovery

When there were floods, those living on highlands were expected to accommodate those who were displaced by floods in lowlands (UNEP, 2007 and UNEP, 2008).

UNEP (2007) reveals that in Burkina Faso, the Mossi Farmers used their knowledge to avert problems of drought. For example they used bunds on cultivated land to construct terraces and conserve water. Organic material also filled the bunds to increase soil fertility. Being semi-permeable, bunds would retain water from rain for a long time and crops could survive on that water even during drought.

UNEP (2007) points out that in India, the rural community played a significant role in mitigating the effects of drought by constructing ponds and dams to save rain water which would otherwise be lost during surface run off. This water would then be used in times of scarcity. After the disaster of January, 26th 2001, India took to remodeled circular traditional houses (Bhungas) which are known to be cyclone proof and resistant to earthquakes, wind and pressure (History Speaks, 2008). Locally sun-dried bricks and straw branches of the *babool* tree were used to construct the Bhungas.

Figure 2: Picture of Indian Bhungas



Source: History Speaks (2008)

2.4. Local structures for knowledge generation and disaster management

Every local community in Africa has an array of well developed structures through which the wisdom of communities was applied to deal wisely and efficiently with disasters (UNEP, 2008:63). For example in Kenya, there was a council of elders which had at its disposal messengers who would urgently pass on disaster related messages to community members. Other local structures used for disaster management include;

- Traditional media like drums, and alarms for information dissemination

- Trained and or untrained local volunteers who provide community based emergency relief to the affected. These also included traditional healers who use medicinal plants to revive those affected by disasters.
- Locally formed groups like youths' groups and women's groups
- Local government, these include local councillors who mainly did mobilisation
- Clans
- Community Based Organisations
- Religious institutions like churches and mosques

2.5. The application and utilisation of CBK and local structures in DM

Can communities use CBK and local structures to manage disasters?

Often the signs of an impending disaster were obvious for everyone to interpret but sometimes they were so complicated that they required the assistance of elders or community experts to interpret them. The complexity of these signs sometimes caused opinions of conflict in communities especially when it came to decision making (UNEP, 2008:57). These conflicts still present a key challenge to measurement of reliability of CBK.

Briggs (2005:108) also warns that this kind of knowledge may not always provide a sustainable answer to challenges faced in rural communities. In fact, Critchley et al in Briggs (2005:108) resound that if indigenous knowledge was anything to reckon, there would be no problems of food shortages and land degradation which are common today in local communities. This means that CBK may not be relied on solely by local communities.

CBK is highly context specific. The knowledge that may be applied for early warning in Kenya may not be the same as that in Tanzania since different communities face different environmental challenges. This places it at a disadvantage as compared to western scientific knowledge which has abstract formulation, is separated from lives of people and has a general application. With increased population growth rates, it is almost but impossible to apply some forms of CBK such as shifting cultivation and rotational grazing which methods were initially used to conserve soil fertility by local communities.

The functionality of CBK systems and local structures was highly premised on social cohesion in abundance of social capital and individualism was unheard of. Today with dwindling amounts of social capital and increasing individualism, land is no longer owned communally and community resources are at the disposal of just a few individuals.

Also with the influence of religion, some people no longer believe and listen to their local leaders. So some aspects of CBK may not be applicable.

In another trajectory, local structures may not be relied on wholly. For example they may require a lot of time, some of the media used may not reach everyone, for example drums. There are also possibilities that some people in the community may not interpret the message correctly for example the youth. Also some clan systems are mired with conflicts of opinions and power. In such communities, local structures may not be effective.

2.6. Synergy between relief agencies and local communities in DM

How much are communities involved in DM and how do they view the role of relief agencies?

As suggested by UNEP (2008) involving communities in disaster management projects goes a long way into ensuring sustainability of such projects. However, it is arguable that most relief agencies do not consider this idea. They seem to be concerned with saving lives mainly rather than building local capacities. And indeed many relief agencies think that supporting local structures is a long and rather complicated process which they would not wish to indulge in (Scharffscher, 2005).

Relief agencies seem not to have adequate time to involve local communities in relief undertakings. Even then, Smillie in Scharffscher (2005) argues that, if international relief agencies do not have time and fund programs with a better understanding of how they will affect communities in the long term, there will be 'no real' connections for 'real people'. Additionally, Scharffscher (2005) points to the fact that there is usually a challenge of language disconnection. The relief agencies in most cases use English and local communities usually do not feel comfortable with this. In Sri Lanka, when the language of communication moved from Tamil to English, local communities as well as relief personnel who did not know English remained disconnected.

After the tsunami in Sri Lanka, a women's group with help of a local Non Government Organisation (NGO) convened but there was no relief agency representative present much as they had been invited (Scharffscher, 2005). Such scenarios had several implications for local communities which felt the relief agencies did not trust that they could actually contribute any good ideas for their own recovery. And indeed, Scharffscher revealed that several relief agencies brushed aside local capacities. For example she indicates that the information that had been collected by Sri Lankan local authorities was not even looked into as relief agencies did not adequately cooperate with crisis affected communities.

This suggests that the efforts of local communities however functional are not yet recognised by relief agencies. From risk assessment to response, relief agencies take a lead role and communities are placed at the margins and on the receiving end (Scharffscher, 2005). This lack of community participation may result in failures in meeting the felt needs of affected people and if that be the case, definitely it becomes difficult to trust on community support for external intervention despite exceptional intervention measures.

Interestingly, current positive development includes efforts being undertaken by some relief agencies such as the Uganda Red Cross Society (URCS) to involve communities in disaster risk reduction programs. The programs are aimed at reducing the risk of disasters by sensitising communities about the possible dangers, supporting them to form disaster risk reduction groups and helping them to undertake vulnerability and capacity assessments in order to develop community action plans (Relief Web, 2010). The action plans are meant to outline disaster risk reduction activities, such as community education and training, setting up of early warning systems and implementation of micro-mitigation activities. These programs are based on the needs identified by the communities. However this initiative is still limited.

2.7. Theoretical framework

Considering the fact that many scholars have attempted to define a community, this study adopts the definition coined by Macqueen et al (2001:3). These define a community as *a group of people with diverse characteristics who are linked by social ties, share common perspectives and engage in joint actions in geographical settings or locations*. This study also acknowledges that

even in communities, there is no single voice because power influence, expertise, experience, and culture shape what communities accept as knowledge.

The study drew on the works of Anderson (1990) in Sivakumar et al (2005:2) to define natural disasters. He defines them as, ‘temporary events triggered by natural hazards that overwhelm local response capacity and seriously affect social and economic development of a region’.

Whereas some environmental sceptics argue that disasters are acts of God, growing evidence suggests that natural disasters are ‘part of our world, part of the way we live and want to live’ (Scharffscher, 2005:146). This suggests that disasters are induced by acts of man such as poor farming methods, deforestation, and wetland reclamation; an orientation upon which this study is premised. Examples of natural disasters include earthquakes, landslides, volcanic eruptions, tropical cyclones, droughts, mudslides, floods, wild fires, hurricanes and HIV/AIDS (WDR, 2008). This study focuses on landslide disasters.

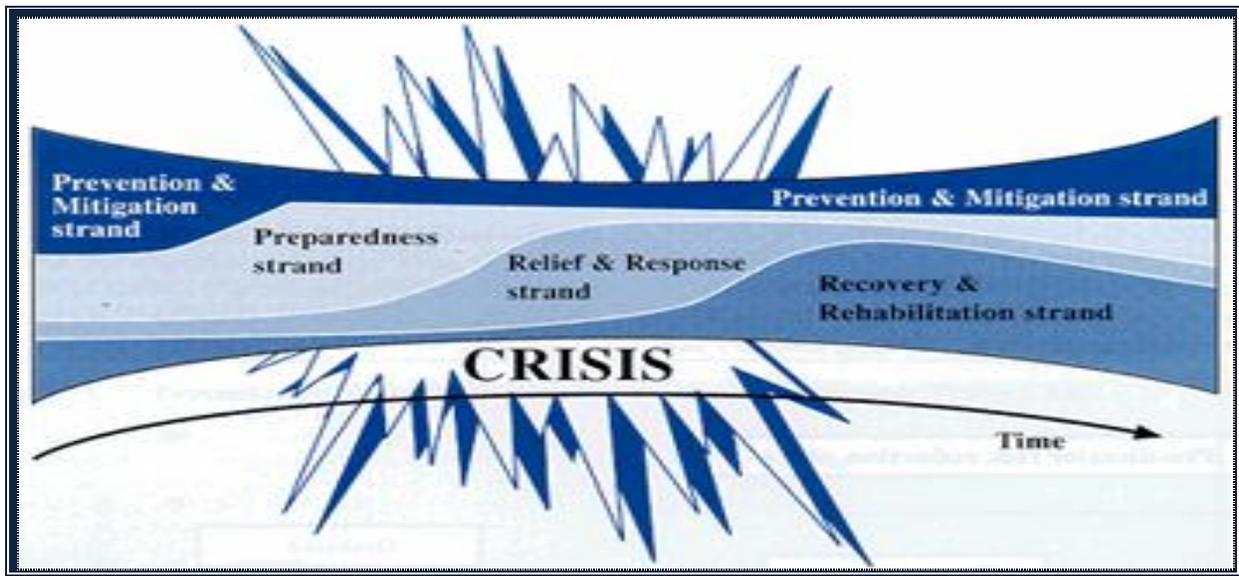
CBK in this study refers to all forms of knowledge existent in communities. These forms of knowledge may be generated and developed by the community through experience as disasters occur or could have been acquired as a consequence of diffusion and or any other external influence like colonisation and intermarriages. It is also recognisable that communities have survived on this knowledge for generations and through informal education and socialisation, this knowledge is handed down by elders and community experts to the following generations. Therefore CBK in this context is stretched to cover indigenous knowledge, local knowledge, folk knowledge, traditional knowledge and any other forms of community knowledge as applied in Bukalasi Sub County for disaster management.

The study acknowledged that CBK varies across different communities and so it cannot be the same in all communities. In the definition of a community, it was clarified that a ‘community’ shares a common perspective about differently occurring phenomenon. This makes it plausible to argue that a community is like a ‘single mind’ but as Lee and Cole (2003) assert, ‘knowledge is not, and cannot, be concentrated in a single mind and no single mind can specify in advance what kind of practical knowledge is going to be relevant, when and where’. On this foundation, the study treated CBK as highly localised and specific knowledge which may be applicable in one community but not another, and at different points in time.

Regardless of the context, what the study regarded as CBK was measured on the basis of relevance, applicability, timeliness and its reasonability to influence change.

This study further comprehended that a number of models for disaster management have been developed and applied. These include cyclic model, traditional model, and the expand-contract model. Kieft and Nur (2011) describe the cyclic model of disaster management as the model in which emergency, recovery, development (preparedness and mitigation) and early warning are executed progressively with each phase having its own approaches. For this study expand-contract model of DM which was coined by Fakir (1998) was adopted. This model suggests that DM is a continuous process through a parallel series of activities rather than a sequence of actions as may be found in, say, the traditional model. The varied strands of DM based on the expand-contract model keep expanding and contracting as situations at hand dictate. Fakir provides an example that after a disaster like floods, the ‘relief and response’ strand will expand to cope with immediate effects of disaster but later this strand contracts and then the ‘recovery and response’ strand expands to address rehabilitation needs of the community.

Figure 3: Expand-Contract Model of disaster management



Source: Fakir (1998: 20)

In this model, DM includes a number of actions and interventions which may occur at the same time but not always in phases of action (1998:20). The study thus delved into the varied ways in

which CBK could be recognised and thus integrated in DM processes at various strands of the expand-contract model.

Research questions within a framework

In the first instance, the study examined ways in which communities perceive disaster situations with respect to causes and responses. The rationale for this question was premised on the theory that perception influences behaviour and attitudes (Kassim and Brehm, 1993). The study thus appreciated that the way people perceive disasters goes a long way in shaping their responses to it. The study therefore examined linkages between perceptions of and responses to landslides by communities in the area of study.

In research question two, an assessment of effects of disasters on people's livelihoods was made. These effects were to be measured by, inter alia, loss of livelihoods, properties and displacements. Loss of lives was to be measured as number of deaths per household, loss of properties was to be determined by total hectares of productive farms lost, domestic and commercial infrastructure destroyed, and displacement due to disaster to be measured by the total number of houses rendered uninhabitable, those rendered homeless and the number of people still missing due to the disaster. This information was gathered from community members local leaders, district environmental officials, relief agencies through semi structured interviews and FGDs.

Questions three and four were based on the theorisation that communities have a wealth of CBK and that local structures are underutilised or not utilised at all in the management of disasters. The rationale for these questions was to identify the various forms of CBK and local structures and the extent to which these can be applied and utilised in DM. Indeed, Kamara (2009) indicates that there is increasing global acknowledgement of the relevance of CBK as an invaluable and underused knowledge reservoir, which presents developing countries with a powerful asset in environmental conservation and natural DM. From time immemorial, natural disaster management in Africa has been deeply rooted in local communities which apply and use CBK to master and monitor climate and other natural systems and establish early warning indicators for their own benefit and future generations (Kamara, 2009). Here the study examined environmental resources e.g. land, water, animals and plants to which communities attach cultural and spiritual significance during and after disasters. Certain places such as cultural sites

used as locations for rituals and sacrifices were explored. Kamara reveals that these locations are often patches of high biodiversity which have for long been well conserved and protected by communities. The study looked at the various forms of CBK for example in farming, food storage, house construction and media for information sharing. Local structures which were focused on were the local means of communication, social groups, aspects of social capital in communities and community volunteer groups

In contrast, a host of researchers revealed that even in the presence of CBK and modern scientific knowledge, some communities are still very vulnerable to natural disasters. Although they may be able to predict natural disasters, they may not be able to evade them due to financial constraints. For example, UNEP (2007:342) reveals that when Hurricane Katrina struck, 21.4% of the city's residents could not heed evacuation messages because they did not have the financial means to escape. This is not very different from the recent landslide that occurred in Bududa District, Eastern Uganda. Many people knew that there would be a landslide after cracks had been identified on the mountain side but they could not heed these warnings because their only envisaged means of survival were the fertile soils along the slopes of Mt. Elgon. So the proposal acknowledges that despite CBK, socio-economic aspects of communities also matter a lot in disaster management

The rationale for research question five was to examine the synergy between relief agencies and communities in disaster situations because the study recognised that disasters have multifaceted effects which call for a multitude of actors who need to work together with respect for one another. Literature also indicated that for effectiveness and efficiency, there is need for CBK to be used alongside modern scientific knowledge and none of the knowledge forms can function successfully without the other.

CHAPTER THREE: QUALITATIVE METHODOLOGY

3.0. Introduction

In this chapter, a detailed presentation is made on the methodology that the researcher employed during the study. Specifically, the chapter outlines the research strategy, research design, study scope, sampling techniques, data collection tools and methods of data analysis.

3.1. Methodology

During the study, qualitative methodology was utilised. This methodology lays emphasis on the way individuals interpret their social situations (Bryman, 2008), and the meaning they attach to phenomena. Qualitative methodology further helps us to view events and the social world from the perspective of people being studied and it gives adequate room for explanations. Silverman (2001) points out that the sample chosen in qualitative methodology does not necessarily have to be representative but rather, it is the kind of information from the sample that needs to be representative. This research sought to establish accounts of how communities perceived natural disasters and how this perception has shaped their responses to them. The study also sought to establish the degree to which CBK and local structures could be applied in disaster situations. The nature of information required as reflected in the research questions and objectives was largely explanatory and descriptive meaning that the methods best suited to gather such kind of information should be qualitative in nature as they lay emphases on description and context.

3.2. Research design

The case study design was used in this study. Stake (1995) in Bryman (2008) says that a case study is concerned with the complexity and particular nature of the case in question. For this study, the representative or typical case (2008) was used because this type of case was best suited to collect information on phenomena which frequently occurred and in various places (Yin, 2003). Landslides around the Mt. Elgon region and especially in Bukalasi and Bulucheke sub counties are rampant. On this premise the researcher chose to use the typical case of landslides in Nametsi Parish to represent all the other parishes within and outside the sub county.

The focus of this study design allowed for a rich in-depth investigation of the problem under study. Yin adds that case studies are very appropriate when focus is on a contemporary phenomenon within a real-life context as they help to answer the ‘how’ and ‘why’ questions (2003). Indeed the study focuses on the 2010 landslide that took place in Bukalasi Sub County. The researcher finds this landslide to be a recent phenomenon. The study established how CBK of local communities in Bukalasi Sub County was and is used in management of landslides. In addition, this research design helped to analyse the context in which disaster preparedness and management is done. The study thus established how these local communities interpreted the natural disaster that occurred to them especially with respect to causes, challenges and effects. Additionally, the study examined the synergy between relief agencies and local communities in DM.

3.3. Study scope

The fieldwork was spread over a period of seven weeks covering Bukalasi Sub County of Bududa District in Eastern Uganda. The target population was the inhabitants from three villages of Nametsi Parish i.e. Nametsi, Kubewo and Namangasa, local leadership in Bukalasi Sub County, community elders, relief agencies operating in Bududa District, (i.e. Uganda Red Cross Society) and officials from the DDMC⁴. The main methods of sampling were purposive, simple random and snowball sampling.

3.4. Sampling

Bryman (2008) describes purposive sampling as the type of sampling which helps us to select units which have direct reference to research questions being asked. Through purposive sampling, Uganda Red Cross Society (URCS) officials and DDMC officials to participate in the study were selected. Simple random sampling was used to select men and women from the three villages to participate in interviews and FGDs. Simple random sampling gave equal opportunities to all members to participate in the study. Snowball sampling was also used to identify elders in the parish. Bryman (2008) says that in snowball sampling, a researcher makes initial contact with a small group of people who are relevant to the study and uses them to

⁴ District Disaster Management Committee

identify relevant others. This method was used to identify the elders because they were not ‘obviously’ available.

3.5. Data collection tools

3.5.1. Interviews

Semi-structured interviews which were mainly carried out on individual basis were used with officials from URCS, DDMC, local leaders, elders and individual community members. This tool was used to collect information on different forms of CBK and local structures existent in Bukalasi Sub County for DM, to establish how relief agencies make use of CBK and local structures in DM, and for acquiring information regarding the effects and challenges people face in disaster situations.

The process of interviewing elicited a detailed and natural flow of information especially after good rapport had been established. The semi-structured interview left room for corrective action in cases where questions were misunderstood. Importantly, semi-structured interviews facilitated acquisition of the interviewee’s “point of view” and “understanding” (Bryman, 2008:437).

3.5.2. Focus Group Discussion (FGDs)

FGDs provided an opportunity for interaction within groups and identification of the joint construction of meaning made by people with reference to concepts under investigation (Bryman, 2008). Recording equipment was used to capture issues raised in discussions. Five FGDs were held. Two of the three FGDs of women consisted of six women and the third FGD consisted of four women. Also, two FGDs of men were held, one consisting of 8 men and another of six males from the villages of Nametsi, Kubewo and Namangasa in Nametsi Parish respectively.

The use of sex-specific FGDs was meant to counter cultural factors which perpetuate male domination and which could otherwise render women inactive during discussions. Sex-specific FGDs also enabled identification of the unique experiences of men and women in disaster situations. FGDs from respective villages were generally meant to compare and contrast views of members from different villages with regard to disasters and CBK.

FGDs were used to identify the challenges local communities face in disaster situations, the way local communities perceive the role of relief agencies, the way local communities perceive disasters with respect to causes, how communities respond to disasters, and forms of CBK and local structures existent in Nametsi Parish for disaster management.

3.5.3. Qualitative review of documents and texts

This method was used to collect secondary data. By this method, effort was made to review existing literature regarding CBK and local structures for disaster management and also explore information on a host of topics in the literature review. This method was further used to get additional information to complement data from semi-structured interviews and FGDs. United Nations documents, Human Development Reports, World Disaster Reports and Red Cross documents regarding CBK, challenges presented by disasters, and the perceptions that local communities have in respect to disasters, were explored. Additionally, national documents were examined to establish the profile information of Bududa District and Bukalasi Sub County.

3.6. Data analysis

In this study non-statistical techniques of data analysis such as interpretivist analysis and discussions which is the mantra of qualitative methodology were used. Data from interviews and FGDs were recorded using a cassette recorder. These data were later transcribed into text for easy interpretation. Additionally, during analysis, data from FGDs and documents texts were employed to complement data from semi-structured interviews. Key themes that emerged from interviews, FGDs and documentary analysis were identified and discussed extensively at the stage of reporting, discussing and analysing field findings.

3.7. Ethical considerations

Ethics in research denote principles, guidelines, and rules of moral behaviour that a researcher should uphold during a study. Deiner and Crandall (1978) in Bryman (2008:118) identify four main areas that researchers should focus on while conducting research; whether there is harm to participants, whether there is lack of informed consent, whether there is an invasion of privacy,

and whether deception is involved. In this study, the researcher made effort to uphold these principles as explained below.

To avoid harm to participants, the study was carried out in a stress-free manner for example, interviews were held in times when and venues where participants were free to participate in the study (in afternoon and evening hours) and the questions were as simplified as possible and so they were easily understandable by participants. Those who gave answers out of context were not scolded but instead they were just helped to understand the question as intended. Also, no physical harm was inflicted on any participants.

According to Social Research Association (SRA), the involvement of participants in a study should be as voluntary and as informed as possible (SRA, 2004). To this end, the researcher always introduced herself, and was open and clear about the topic and purpose of the study. She always clarified that she was a student and did not represent any government agency or any other organisation. Participants were made aware about how long they would participate in the study and that their participation was voluntary since they could withdraw from the study at any time.

At no single moment was the privacy of participants invaded. By its nature, this study did not so much hinge on private life of participants; it was much more environment related. When establishing the specific challenges women face during disasters, confidentiality, anonymity, and appreciation were guaranteed and the females felt free to participate in the study.

There was no deception during this study. Since no one likes to be lied to in life, the researcher endeavoured to ensure that participants were provided with facts about the study. The researcher was in most cases able to tell when the interpreter attempted to change the meaning of some information and this was clarified on spot.

3.8. Challenges and limitations during the Study

Bududa District is relatively new and so there is not much documented information about it. Consequently, it was extremely difficult to get information such as maps of the parish under study and profile information about the district.

The landslide incident attracted several researchers as individuals and as organisations both nationally and internationally. Individuals like Kitutu et al, research students, and organisations like the Red Cross Society and UN-OCHA as well as students from Makerere University of Uganda had been to the same place for research and fieldwork studies. Consequently participants indicated that they were becoming tired of researchers. Many of them were very reluctant to provide information. So the researcher expended much time and skill in clarifying the very significant purpose of this study. Similarly, some participants became very emotional in the process of interviewing them since the landslide is a very recent phenomenon which had devastating effects so it was traumatising for them to verbalise some incidents during the study.

Additionally, the researcher did not understand the local language very well, although she had mastery over a number of words and phrases. As such, services of an interpreter were essential. On this basis, it is possible that she could have missed some information in the process of interpreting. Many times, she noticed the interpreter attempting to answer the questions on behalf of the participants and at times he attempted to edit the content.

The study was carried out in the months of January and part of February and at this time parliamentary and presidential campaigns were on. Time and again, the campaigns drew the attention of participants and often the researcher's appointments had to be postponed. In these campaigns people usually anticipate receiving rewards if they promised to vote for a certain candidate. Since Nametsi Parish is predominated by poverty, there was a conspicuous preference for these campaigns in contrast to participating in the study.

As mentioned earlier, Nametsi Parish is a remote place only accessible on foot and yet it is a long distance. Every day the researcher had to walk with the interpreter the long and hilly distance. This cost a lot of time and strength and of course affected the data collection process since many times the researcher could reach the field when she is already tired.

CHAPTER FOUR: EMPIRICAL FIELD FINDINGS

4.0. Introduction

In this chapter, a presentation is made with respect to key findings established during the study. The development and application of research instruments and eventual presentation of findings in this chapter was guided by the theoretical framework, main research objective, and the research questions.

The main research objective was to examine the role and extent of applicability of Community Based Knowledge and Local Structures in disaster management in Nametsi Parish of Bukalasi Sub County, Bududa District.

The study was guided by the following research questions:

1. How do communities perceive disaster situations with respect to causes and response?
2. What are the effects of disasters on livelihoods of communities?
3. What types of CBK and local structures exist in regard to disaster preparedness and management?
4. To what extent can CBK and local structures be utilised in disaster preparedness and management?
5. Is there any synergy between relief agencies and communities in regard to disaster management?

4.1. Causes of landslides in Nametsi Parish

Interviews and FGDs held with district officials and community members pointed out a number of explanations for the occurrence of the 2010 landslide in Nametsi Parish. The causes were essentially scientific and non-scientific. Scientific causes were for the most part advanced by the educated groups like environmental officials, relief agencies, and other district officials. This could be attributed to the fact that they have come into contact with scientific knowledge which seeks to explain phenomena on basis of on proven evidence. The explanations advanced by this

group suggested that natural aspects like continuous rainfall and volcanism and actions of human beings and in this case the community members in the parish were responsible for the landslide.

In contrast, most community members explained the causes of the landslide based on their experiences as well as their belief systems (how they perceive the role of God or other divinities in disasters). It is also important to note that some of the explanations community members advanced were scientific in nature although those who bore this view were the minority. Below are the key aspects which were identified during the study

4.4.1. Scientific Causes

Heavy and consecutive rainfall: Before the landslide struck, participants in the study revealed that the parish had been receiving heavy rainfall consecutively for 4-6 days (from 25th February to 2nd March, 2011) and on the sixth day the landslide occurred. While many other reasons have been advanced to explain the cause of the landslide, community members and district officials felt that heavy consecutive rains triggered the landslide. A member of an FGD held with females in Namangasa Village explained that,

'much as many people think that we the community members contributed to the landslide occurrence because of our activities and lack of education, for us we know that rain was the major cause because forest cover had long been cleared, soils over cultivated, fertilizers used but we had not had landslides here in a while...but when it rained without stopping, the landslide took place...what then could we say...so we could only say that the rain caused the landslide'

The members emphasized that as it kept raining, water could no longer sink, the rain water then started to carry along with it loose soil particles which were supporting heavy stones.

Volcanic eruptions: Interviews held with district environmental officials pointed to the fact that the mountain slopes had developed cracks and these were very obvious. This seemed to suggest this place had experienced volcanism. Indeed, map analysis indicated that Bududa District lies at the foot of the south western slopes of the Mt Elgon volcano (Kitutu et al, 2009). So when it rained consecutively, the cracked and loose soils along the slopes in Nametsi Parish could not contain all the water instead they were carried off as huge landslides. Some people in the parish

as well as district environmental officials also claimed that as it rained, hot water started oozing from underground. This suggested an active volcanic activity taking place. On inquiring why community members not move away from such places with cracks, the responses were numerous including, *inter alia*, that the cracks had existed for long and nothing had ever happened to them, they had nowhere else to move to, and they could not leave their relatives, graves, plants and animals for a new place.

Deforestation, over cultivation and use of fertilizers: A host of participants including officials from the district environment office and sections of the community indicated that Nametsi Parish in Bududa District was once a forest hub with beautiful greenery/tree cover. However the high population growth rate and the need to increase income created demand for land for settlement, fuel like charcoal and firewood, and cultivation. This led to indiscriminate cutting down of trees. Heavy population also led to over cultivation as methods like shifting cultivation were no longer possible given the fact that land is scarce in relation to population growth.

Worse still, some of the crops grown for commercial purposes like onions and cabbages require massive application of fertilizers some of which are very detrimental to the soils. As remarked during an interview with a community member in Namangasa Village,

'the growth of onions has attracted the use of fertilizers which go down into the soils about seven feet deep and also make soils loose...also during dry season, people here in Namangasa burn bushes so when it rains, the soil is found bare...this accelerates runoff.'

Further interviews with this respondent revealed that the fertilizers used are nitrate-based and they are sprayed on leaves of these plants as foliage feed. These are CAN and NPK which are made in Uganda and Kenya respectively.

The study indicated overwhelming consensus among district officials, relief agencies, and community members on deforestation, over cultivation and use of fertilizers as major causes of the landslide. They also agreed that these aspects were only triggered by steep slopes and excessive rainfall.

4.1.2. Non-Scientific Causes

It was evident during the study that a considerable section of people bore non-scientific explanations for the landslide disaster in Nametsi Parish as presented below.

The Womaniala Concept: Womaniala was a self - professed rainmaker in Nametsi Parish. As of now he lives in Kiryandongo District as one of the relocated Internally Displaced Persons (IDP) so he could not be reached for a comment. However, it was alleged that there was a competition between him and another rain-maker to assess who is the best rainmaker and so he ended up causing endless rainfall which then triggered the landslide. In emphasis, some of the affected people said that Womaniala even confessed that he had largely contributed to the landslide. He is said to have accepted relocation because community members wanted to lynch him. One man in Nametsi Village lamented that,

‘if we did not have such people like Womaniala in our community, there is no way we could have got the landslide...the way to go is by eliminating them to avoid future disasters.’

This view was widely held and in part, it highlights the attempt to transfer responsibilities for disaster to a single individual instead of examining consequences of human activities on the environment.

In contrast to the above stance, some elites for example the GISO suggested that Womaniala could be having a mental problem which necessitates investigation.

The landslide as an act of God: Some of the participants in the study said that God was ultimately and solely responsible for the disaster. In statements such as

‘...God knows everything which happened to us and he permitted it...God is issuing us punishments for sins like disunity in our community, fornication, theft, hatred for one another, ...it is God’s plan that landslides take place in Nametsi, ...disasters just happen and... God has a better explanation for them and it is not enough for elites to say that we the uneducated villagers are the cause of such a big thing like a landslide...how much impact can we really make on the world.’

It can only be inferred that such people attributed the cause of landslides to God and they could in no way associate it to their daily interaction with the environment.

Occurrence by interval: Elders who participated in the study held that there is no particular cause of landslides as they just happen in intervals. In one of the elder's words,

'I think it is just time that landslides occurred...there was no particular cause, it usually happens in intervals of thirty years...in thirty years' time, it will happen again, you will see....'

Other elders too had a similar view although there was no uniformity in the time periods they mentioned since some of them mentioned an interval of ten and others twenty years

So to these elders landslide disasters are natural happenings that just occur after certain time periods and as human beings we can do nothing to influence their occurrence as well as their consequences on our wellbeing.

4.2. Effects of landslides on community livelihoods

Deaths: As a consequence of the landslide, participants pointed out that several people lost their lives and several others sustained injuries. As revealed by the GISO, 135 people are reported to have died in Nametsi Parish alone. He further said that out of the 135, 126 have been extracted from underground and 9 people are still missing. Indeed there were claims made by some community members that their loved ones who died have never been recovered. According to one female community member,

'my husband was covered by the landslide and he has never been recovered to be buried as culture requires...his ghost haunts me and am not comfortable knowing that he is rotting underground...even the excavator tractors brought by government were not very helpful as they could not excavate my husband'

For many such people like this woman, it is the responsibility of the government to help them recover their loved one and apparently the common feeling is that the government has not been very helpful to the situation. This was advanced by women and men during an FGD in Namangasa Village.

According to one elder, most of those who died constituted the energetic strand in the parish. These had been very helpful as they transported goods on foot from and to the parish to the Bukalasi Trading Centre since the road is not accessible by bicycle. Apparently it is proving difficult to transport produce to the trading centre.

Disease outbreaks: The landslide destroyed sanitation facilities such as latrines and also caused flooding. There was also water contamination and some water sources were completely covered. According to a URCS official, this led to an outbreak of diseases such as malaria, dysentery, cholera, and diarrhoea. Additionally those who sustained injuries started to develop tetanus because community members lacked advanced first aid skills to help them. This only served to worsen the already bad situation attracting the urgent attention of the World Health Organisation.

Destruction of infrastructure: The landslide which occurred in Nametsi Parish had far reaching effects on infrastructure. The only primary school in the area was destroyed and the only health centre with its contents was completely buried. According to OCHA (2010), Nametsi Health Centre III was buried in the mudslide leaving only Bukalasi Health Centre III located 3kms away and Bududa Hospital which is located 15kms away. The nurses who were at the health centre at the time of the landslide were buried along with it contributing to loss of skilled manpower. According to the community members some of those who died had gone seeking refuge at the health centre on the assumption that it was safer.

The parish road network was also covered by huge stones slides, shops, food kiosks, and homes were also completely destroyed without a trace.

Destruction of businesses and personal property: The entire trading centre in Nametsi Village was covered by the landslide. Consequently many people lost their businesses which initially served as their main sources of livelihood. As revealed by one community member who once owned a kiosk at the trading centre,

'our business was destroyed and we went back to zero...we started to beg in order to survive...for us who had once owned money, the act of begging is very dehumanizing as it places you at the mercy of the giver'

Destruction of farms, farmland and livestock: FGDs and interviews revealed that the landslide destroyed farmland as it covered the farmland with huge stones and farms crops were also destroyed. This has also led to food shortages and increased food prices. The community members in this parish fear that because of the landslide, there are threats of famine in future. According to the District Forest Guard (DFG),

'before the landslide, the price of onions was only 400shs but now the price has doubled to 800shs...this price may still shoot up because there is a steady reduction in the harvest of onions from Nametsi Parish as a result of the landslide'.

Onion farming is one of the main sources of livelihood for people in the parish. So a reduction in the harvest could greatly affect the returns of onion farmers as well as the quality of their life. Many community members also claimed that they lost their livestock like cattle and chickens which were all buried by the landslide. They further said that initially, they always sold some of the livestock to solve their problems but this time they felt uncertain as to how they would solve their financial problems. Given the fact that agriculture is the mainstay of people around the Mt. Elgon region, the destruction of farms and farmland by landslides places people in this region at the risk of famine and indeed many participants expressed the fear for famine in future.

Displacements and relocation: Because of destruction of houses, many people became displaced and were temporarily hosted by relatives and neighbours before the URCS in collaboration with the district administration decided to move them to the camp. According to the community members the living conditions in the camp were wanting due to continued rain and mud. From the camp, many people who accepted relocation were relocated to Panyadoli Camp in Kiryandongo District. Those who resisted relocation went back to Nametsi Parish. According to one man in Nametsi Village, families were disintegrated as some members of a single family accepted relocation and others resisted it. There are also those who decided to live with relatives within the district.

4.2.1. Specific challenges women face in disaster situations

The challenges faced by women during the disaster were over and beyond those faced by men as discussed below.

Difficult to remarry: The study revealed that the landslide took place during evening hours and so many men were in the trading centre socialising over local brew. This explains why many more men died than women. As a consequence, many women lost their husbands and it became difficult for them to remarry. As of now there are several widows and single mothers. According to one female in Kubewo Village,

'since the landslide occurred, life has been extremely difficult for me...my husband died and left for me five children that I have to look after. I hoped I would remarry but the men are few and even those who are available do not want to marry someone who has ever been married and or ever given birth...I am so hopeless and it is so overwhelming for me to look after the children alone'

The study further established that this has not been the case with men since a great majority of them have been able to remarry and even have other children.

Increased workload: In all the FGDs held with women, the landslide increased their workload. According to one female,

'as a woman married in this community, I had to perform some community roles like collecting firewood, fetching water, cooking and serving mourners at the burial of those who had died...I also had to look after my children as well as to take care of the home and at the same time take care of some patients at the health centre in Bukalasi which is also far away...at times I had sleepless nights because of the many activities which needed my attention'

It should be born in mind that the landslide destroyed some water sources and completely covered others. This means that these women had to walk longer than usual distances in order to get water in addition to other chores. To emphasise the increased workload, the district forest guard (DFG) mentioned during an interview that,

'as opposed to men, women are more committed to domestic and community chores...it is impossible or rare to find a man who will be as committed as to look after the home, or look after the patient at the health centre and do all the activities that women do'.

Further investigations indicated that this kind of commitment is a product of socialisation as women have been nurtured to know and accept that they should be committed to these roles which are traditionally designated for them.

Health and reproductive challenges: Women also faced a number of health and reproductive challenges. Whilst many women revealed that due to the shock, they had miscarriages and yet did not receive the necessary health care, others said that they had to deliver under extremely unsanitary conditions. Those who were displaced lacked access to contraception, undergarments

and sanitary towels. In the camps, there are specific needs of women which were not adequately taken care of. For example many women said that they lacked sufficient privacy.

Lack of access to information: Many women lacked information about a number of aspects for example relief supplies. This is mainly because they were so much taken up by increased workload after the landslide so they do not find enough time to move and socialize as much as men. Indeed one female said that she even missed to see the Ugandan President and also listen to his speech because she was not aware that he would come or had come.

Psychological effects: Women in comparison to men are more attached to their families and children. During the group discussions and personal interviews, women indicated that the pain they felt at the loss of a child was incomparable to that of men. This is because men usually have many more children with more than one wife due to polygamy and they also culturally have more opportunities to have other children whether outside or within the marriage compared to women. This was more expressed by women who had school children at Nametsi Primary School. Because of this strong attachment, it takes longer for them to heal psychologically in comparison to their male counterparts.

4.3. How communities responded to the landslide disaster

The responses of community members to the disaster were as many as they were diverse. This was largely influenced by the way they understood the causes and the extent of effect. It is important to note that some responses were crosscutting.

Shock: All community members were shocked at the immediate disaster. Although some of them had suspected that the landslide could occur, the extent and magnitude of its effect was unanticipated. As expressed by one female community member,

'I couldn't believe what I heard and saw, I did not know whether to shout or cry or...you see I left my husband and our two children in the house for just three minutes to buy a matchbox at a shop in the neighbourhood...only to hear that a landslide had occurred and claimed all their lives...our livestock was also gone ... and the house was no more in just a flash of seconds...I was exasperated, I didn't know where to go, I didn't know what to think!'

In another interview on the same subject, this is what a participant had to say,

'I was very shocked, but when I learnt that my father was stuck in between stones, I gained courage, lit a candle since it was at night went and extracted him...the next day he was taken to hospital by Red Cross...'

Prayer: Some community members who believed that God had an upper hand in causing the landslide even got closer to him through prayer as the main source of answers to their many unanswered questions regarding the landslide and as the chief source of strength. The way they perceived the role of God in causing the disaster influenced the nature of prayer they made.

Consequently, individuals had differentiated prayers like;

'I prayed to God, and asked him why he had to give us such a punishment...I prayed to God to take my life since all my family had perished,...I asked God to give my dead relatives a peaceful rest,...I asked God to give me strength to accept what was going on because it was perturbing,...I wanted God to be merciful and forgive us the survivors so that he brings no such punishment on us again...'

These and many other such reactions seemed to suggest that people looked at God as their main source of sustenance and resilience. Interestingly, community members pointed out that with prayer and as time passed, they started to heal and to be strong,

'slowly by slowly, we have learnt to accept whatever happened, we have hope for a nice future, God still has good plans for us...we were no longer afraid as we were at the initial stages of the landslide occurrence...maybe one day we shall completely forget...'

Less surprise and urgent need to help survivors: Some of the community members said that it was not the first time the landslide was occurring in this place as a member of an FGD said;

'it is not the first time landslides are occurring here...they have been here before...landslides were here in 1989 and 1997...they have been here in 2010 and it is possible that they will be here many more times...the difference is that the effects of the 2010 landslide were extensive and superseded the effects of all the other landslides we have had...'

On further discussions and probing, members mentioned that the reason why the effects of the preceding landslides were not comparable to those of 2010, they said that in 1989 and 1997 the

number of people living in the affected areas was less and by then there was more forest cover than there is now.

Community meeting and person to person consolation: Surviving community members convened urgently in a place which they thought was safer (a residence of the local leader) and paved the way forward. In the meeting they agreed on a number of issues for example how to excavate dead bodies, the tools to use, how and who to accommodate displaced persons, and the mode of burial. The meeting was also used to console those who were affected by the landslide.

It is worth noting that this meeting was not attended by every surviving member. While some concurred, others ran further away because they anticipated more landslides so they did not want to be the next victims. Some of them ran to their relatives and later shifted to the camp.

Relocation: Some of the people who had accepted to be moved to camps later accepted to be relocated to Kiryandongo District by the government in collaboration with URCS. According to the present members in Nametsi Parish, those who were relocated accepted the relocation because they were afraid and they felt it was safer to live in Kiryandongo District. Some of the community members resisted relocation due to fear of breaking cultural ties, fear that the government wanted to take over their land, and also because of age.

Tree planting/reforestation and improved farming methods: Some community members who did not accept relocation having realised that deforestation had contributed to the landslide resorted to tree planting as a strategy against future effects of landslides. These trees include pine and eucalyptus. Some of the tree seedlings are provided by the district officials while others are bought by individual farmers. Farmers have also resorted to growing of multipurpose trees like coffee trees.

Farmers in the parish also said that they had resorted to terrace farming instead of the former farming methods which predominantly involved cultivating vertically along the slopes.

Inquiry: Some members were curious to know more about the landslide for example when it happened, who had died, shocked and scared, lacked words, *'I was very curious, I wanted to find out much more about the landslide... to find out if any of my relatives was affected...and how'*

4.4. Community based knowledge

The study on CBK was premised on the expand-contract model of disaster management as devised by Fakir (1998:20). This model is founded on four main strands; prevention and mitigation, preparedness, relief and response, and recovery and rehabilitation. In the succeeding discussion focus will be laid on CBK in the above mentioned strands and how it were applied in the management of the landslide disaster in Bududa District.

4.4.1. Prevention and mitigation

Under prevention, the study assessed the CBK which is employed in actions of man towards a natural phenomenon to avert a disaster. And under mitigation the study assessed the community - based means to reduce the severity of human or material damage caused by the disaster. CBK in relation to this strand was assessed on the basis of the ability of community members to predict disaster. People's ability to predict as an aspect of prevention and mitigation, is premised on the researcher's ideal that **we may not be able to prevent or mitigate what we have not predicted** (*my emphasis here*). So prediction comes first before prevention and mitigation take place on the basis of what has been predicted. To this effect, community members revealed a number of ways through which different environmental situations like wet seasons, landslides, dry seasons, floods and sunshine can be predicted and how prediction shapes their activities in an attempt to avert disasters. This section also brings on board circumcision as a cultural practice which has contributed to environmental conservation and disaster prevention.

a) The landslide disaster

The ability of some community members to predict the landslide was based on their past experiences. Those who were able to predict the landslide are mainly those who had witnessed the previous landslides. They were able to tell that the landslide would occur on the basis of many interacting factors discussed below.

Heavy consecutive rains: The district had received heavy rains for five consecutive days, and on that fateful day, it rained heavily for nine consecutive hours. So some community members got a premonition that landslides would occur. They also predicted that these heavy rains would not stop soon because of black and rain-laden nimbus clouds. The eminent sign of a landslide

during this rain was the very fast speed at which water was running down the slopes as it rained and the soil and stone particles it carried along.

Cracks on mountain slopes: The slopes had developed cracks which usually allowed erosion of loose soils leaving heavy stones unsupported. To many community members, this was a sign that one day these stones would slide off. The challenge is that these cracks had existed for many years and community members had become used to their existence so they were no cause for alarm until when they gave way at a time they least expected.

Time period: As observed by some elders, landslides usually occur after about 10 years of the previous occurrence. Many of them said that they expected the landslide in 2009 since the previous one had occurred in 1999. So the landslide of 2010 except its effects was less surprising to them.

Water oozing from underground: According to community members, warm water oozing from underground in the wet season during and after heavy down pours is a sign that landslides will occur since it was the case in 1989, 1997, and 1999. According to one survivor, warm water from underground was oozing around the health centre which sunk and as well as in her neighbourhood so she told those around her and relocated. Many participants in the study testified to this incident but some did not relocate for a number of reasons like lack of the means to do so and trust in God's control over the situation.

b) Flooding

People in Nametsi Parish are able to tell that flooding is likely to occur when there are heavy consecutive rains. Some of them who do farming in the valleys between hills said that they are able to tell that flooding will occur when they find water underground in the process of digging. To them, this means that the ground will swallow no more water and so flooding is likely especially when it continues raining.

c) Sunshine

According to inhabitants of Nametsi Parish, when sunshine is expected the following day, at night the sky will be filled with stars and in the morning the sky will be clear blue without

clouds. According to these members, this is a reliable sign for sunshine and so they use it to prepare to sun-dry their harvests like coffee, beans, and maize as well as to schedule their activities for such a day. This harvest can then be stored and be utilised in periods of scarcity. This helps to guard against famine/food insecurity which is usually accelerated by disasters like landslides.

d) Wet season

The '*Kumewa*' tree brings forth whitish flowers when the dry season is about to end. Rain is expected two weeks after the appearance of the flowers and its role is to wash away the flowers. This rain alerts people to begin preparing their gardens for planting. Members said that it may stop raining for about a week or ten days before it eventually returns to rain for a longer time. *Kumewa* trees are found in forests so it is those who do farming in forests and hunters who usually carry information to other community members.

Another sign of impending rain during the dry season is excessive heat at night. When this happens for 2-3 days, rain is expected. This sign also helps community members to reschedule their activities as they await a rainy day. According to them, this heat reminds them to look for seeds for sowing when the rain eventually comes.

Additionally, the members in Nametsi Parish revealed that during the first rains the '*Lisoso*'⁵ bird makes a lot of noise compared to its usual chatter. This noise makes community members know that it is time for sowing. So they start to prepare the gardens as well as to obtain the seeds they may require in the process. These preparations help to guard against disasters like famine.

e) Dry season

When the '*Kamakumeti*' (local word meaning, 'on water') birds move in unusually large groups of more than 2000 birds towards the west from the east, it means that a long dry season is close at hand and it is likely to last for as long as two to three months. These birds usually move to the west in December and return to the east by the end of February or early March when rain is expected. According to participants in the study, these birds move to the west to escape from the

⁵ '*Lisoso*' is the local name used in the parish for a weaverbird

dry season to the banks of River Manafwa around which some of them build their nests. Others build the nests in the nearby forests. This helps the people to prepare for harvesting and also to think of other activities which they can do as they await the rains for example marketing their products, or engaging in cultural practices like circumcision especially in December.

There are also tree species that the communities use to predict the dry season when they shed off their leaves. These trees are locally referred to as the ‘*Kuhuyu*’ and ‘*Kuchihiri*’ which shed their leaves when the dry season is about to start.

As a consequence of these signs, the study also revealed that people have become aware that the dry season is spread over the months of December, January, and February. So in the dry season, community members prepare the gardens through the first layer digging and when rain is expected, the soil is re-dug before sowing or planting.

f) Disaster prevention through culture

It is interesting to note that without any cautious intention, community members in Bududa District and especially Bukalasi Sub County have been able to preserve the environment by upholding some cultural practices like circumcision. Indirectly, this has helped to guard against environmental degradation and consequential disasters. In the succeeding paragraphs a discussion is made on how this has been done.

According to the DFG, the district boasts of six cultural sites (CS) used for circumcision i.e. Nashula CS in Bududa Sub County, Yaraha CS in Bushika Sub County, Nalufutu CS in Bukigai Sub County, Namaremo CS in Bumasheti Sub County, Nehoyo CS in Bukibokolo Sub County, and Namashu CS in Bulucheke Sub County. These sites are used for cultural rituals and also visited by circumcision candidates in the month of August every even year. Nashula and Namashu cultural sites are visited by candidates from Sub Counties of Bududa, and Bukalasi and Bubiita respectively. Nashula like all the other sites is located in one of the swampy areas of Bududa adjacent to the River Tsutsu.

Each of these cultural sites is guarded by a clan elder closest to it. Traditionally older clans are also charged with the responsibility of ensuring the wellbeing of these sites for example the

Bunamutunyi Clan headed by a council of elders gives guidelines to other clans on how to visit and where to step while at the site. In the process of preserving these cultural sites, a number of flora and fauna have been preserved.

Fauna like snakes, squirrels and birds which would have been extinct use these sites as their habitats and have not been threatened to move away so they still exist. Some birds also have cultural significance to the communities which use these sites for instance the '*Hanyonyi hamusiru*⁶' is a point of reference during circumcision. As dances take place in preparation for circumcision, an assigned elder inspects whether this bird has started laying eggs or not. Usually circumcision will take place three days after the bird has hatched.

Flora especially in the form of medicinal plants has also been preserved for example the markhamia tree. To test the courage of the candidates animals like goats are slaughtered and the intestines placed on leaves of the markhamia tree. Then there are signs that are read from the intestines to indicate if the candidate is strong enough to undergo the process.

The fichus tree also has immense cultural significance for people in Bukalasi Sub County and therefore it is well guarded. Community members believe that when the sap of this tree is smeared on a stick, it has to be sticky as an indication that the circumcision process will be successful and if it does not become sticky then the process could hit a dead end.

The swamps and forests which host these sites have also been indirectly preserved because the sites are usually in the form of small forests in swamps. These play a big role in rain formation, provision of fresh air and serve as habitats for birds, animals and insects.

4.4.2. Preparedness

Under preparedness, the study assessed CBK in relation to those activities and measures undertaken in advance to ensure effective response to a hazard⁷ which may have been predicted or not. The responses to this strand of disaster management are discussed below.

⁶ Traditional name for a bird that signals the beginning of a specific ritual – the start of the annual circumcision event

⁷ A hazard is a potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption, or environmental degradation (Dekens, 2007)

Improved farming methods: Many farmers whose farms and crops along the slope got destroyed by erosion and landslides decided to adopt new farming methods like terracing instead of digging vertically along steep planes. Many of them have also adopted use of natural fertilizers like urea instead of using Calcium Ammonium Nitrate (CAN) and Nitrogen Phosphate Potassium (NPK) which make soils loose and thus vulnerable to erosion. They have also resorted to growing crops which hold soil particles together and add nutrients to soil such as beans and coffee respectively. All these efforts are geared towards averting soil erosion.

House construction: Community members also said that they have learnt that not all places along a mountain slope are suitable for settlement. From FGDs and personal interviews, they expressed that it is much safer to construct a house on a flat highland without loam soil than on a steep slope or at the bottom of the highland. In support of this view they mentioned that from experience, when a house is constructed along a steep slope, it can be affected by strong erosion while at the extreme bottom, the house may be affected by floods. Additionally, they also said that it is rational not to construct in landslide prone areas or in areas where the landslide has ever taken place because in future slides may take the same route.

Similarly, the CAO mentioned that community members have also learnt that when it rains for more than two consecutive hours, it becomes unsafe for them to stay indoors. They have to move out to a safer neighbourhood. This is because the community members know that rainfall accelerates landslide occurrence and if they stay indoors the buildings could collapse on them.

The local ceiling also known as ‘Inungo’⁸ and granaries: Almost all houses in Nametsi Parish have got *Inungo* and all homes have got a granary where they store excess produce like onions, maize and beans. This produce can be used in times of scarcity and can also be sold when the prices shoot up to earn a good profit for these people. The maize and beans can be kept for about eight months while onions can be kept for three to four months. The study revealed that the most commonly used means of storage is the *Inungo* because it is found inside the house, is safe and confidential as opposed to the granary. The idea of an *Inungo* evolved from the experience that when these products were placed on a cold floor, they usually germinated.

Many community members said that after the landslide some of the items on the *Inungo* like maize and onions were sold for survival. Other modes of storage in this parish include sacks and

⁸ Inungo is a traditionally made house ceiling on which surplus produce like beans, onions, and maize are kept

stores. The women in Kubewo Village also said that they were planning to have a central store where food to be used in disaster situations or during scarcity could be kept.

Figure 4: Picture of the Inungo



Source (Author, 2011)

4.4.3. Relief and response

The use of a local stretcher: This is locally known as *Khatimba*. It is made of wire mesh and timber. Onto this wire mesh a mattress is added before putting the patient. After the landslide and before the arrival and relief response by humanitarian and relief agencies, the community was already at work. They used the *Khatimba* to transport patients from the scene of the disaster to Bukalasi Health Centre III. Two people could carry one patient on a stretcher. This stretcher is very significant and so it is owned by all homesteads in the community due to the multiplicity of roles it plays; in addition to transporting patients in critical conditions, it is also used for drying and winnowing coffee beans and other crops that need drying.

Despite the various roles played by the *Khatimba*, its original use was to transport patients to the nearest health centre given the inaccessible roads. It is also used for transporting dead bodies when deemed necessary.

Figure 5: Picture of the Khatimba



In the photograph above, the *Khatimba* is being used to dry coffee beans (Author, 2011).

Use of local tools: In response to the landslide disaster, communities actively participated in the excavation of survivors and the dead. This was done using local tools like hand hoes, axes, rakes and pangas. Even when the relief agencies came, there was continued use of local tools until very much later when the government brought in excavators.

Figure 6: Excavation of dead bodies by UPDF⁹ soldiers using local hoes



Source: OPM (2010)

Extending material and non-material support: The help extended to those affected was both material and non-material. Non-material support included encouraging and standing by one another in their most difficult moment. As one female recounted,

‘I almost took my life knowing that my husband and three school children had died in the disaster, it was heart breaking, unbelievable...I saw no reason to live but some people who understood what I was going through came and told me there was much more to live for, as I was able to remarry and have other children...we also prayed together...this helped me to carry on and slowly by slowly I am trying to stabilise.’

This community support was of great significance to many of those who were affected. The study also indicated that later on other agencies came in and offered more psychosocial support like post disaster counselling to those affected by the disaster.

In relation to the psychosocial support, community members also hosted and took care of IDPs before they were relocated to the camps. Material items that community members extended to those affected included food items, non-food items like clothes and money and seeds for planting. The kind of support offered to one another by community members highlights some

⁹ UPDF-Uganda People’s Defence Force

presence of social capital in the parish and by implication community unity presents a formidable force to reckon with in disaster situations.

4.4.4. Recovery and Rehabilitation

This involves interventions which are needed after the immediate disaster has passed to enable people live a decent life. They include livelihood, psychosocial and reconstruction activities. In this sphere, community members in the parish have started doing the following:

Tree planting/reforestation: In the opinion of one elder,

'some of us realized that cutting trees along the forest slopes and over cultivation are the main factors that triggered off landslide, we have now decided to plant trees and we do not intend to cut them down again the same way we did before'

Much as this was expressed by one elder, it seemed to be a widely shared opinion by a considerable section of community members and indeed it was evident that tree planting was already taking place. According to the DFG the tree seedlings of pine and eucalyptus were being supplied to interested farmers in the parish from the district head office.

Livelihood activities: Some of the affected members have taken on growing traditional crops like cocoyam in the swampy areas which they hope to sell and earn income in the future. As a means of recovery, many have sold what they had stored from the previous produce like maize, beans and onions to earn income for survival.

Interestingly, the women have used some of pre-existing groups to contribute money to one another on a monthly basis in a rotational way. These contributions are interest free and so they cannot be compared to the loans given by the prevalent micro-finance institutions in the district.

Reconstruction: There is communal reconstruction of shelters and sanitary facilities taking place where community members have constructed shelters for IDPs in sequence. They have also restored the former feeder roads although this is to a very small extent and generally not well done. This effort is greatly weakened by inadequate energetic labour.

Psychosocial support: This was by far the most important and acknowledged aspect of recovery and rehabilitation in the parish. It started right from community members temporarily taking on IDPs, constructing shelters for them, giving them food and other basic necessities, constantly counselling them to help them cope with the situation, to performing rituals to cleanse them from being haunted by ghosts of those who had perished in the disaster. According to one female,

'there was no better thing at the time of the disaster and after than knowing that the community is very concerned and cared deeply about me...this has been very encouraging for me ever since I lost my husband and children'.

The study however revealed that there is a lot still desired for community members especially those who resisted relocation because the government has put up a number of recovery and rehabilitation programs for those who were relocated to Kiryandongo District.

4.5. Local structures for disaster management in Bududa District

Social networks: Community members have developed a face-to-face network for information dissemination. According to the local leaders all members are obliged to pass on any information regarding an impending disaster. For instance those who had come across cracks on the mountain slopes had spread the information and community members were well aware of it. The men usually shared such information in evenings during social gatherings around a pot of local brew while women shared it on their way to water sources or to collect firewood or in their social groups. Even when the disaster occurred, it was partly through the social networking that they got to know about the disaster and the extent of destruction.

Community groups: As aforementioned, the men have unintentionally formed social drinking groups around which they discuss matters of importance affecting the community. On the other hand, women seem to have numerous groups for example, local saving groups, burial groups and farming groups. During a FGD in Kubewo, women revealed that they had a burial group called *Shihwasula Sihana* which helps to collect water, firewood, offer labour and moral support at the death of a community member.

Alarm systems: Members also very well understand that when someone alarms, there is something wrong and so all community members are obliged to go in the direction of the alarm

and offer all possible assistance. They know very well that when the alarm is raised, the problem affects an individual or a single household. And of course what affects an individual or a single household can end up affecting the entire community.

The local drum and bell: The community also boasts of a bell and a drum. The drum is kept at the home of the parish chief while the bell is found at the primary school in the parish. These are used when the problem affects the entire community. As mentioned by the local leaders, the drum is commonly used to invite people to an urgent meeting and so is the bell although the bell is rarely used because the school has been using it too so it was confusing for the community. The community members are very aware of these sounds and they respond as expected. Usually the drum or bell is sounded if it is a community problem.

Figure 7: The local drum used in Nametsi Parish



A local drum used for information dissemination in Nametsi Parish (Author, 2011).

4.6. The extent to which CBK and local structures can be relied on in disaster management

The study was also carried out to assess the extent to which CBK and local structures could be used for disaster management and it was found that to a very large extent they could be used although to a lesser but significant extent CBK and local structures could not be relied on because of the following factors raised by community members and district officials.

Influence of Religion: District environmental officers pointed that the advent of new religions in this area is posing serious threats to CBK. Despite the existence of all indicators (both scientific and non-scientific) many community members remained adamant and made no efforts to avert the disaster because many of them felt that the situation was directly under God's control.

Doubt and mistrust: Many community members, especially the youths, doubted the warnings that had been issued by the elders. As revealed by one surviving male,

'an elder who had witnessed the previous landslides told members that a landslide would soon occur but she was not taken seriously, her information was very fast brushed off and she was seen as superstitious...'

It is thus arguable that they doubted the information as well as the source of it and this partly explains why many youths perished and were affected by the disaster as compared to older groups in the community

Climatic changes: Because of the changing climatic conditions, local leaders and district officials advanced that it was not feasible to completely rely on CBK in disaster management since climate is changing. As mentioned by one environmental official, many of the community members had not anticipated uninterrupted rains in the last part of February and the first few days into March and this prevented them from adequately or preparing at all for the disaster. In any case, they had also not anticipated how much rain they were to receive.

Dispute over local structures: The co-existence of the bell and the drum was quite confusing. Many community members thought the drum was more important compared to the bell. This is because the bell had been grossly misused. Many drunkards and other people sounded the bell just for fun causing panic and confusion in the community for no reason. Other community

members especially those with hearing problems felt that the drum was not loud enough to reach the entire parish so it was not wholly reliable.

Reliance on community unity: Most of the CBK and local structures are very reliant on unity. Community members need to be united and to trust each other if socio-networking is to have any effect. But this is not always the case in many communities including Nametsi Parish. And this partly explains why there were a great many false registrations after the landslide.

Despite these challenges that CBK and local structures were presented with, the local and district leaders who participated in the study felt that it was still significant that some aspects of CBK be integrated in disaster management processes.

4.7. How CBK and local structure can be used in disaster management

Change of attitude towards CBK: Participants expressed that many times development workers from government and civil society treat them with a lot of sympathy as if they are helpless. Affected members also mentioned that development workers have a tendency to view their knowledge as archaic, superstitious, useless and unreliable. Because of such attitudes, their knowledge has always been unrecognised. A change of attitudes would be the first step towards utilisation of CBK and locals structures.

Establishing and recognizing the CBK: Community members suggested that after a change of attitudes an effort should be made to establish and put to use the knowledge and structures they possess. According to them, their knowledge and structures are very reliable, significant and symbolic to them to the extent that they should form the foundation for disaster management.

Capacity building: According to a URCS official, the government needs to identify and build the capacity of communities in relation to disaster management. He further suggests that this can be done through training and motivation in areas like prevention and mitigation of disasters, risk identification, preparedness, emergency handling, and in first aid as an aspect of relief and response.

Also worth noting is that URCS had already started training community members especially those who were relocated although they felt that this was more the responsibility of the government. Importantly, the official stated that all these trainings should be founded on CBK before any other new knowledge can be introduced. As advanced by the GISO, identifying and training some community members will ease the training of the entire community as those who are trained will also train others.

4.8. The role played by government and relief agencies after the landslide disaster of 2010

4.8.1. The role of relief agencies

A number of national and international relief agencies participated in response to the landslides in Bukalasi Sub County both directly and indirectly. These included the World Health Organisation (WHO), World Food Program (WFP), African Union (AU), United Nations Children's Educational Fund (UNICEF), Save the Children, World Vision, Oxfam, URCS, individuals, and the churches in Uganda. According to some community members, very many agencies came and it was difficult differentiate let alone remember them. The roles played by relief agencies were seen at the time when the disaster occurred and also after the disaster as discussed below.

Initially most of these agencies came on site one to four days after the disaster but later the URCS became the overall coordinator of the operations. It is also important to note that URCS was also the first relief agency at the disaster area. On this premise, some community members recognised URCS as the only relief agency that was present at that time. It is thus undeniable that the coordination role of URCS overshadowed all the other agencies that intervened. While many relief agencies stepped in to assist these communities, much of the credit was earned by URCS. Communities occasionally referred to all the other relief agencies as 'Red Cross' and according to local government officials, other relief and humanitarian agencies felt unhappy about this.

The URCS immediately carried out a rapid assessment which involved community members to determine the extent of the damage and the needs of displaced families. After the rapid assessment, it spearheaded the process of excavating bodies covered by the landslides,

identifying potential beneficiaries from the relief aid, moving affected people to Internally Displaced Peoples' Camps (IDP) in Bukalasi Trading Centre and Bulucheke Sub County.

The URCS also did camp management, distribution of food and non-food items, provided water and sanitation facilities, conducted hygiene awareness, disease surveillance, social mobilization, and information and communication services. The role played by URCS especially at the immediate disaster was in collaboration with local leaders and a few other community members. Examples of activities in which local communities were very much involved were provision of information during rapid assessment, excavation of bodies using local tools, and identification of victims. These community members were mainly men. Interviews revealed that this was because such roles are designated for men because they are 'stronger hearted' than women. It was also because women were busy with other chores like taking care of the sick and children.

At the time of the study, a URCS official revealed that the agency was carrying out sensitisation of communities on a number of aspects as related to disasters including first aid education, problems caused by deforestation, and the need to use their environment wisely. However as of now, there are no trained community members in disaster management in Nametsi Parish because those who were trained were IDPs who were relocated to Kiryandongo District.

Under the coordination of URCS, agencies like UNICEF and Save the Children helped to place displaced school children in schools and provided all the necessary scholastic materials, WHO was mainly concerned with health related issues, WFP provided food items, World Vision provided food and non-food items, while other agencies provided mainly psychosocial support to the affected people.

4.8.2. The role of government

The Government of Uganda through the Ministry of Disaster Management which is hosted under the Office of the Prime Minister (OPM) requested humanitarian assistance in support of its efforts to rescue the affected families as well as those at risk.

The President of the Republic of Uganda, Yoweri Kaguta Museveni, visited Nametsi Parish in Bududa District eighteen hours after the incident and addressed people who had been affected by

the disaster. The rationale of his address was to encourage people to be calm and not to lose hope. Findings during the study indicated that the presence of the President in the parish and his speech provided remarkable moral and psychosocial support to community members.

The District Local Government of Bududa District agreed with URCS that the latter should coordinate all relief aid from all the other relief agencies. The CAO of the district pointed out a number of reasons for this agreement. These included the need to ensure proper accountability for the relief aid received, the URCS also had the capacity in terms of skilled personnel to play the role, direct aid from individuals and individual agencies could not be accounted for and consequently, it could raise a lot of confusion.

The OPM delivered materials to assist in the burial process to Nametsi Parish a day after the disaster. These materials included coffins, cement and bed sheets. At Bulucheke Camp the OPM together with other sector ministries working with URCS and other humanitarian agencies maintained supplies of food, tents, drinking water, medical drugs and treatment, clothing, blankets, tarpaulins and household utensils. The President directed that IDPs be resettled in Kiryandongo, Kyankwanzi and Kiruhura districts. The resettlement from Bulucheke Camp began on 6th October 2010 and by December 2010, 1869 survivors had been resettled in Kiryandongo District (OPM, 2010)

Additionally, the CAO revealed that after the immediate disaster, the District Local Government (DLG) formed a District Disaster Management Committee. This committee had the role of overseeing all humanitarian and relief activities in the affected area. Before appointing the URCS to coordinate relief and humanitarian supplies, this committee received relief from all sources and distributed it to survivors. Later the committee was only left with the role of monitoring the URCS. At the time of the study, the committee was inactive. Unfortunately, FGDs and interviews held indicated that this committee did not include any community members from the affected parish not even the community leaders.

4.9. The nature of collaboration among government, civil society and communities

During the study, it was challenging to delineate the roles played by humanitarian, relief and state agencies. This is because in most cases these agencies did not act in isolation of the other. Indeed, the GISO and CAO pointed out that the district administration and civil society worked very well alongside each other. On that basis, it could be argued that each of them recognised the value of the other. This revealed some level of trust and reciprocity among them.

Interviews with community members indicated that members from Nametsi Parish had not actively been involved in disaster management. They were mainly and only involved in excavating and identifying the survivors and the dead from the landslide after the immediate disaster. They also participated in transporting the survivors to the nearest health centres. The most active participation of community members was at the usage of relief supplies. According to the community members, the supply of relief aid was also dominated by URCS officials. However in justification of this URCS officials advanced that if community members or local leaders were to participate in distribution of relief items, there would be favouritism and unfair distribution.

When relief and government agencies came, community members revealed that their role was remarkably reduced as the following roles were taken over by these agencies. They further advanced that it is likely that some agencies looked at them as if they were worse off while others assumed that they did not have the needed capacity to actively participate.

Even then, the overall perception of communities regarding that role civil society was positive.

As stated by one community member,

'the Red cross was very useful to us...we do not know how we would have survived without it... it supplied a number of relief supplies like food, blankets, utensils...these were very useful for us, they also counselled us and we felt encouraged.'

The post-disaster recovery programs as well as provision of non food items like pangas, hoes, survival kits and tree seedling as well as training highly acknowledged by community members. Arguably, this was meant to prepare them for the future.

It is important to note that the affected people also saw the government as being very helpful especially in the immediate disaster when relief and burial items were provided by the OPM. They were particularly impressed when the president came and addressed them.

4.10. Challenges faced while extending services in disaster stricken communities

An interview held with the Gombolola Internal Security Officer (GISO) and the Chief Administrative Officer (CAO) of the district pointed out a number of challenges that the local government is facing in attempt to provide services and to relocate community members.

Inaccessibility: A host of responses suggested that Nametsi Parish is a hard-to-reach area in Bududa District. The area cannot be accessed by a vehicle or even a bike:

'the area cannot be reached by vehicle and you cannot walk with 'posho' on your head...to that effect people were just mobilized to come down from the hills to the trading centre to get relief supplies...these people are used to these hills as they are a part of their life and so they have no problem moving with goods up and down the hills' revealed the district CAO

That notwithstanding, it is vital to note that there are categories of ¹⁰victims who cannot move to the trading centre to receive relief supplies. These include those who were injured, persons with disabilities, the sick, orphans and the elders. As a consequence, non victims benefited more from the relief supplies than the real victims since there was no specified mechanism of helping them.

Limited Resources: The district CAO further decried the challenge of limited resources as the disaster struck. Initially, the district lacked adequate finances and transportation to Bukalasi Trading Centre and this immeasurably crippled the district efforts in addressing the situation. Additionally, there was also inadequate skilled manpower to assess and respond to the situation. The available manpower was not readily willing to move to the inaccessible area. As a remedy, the district leadership evoked other stakeholders like the OPM and civil societies such as the Uganda Red Cross Society (URCS) to fill the gap.

¹⁰ This study defines a victim as a party which was affected in any way by the landslide disaster

The GISO and the CAO also pointed out that poor weather was a major challenge faced in the course of responding to the disaster. They mentioned that it kept raining non-stop and this caused more fear as many service providers and community members thought the continued rain would contribute to other landslides. This rain also made it difficult to transport those who were injured by the landslide to the nearest health centres as the transporters had to walk long distances amidst incessant rains with patients. As such, community members stated that each minute they felt the patient would die before reaching the health centre but fortunately such cases were not reported. As in all places which have been disaster-stricken, the researcher noted that large numbers of people usually die in the immediate disaster after which far fewer numbers of the dead or none at all are recorded. Local relief rescue and response efforts usually serve to prevent further deaths from the disaster.

False Registrations: Besides the aspects above, it was revealed that there were many false registrations. Non-affected community members registered and occupied IDP camps more than the real victims. It was also emphasised that some of the registered people did not hail from the landslide affected communities. It is alleged that local councils were bribed to register children as orphans even when their parents were alive. According to the GISO this could be attributed to the fact that many people aspire to benefit from relief aid in disaster situations even when they are not affected in anyway. The false registrations were even worsened by the extensive aid received. Similarly, politicians and local leaders with selfish interests exaggerated the numbers of affected persons as well as the numbers of the unexcavated dead. This was directed towards attraction of more relief aid.

Misappropriation of aid: The other challenge faced during extension of services was that the aid which had been sent from various agencies and philanthropists was misappropriated by the officials in charge. An officer who preferred anonymity revealed that some URCS Officials established an office along Mbale-Bududa Road and told those who were taking aid to Bududa that the district was totally inaccessible. Later on it was discovered that they transferred this relief aid which included food and non-food items like survival kits, cheques and cash to themselves. Whilst the real victims never got to benefit from it, it is widely acknowledged that officials who operated in this area when the disaster struck have become wealthier. Indeed some

community members who had refused to go to camps pointed out at the time of the study that they had not received any aid. This means that aid from different agencies did not reach them.

Resistance: After the relief response to the landslide disaster, the Government of Uganda decided to relocate people from Nametsi Parish to a safer place (Kiryandongo District) in North-Western Uganda. The government had assessed that the parish was still vulnerable to future disasters given the deteriorated environmental conditions. But this idea was met with sharp rejection from huge sections of the community. This rejection was supported by a myriad of reasons as discussed below.

The need to protect culture and fertile land: Many community members asserted that it would be difficult for them to carry on their cultural practices like circumcision in the new places. As lamented by one elder,

‘our neighbours in the new district could ridicule us as we practice our circumcision... and this is likely to affect our culture...the youth in particular may fear to be circumcised and eventually we may lose a key component of our culture’

The GISO appended that many people prefer that government finds land for them in Bududa District so that they can keep on practicing their culture freely, but government finds this challenging since the displaced persons are many in comparison with the available land in the district.

The CAO further stated that,

‘...communities have got cultural strongholds...they do not want to leave their graveyards and coffee plants, they also feel that the government is taking advantage of the landslide disaster to take over their supposed fertile land and throw them in a hard-to-live in district whose soil is comparatively infertile’

Foodstuffs: The other fear advanced was that in the new area these people may not be able to access their most favoured foodstuff ‘*Kamaleya*’ (loosely translated as bamboo stems). These foodstuffs usually grow on forested mountain slopes. Many people claim that they may not be able to access this food again.

Age: Many of those over fifty years of age refused to be relocated and felt it could be very difficult to get used to a new place about which community members had developed several

misconceptions. Besides, many of these elders had lost most of their relatives and yet the new place would require them to have someone to care for them but this may not be necessary if they kept living in Nametsi Parish. Also, many of them had coffee plantations which they did not want to leave behind. Interestingly, these elders also felt they had a moral and cultural obligation to guard the soil and graves handed down to them by their forefathers.

Despite the reasons advanced for the resistance, the GISO and CAO indicated that Nametsi Parish was no longer habitable and that people would have to either relocate voluntarily or forcefully. Local leaders and community members reported that the government had refused to reopen schools and health centres in the community which could force communities to accept relocation. At the time of the study, peaceful means such as convincing survivors to relocate to Kiryandongo District were still being used.

In contrast with the common stance that community members in Nametsi Parish have continued to resist relocation on the basis of the factors explained above, an interview held with a URCS official pointed to the fact that some people are actually ready and willing to be relocated but the government has been reluctant to do so. The official further insinuated that apparently the government lacks the financial capacity to relocate people.

CHAPTER FIVE: EMERGING ISSUES, DISCUSSION AND ANALYSIS

5.0. Introduction

This chapter presents a discussion and an analysis of key findings and the emerging issues from them. The discussion and analysis centres around topics such as causes of disasters and the causal misconception, aspects that make the Bukalasi Sub County vulnerable to disasters, effects of landslides on livelihoods, needs assessment in disaster situations, social capital, responses and sources of resilience, how communities can be involved in disaster management, challenges in the applicability of CBK and utilisation of local structures, humanitarian assistance, state-civil society synergy, why communities should be involved in disaster management, and the district disaster management committee.

5.1. Causes of disasters and the causal misconception

It is very important to know how people interpret events around them as well as the implications that these interpretations hold for development efforts. All over the world, people explain causes of disasters differently based on aspects such as socialisation, religion, education, prevailing circumstances and past experience. The differences in explanation differ within communities and even at the individual level. Consequently, the present study carried out indicated that the perceptions of community members regarding causes of the landslide disaster were by and large different.

It was interesting to note that some community members were able to articulate the scientific causes of the landslide disaster. They mentioned that the parish was receiving heavy and ceaseless rainfall and was also undergoing a natural process (volcanism) which caused cracks and also water to ooze. Additionally, some members acknowledged that some of their actions on the environment like deforestation, over cultivation and use of fertilizers, triggered the disaster.

In another itinerary, factions of community members bore what the researcher described as misconceptions about the real causes of the disaster. This misconception was also two-fold as

some members simply attributed it to one man 'Womaniala' whilst others saw it as an 'act of God'. Those who attributed it to 'Womaniala' emphasized that he was a known self - confessed rainmaker and because he was competing with another rainmaker, he ended up causing rains which resulted into the landslide.

In another fascinating twist of fate, other community members were convinced beyond doubt that God was solely responsible for the disaster. To some of these members, the occurrence was one of the usual acts of God and it could just not be explained beyond that, while to others it was a punishment from God for acting contrary to his established laws and commands especially in their day-to-day lives. On this basis, the communities felt that it was not fair enough for district environmental officers to allege that their actions resulting from illiteracy caused the disaster. They also felt that their impact on the environment was way too marginal to cause such an extreme event. This group was also in clear contrast with those who attributed the disaster to 'Womaniala' and they believed it was mythical and lack of faith in God to attribute such an event to a single man

Reference to existing literature indicated that a host of scholars for example Hutton and Haque (2003), Schmuck-Widmann (2001), and Bankoff (2004) in Dekens (2007) were cautious to suggest that the conception by some people that natural disasters are 'actions and the will of God' should not be equated to the western label of fatalism which suggests that such conception denotes passivity, resignation and apathy. According to Dekens, labelling people's conception as fatalism would mean misunderstanding of other world views (2007: 42) which are influenced by religion and spirituality.

The scholars' views notwithstanding, the researcher thinks that the non-scientific views of community members regarding causes of disasters should not be treated in their entirety since doing so would not enable them to realise and acknowledge real causes of disasters; all they may do is to evade it and allocate responsibility to God or any other divine being instead of re-examining their own actions which are indeed key contributors to the phenomena.

5.2. Features that make Bukalasi Sub County vulnerable to disasters

Poverty: Just like the whole of Bukalasi Sub County and Bududa District in general, Nametsi Parish presents with colossal poverty. Many people in this parish can barely afford the basic necessities like the two standard meals on a daily basis. Apparently the chances of this parish improving are very slim as there is lack of livelihood opportunities and basic services like health and education. In future the illiteracy rate will greatly increase because there are no education institutions in the parish as the only primary school which was affected by landslides was closed by government. Therefore it is very difficult to move several kilometers out of the parish in search for education. It is important to note that illiteracy and extreme poverty greatly undermine sustainable development efforts.

In the specific context of this study, it was found that a good section of community members got the premonition that a landslide would occur based on various signs but they could not relocate because they were financially incapacitated. As in the New Orleans disaster, many residents had anticipated Hurricane Katrina of 2005 but they could not relocate because they did not have the financial means to do so since they had not yet been paid so they ended up perishing in hurricane (UNEP, 2008). Indeed the WDR (2009) notes that the world's poorest are at most risk of disasters.

Cracks on mountain slopes: Some mountain slopes for example, Buharera Village in Nabulalo Parish of Bukalasi Sub County have cracks but people still live there despite the fact that they are aware of these cracks. According to Mary Gorreti Kitutu an environment specialist from the National Environment Management Authority, mudflows can be observed from the slopes of the mountain with many water openings indicating that the rocks are under tension. The cracks have deepened from 10cm in 2010 to 30cm in 2011 (Mafabi, 2011). People cannot move away because government and other agencies have given them no acceptable alternative. Moreover many of them do not want to leave their places of origin. In precise terms, these cracks represent a disaster just waiting to happen.

Soil texture: A study carried out by Kitutu et al (2009) about how 'soil properties influence landslide occurrences' indicated that most upland soils on steep slopes and pediments are deep and very porous in the top 100cm of clay loams. The soils are also very stony, have high water

infiltration and are in most cases sandy. These features present this soil as very vulnerable to erosion and consequential landslides. This vulnerability is compounded by heavy precipitation received in the area.

Remote nature of Nametsi Parish: Focus Group Discussions with members from the three villages revealed that NGOs had not been in Nametsi Parish before the landslide struck. So at the time of the disaster they were not conversant with the place. As one participant remarked in a FGD,

'this place is very far away from the nearest town, it is also very tiring to reach here since it is very hilly, ...some visitors who come here are not willing to come again!...even the politicians who represent this area only come to search of votes...and the next time you see them is after five years when they are searching for votes again...'

It is thus arguable that the absence of NGOs re-emphasizes the remoteness of this place given the fact that humanitarian and relief agencies are prevalent in most parts of Uganda.

The parish is approximately 5 kms from the Bukalasi Trading Centre and so very few community development workers including government employees at the district headquarters are willing to offer services in the parish. As revealed by the CAO, it is extremely difficult to monitor projects in this parish,

'very few people can dare to walk up to Nametsi Parish unless you are strong enough...many of the Community Development Officers are ladies who are unwilling to go to Nametsi and yet there is need to sensitize people on health and reproductive issues'

As argued by Elliot and Pais (2006) remotely located areas suffer doubly in disaster situation. This is because communication in such areas is very difficult since infrastructure is not well developed to enable the adequate intervention of development workers. Worse still, reporting on disasters in such areas may not be an easy task.

Lack of adequate disaster preparedness: Community members also said that they had not been prepared in any way by the government or any civil society for the disaster. For most of them, the first time they saw government or civil society officials in their locality is when the disaster struck. Because of this lack of preparedness, the effects of the landslide disaster were devastating for these communities. There is also over reliance on the locally developed warning systems

which may not be very effective. Although much of the district is very susceptible to disasters, there are no well developed warning systems and means of communication in place. It seems like everything has been left to chance. Kitutu et al (2011) however notes that setting up mechanisms for disaster preparedness involves many technicalities and also very high costs. Even then WDR (2009) suggests that this can be countered by identifying and promoting effective people-centred early warning systems. These early warning systems can help people to take a balanced and early action before a hazard to avoid a disaster. Indeed as noted by WDR any actions taken before a disaster can help prepare for, mitigate, or even prevent a hazard from turning into a disaster.

Fertile soils, dense population and high population growth rate: The district boasts of fertile clay loams which have driven community members to over cultivate. Most of the crops like onions and cabbages which are grown along mountain slopes require application of fertilizers such as CAN and NPK. These fertilizers make the soils loose and render them vulnerable to erosion. Worse still the area is densely populated and the population is still growing so there is continued deforestation and over cultivation in search of space for settlement and adequate food to feed the rapid population growth.

Absence of health facilities: Respondents in FGDs as well as in interviews pointed out that at the time of the disaster there was only one medical centre which was unfortunately destroyed by the landslide. Since then, no other medical centre has been put in place yet people continue to live in this location. This places the community members at an incomprehensible health risk.

Bimodal rainfall patterns: Bududa District receives bi- modal rainfall patterns which when combined with aforementioned factors like high population growth rate, deforestation, hilly nature of the area and over cultivation involving use of fertilizers, make the district very vulnerable to more landslide disasters.

5.3. Effects of disasters on livelihoods of communities

Disasters like landslides greatly impact on livelihoods of local communities in many ways. Participants in the study mentioned that landslides caused loss of lives and some of the victims once constituted the energetic labour that used to transport produce for trade to trading centres and also to work on farms. In some families, those who died were the bread winners and of

course their death affected the quality of life. Participants in the study also said that farms and farmland was destroyed; banana and coffee farms and livestock were all destroyed while prime agricultural land was covered by mud and stones.

As a consequence, some farmers said that their income had reduced and others said they were displaced and remained landless so they could not cultivate. The negative impact on agriculture which is the mainstay for people in Bududa District leaves farmers with few alternative options. Landslides also increase the vulnerability of farmers to shocks from disasters, increase the future risk of food insecurity and generally threaten livelihoods. It is thus plausible to suggest that vulnerable farmers urgently need to be helped to be resilient amidst disastrous situations.

Interestingly according to Oxfam (2009) it is possible for farmers to adapt in disaster situations if they are helped to be resilient. Oxfam suggests that vulnerable farmers can be assisted to be resilient by developing their skills, expertise and choices in relation to agro-ecological farming practices; the interdependence between field crops and livestock, pasture and trees; farm diversification; how to get market for produce and when to sell them. They should also be trained on what to do when crops fail, the importance of group formation and how to form groups. When farmers form groups, they can be able to help one another in times of difficulty. Additionally, farmers also need to be equipped with adequate information on issues like agricultural advisory services. Most importantly community based knowledge and local structures need to be built on in such trainings. When this is done, farmers will have enough information to enable them take part in decision making. Specifically, women should be targeted since they are the primary producers of food and yet their access and utilisation of land is constrained by culture.

On the other hand, local and national institutions should also be well placed to support farmers possibly by extending soft loans and giving seeds to farmers. National institutions should also be responsive to farmers needs by regulating markets, providing social protection, and providing agricultural advisory services to both men and women.

Local storage mechanisms need to be identified and up scaled. The stored farm produce could help farmers cope in periods of scarcity. During the study, women in Kubewo Village mentioned

that they were planning to establish a village central store to guard against food insecurity. Such ideas need to be tapped and built upon as a means of ensuring food security.

Landslides and disasters in general destroy peoples' livelihoods. Their effects also make it difficult for communities to re-establish their former livelihoods or embark on new ones as a result of the damage caused in the infrastructure, social and economic rubric of the community. Post disaster interventions need to include imparting knowledge and skills required to start new or revive old livelihoods, revival of systems and structures or development of new ones.

5.4. Needs Assessment in Disaster Situations: Method and extent

When the disaster struck, the URCS immediately carried out a rapid assessment of the extent of the impact as well as the needs of people. Later on relief supplies were provided in response to the assessed needs. In some instances the needs addressed were not the real needs of community members. Indeed this is what one participant had to say;

'it was necessary that an in-depth needs assessment be carried out because it is not good that our needs are just assumed...there are times when we needed flour but instead hoes and pangas were provided...some of the supplies were not enough for all the victims which means the numbers of those affected had been understated...Red Cross should have asked us about these things but instead they were just provided as they deemed it necessary.'

The feeling of this community member seems to denote a kind of dissatisfaction about the nature of service provision in disaster situations. This notwithstanding, the Pan American Health Organisation (PAHO, 1999) argues that needs assessment should be carried out promptly by national health authorities and the donors should be informed immediately of the type of assistance that is or is not needed to prevent ineffective contributions. The researcher thinks that for such needs assessment to be comprehensive, community members should be at the centre of the process which should also be carried at the immediate disaster and thereafter. The rationale of the latter is to ensure that all needs including needs that may arise after the immediate disaster are taken care of.

Emphatically, the specific needs of women should be identified. The United Nations Security Council (UNSC) suggests that there should be systematic consultations with women in the initial stages of project planning and programming. This can be attributed to the recognition that women present key resources in disaster management and yet they face many challenges as women in such situations (UNSC, 2000 in Scharffscher, 2005). Unfortunately, many relief agencies usually do not find time to ask, listen, learn, understand, rethink and redesign development programs based on local priorities and capacities. To most of these agencies, such bureaucracies may contribute to loss of lives which could otherwise be saved. But according to Scharffscher, this only contributes to hasty actions that may lead to even more complex emergencies.

Many scholars for example Scharffscher (2005), Helsloot and Ruitenbergh (2004), and PAHO (1999) argue that in disaster situations communities are not too shocked, paralysed and helpless to ensure their own survival. In any case, they find new strength in emergencies to search for and rescue victims as well as to articulate their needs for example Albert Bandura in Mooney (2010) appends that in response to environmental phenomena, people are usually self organising and proactive. This justifies the need for affected people to actively participant in needs assessment.

A continuous needs assessment involving community members is also likely to facilitate a smooth transition among the disaster management strands. For example, when there is no need for any more relief response, this strand will contract giving way to the expansion of the recovery and rehabilitation strand.

5.5. Response and sources of resilience for communities in disaster situations

Scharffscher (2005) suggests that universally all human beings are resilient in disastrous situations. The chief sources of resilience are also entrenched in the way communities perceive disasters as well as how they respond to them. The key sources of resilience and response in Nametsi Parish after the disaster included the following:

Prayer: Because some affected people understood that the landslide disaster was something that God was well aware of as ‘an act and as a punishment’, the occurrence of it still turned them to

the same God as a source of strength. As was discussed in chapter four, community members turned to God and asked him why he permitted such an occurrence, they prayed to him for strength, they repented of their sins and changed their ways of life. They also implored him not to permit such phenomena again. Amidst these prayers and implorations community members, maintained that the will of God had to prevail since he had ultimate powers and control over the universe. They felt that God had listened to their prayers, they started to be hopeful and this gave them strength to go on despite the challenges they still had to face. The tendency to derive strength from prayers cannot be limited only to people in Nametsi Parish. According to Pratt (2002) in Dekens (2007) Kenyans prayed in drought situations and this involved other actions which enabled community members to come together physically and mentally. Here the power of social unity could not be understated. Similarly, Mooney (2010) also indicates that the main response and source of resilience for Haitians in disasters is prayer.

Social networking: As aforementioned, social networks and unity present a formidable force to reckon with in disaster situations. Even those who responded to the disaster through prayer did so both through social networks and as individuals. These social networks gave birth to group strength. Indeed Pratt (2002) reveals that Kenyans in drought situations operated through social networks as they came together, prayed and prepared themselves psychologically and physically. In Nametsi Parish, social networks include prayer groups, burial groups and local saving groups. These groups provided moral, financial and material support services to those who were affected by the landslide disaster for example they temporarily accommodated IDPs, counselled them, and provided them with shelter and clothing as well as food. These helped many of the victims to carry on with life. It is of the essence to note that these social networks are grounded in knowledge, beliefs, and moral principles of the community.

Disaster preparedness: The other response has been preparedness for any future disasters. Members in Nametsi Parish are undertaking numerous steps to prepare for any further disasters. As community members, they have identified several means of information dissemination in case of any difficulty, for example, the drum mainly for calling people for urgent meetings, local alarm systems, and person-to-person communication. Drawing from the Kenyan example, UNEP (2008) similarly observed that in preparation for disasters, warriors investigated a problem and

disseminated information about it. In the Banyala Community of Budalang'i Village, each community has a dugout canoe for transport in times of flooding.

This study also noted that women in Nametsi Parish are planning to put up a central food store that every woman in the community should contribute to. This food is supposed to be used in periods of scarcity. Local leaders have also mandated individual homes to have local ceilings and granaries for storing surplus produce which may later be sold. If these plans are well executed, they would contribute to food security in the community. These efforts are all founded on community based knowledge. As noted by Oxfam (2009), integration of this knowledge into other knowledge systems contributes to building resilience among the farmers in times of disaster. Moreover UNEP (2008) notes that food storage in Budalang'i Village in Kenya based on community knowledge was an important aspect of disaster preparedness.

Community members have also developed early warning signs and how to deal with them as well as communicate them to higher authorities. They perceive excess rain, water oozing from underground during rain, and cracks on mountain slopes as key interacting warning signs for a landslide disaster. UNEP (2008) observes that early warning systems are very important as enable communities to take precautionary measures against a disaster. Community leaders also acknowledged in this digital age the most viable means of communication with higher authorities is through telephone calls. Consequently, they have acquired the telephone numbers of these officials. They hope to use telephones to communicate whenever need arises. It is however vital to note that use of telephones may lead to the demise of local communication systems like drums.

Other means of preparation include constructing shelters which cannot be affected by erosion and floods. These are usually constructed on flat highlands devoid of cracks. Additionally, some members have resorted to tree planting on the once bare land to guard against erosion in future. The idea of tree planting is particularly of paramount importance (Oxfam, 2009) given the innumerable roles that trees play in sustainable environmental use; the most significant role being controlling wind and water erosion and of course contributing to the mitigation of climate change impacts.

Relocation: Some community members readily accepted to be relocated. They felt that moving and living in a newer place could enable them to outgrow the bad memories of the disaster. A female in Namangasa Village quoted one of the women who had accepted relocation to the new district as saying that;

‘...I needed to go, to go wherever, somewhere new, I did not know where but somehow I had to move... I could not stand living in the house alone after my husband and children had perished...I needed something new...so when government decided to move us to kiryandongo district, I was just more than ready...’

Arguably for this woman and many others, new places provided new sources of strengths, opportunities and perhaps a newer outlook on life. All these could be coping mechanisms which facilitate psychological healing.

5.6. Social capital in communities

The growing need for social capital and its inadequacy

Evans (1996: 1033) defines social capital as *‘...informal ties constituting norms of trust, reciprocity and networks of repeated interactions that sustain development...’* Evans adds that such norms and networks operate interpersonally and within communities. It is noteworthy that the study found that in Nametsi Parish, informal ties were not as strong as they ought to have been; to some extent, community members did not fully trust their leaders as well as their fellow community members. They suspiciously looked at the leaders because according to them the local leaders connived with politicians to register people who had not been affected by the disaster. This led to an increased number of those affected and consequently there arose competition for the relief supplies. The other challenge observed was that during registration real victims of the disaster were left out. Indeed some community members claimed that they had not received any relief aid from anywhere despite enormous amounts of aid pumped into the district. In another case, a particular group of people considered one community member (Womaniala) as the chief cause of the landslide and consequently he and his family had to be relocated for safety.

In such a community with loose informal ties, efforts to bring about development are emasculated since even material development is very much reliant on the nature of informal ties present. Indeed, Evans (1996) argues that much as informal ties may not necessarily promote

improvement in material wellbeing as compared to wealth or technology, people still have to trust each other and work together otherwise the efforts geared towards improving material wellbeing become an uphill battle. In emphasis, he states that the crucial ingredient for sustainable improvement in the welfare of third world citizens should well be founded on social capital without which human and physical capital are easily squandered.

5.7. How CBK and local structures can be used in disaster management

Actual and direct involvement of communities: Relief agencies, district officials and community members suggested that CBK and local structures can be used for disaster management by directly involving community members. This involvement could take the form of community members using the already existing community groups to respond to a disaster or to protect themselves against possible threats of disasters. Within these organisations, members can utilize the knowledge they have and if they feel it is inadequate, they may appreciate the need for external assistance but ultimately the foundation of action remains what they know and have. For example, Scharffscher reveals that after the tsunami of the December 26, 2004 existing local women's groups and individuals in Batticaloa in Sri Lanka directly and actively became involved in relief response as there were no emergency workers immediately available (2005). Their initial activities involved practical assistance and distribution of food. Further still, Kitutu et al (2011) also argues that participatory approaches could be used to directly bring local farmers on board through landslide hazard assessment and management.

As was observed in previous section, Bududa District has a disaster management committee without community members so perhaps the other way of ensuring that communities are directly involved is by bringing them on board as constituent members.

Change attitudes towards CBK: The affected people also felt that they have been treated as beneficiaries and not as active actors in managing disasters in their own communities. Consequently they suggested that disaster managers should start from the point of recognising the significant role that they play in disaster management without which it is extremely difficult to know or even use the knowledge communities possess in the area of disaster management. Interestingly, Principle 22 of the Rio Declaration on Environment and Development (1992)

states that local communities have an essential role in environmental management and development because of their knowledge and traditional practices. Therefore the onus is on the state as well as other development actors to recognise and support the knowledge, cultures and interests of these communities, to enable them participate in disaster management as an important milestone towards the achievement of sustainable development.

After recognising the vital role that communities play, it is imperative that the knowledge they use which has proven to be reliable overtime is established and the means of integrating it in disaster management frameworks of communities sought. In the process of establishing CBK for disaster preparedness, Dekens (2007) suggests that a number of aspects be considered including people's ability to observe their local surroundings, anticipation of environmental indicators, adaptation strategies and ability to communicate about natural hazards within the community and across generations.

The identified CBK and local structures should then be documented and accorded the respect they deserve. According to Dekens, this knowledge faces challenges of documentation. In fact during the study, it was confirmed that there have been no efforts to document the knowledge that communities have in relation to disaster management. There seemed to be a lot of *CBK just in the air* but not on paper. The district forest guard also mentioned that some individuals and individual groups have developed songs about effects of landslides although these have not been recorded yet due to lack of funds. This then presents the need to identify the good practices, upscale them, and document them. CBK and local structures also need to be understood as adaptive responses to internal and external changes that increase or reduce disaster preparedness at the local level. When this knowledge and structures are well understood and documented, they could easily be referred to and perhaps form an integral part of 'western/scientific' knowledge.

Capacity Building and Empowerment: Relief agencies and government entities suggested that capacities of communities need to be built. To this end, Luna (2001) suggests that capacity building should focus on orientation to disaster management, disaster preparedness, paralegal training and specialised topics on community organising, evacuation management, emergence response, health and sanitation, and environmental education.

In the researcher's point of view the training should by and large, be community based premised on the acknowledgement and appreciation that communities have a rich reservoir of knowledge which needs to be built on and complemented by modern scientific knowledge. Since women are usually busy with other household chores they may miss out on conventional training and yet they play a significant role in disaster management. Consequently, training which is household-based may need to be organised to empower them with skills. The trained women can then spread these skills to other women through women's groups and other social networks. This will greatly contribute to building capacities and empowering communities.

The other way to empower community members should be by bringing them on board as key stakeholders in disaster management through dialogue. When their ideas are sought, they will feel useful and part of disaster management projects. In disasters women present with a double face thus as the most affected category but also as 'keys' to disaster management. As such, they should be at table during decision making and also during planning for disasters at all levels of disaster management. Consequently they will strive to sustain these projects since they will start to view them as outcomes of their own ideas. Also when external agents withdraw, these people can be deployed by government or other local agencies. This whole process will greatly contribute to the success of sustainable disaster management efforts which in part hinge on engaging all vulnerable groups as well as on empowered communities (Oxfam, 2009).

5.8. Challenges to applicability of CBK and utilization of local structures

As noted by Briggs (2005), there is a tendency to treat western knowledge and indigenous knowledge systems as different and competing knowledge systems characterised by a binary divide which in other words cannot be bridged. Briggs cites a number of scholars including Howes (1979), Howes and Chambers (1979), Warren (1991) and Agrawal (1995) who assert that western knowledge has been presented as being very much different from indigenous knowledge in terms of openness, rationality, objectivity and intellectualism over which the former enjoys a high degree of supremacy. All these seem to point to the fact that indigenous knowledge may not be relied on to solve modern-day problems. Dekens (2007) clarifies that these binaries draw their roots from historical factors like colonial legacies which hold the ideology that western knowledge is superior to local knowledge. As a consequence of colonialism indeed there has

been a consistently growing tendency to shun this knowledge even by the owners and originators of it until recently. Colonialism created binaries that had various development implications for countries in Sub - Saharan Africa for example the making of developed and developing countries, and western/conventional and local/traditional knowledge. It can be argued that creating binaries of local and western knowledge was meant to serve a purpose of limiting the applicability and usability of community knowledge to just a given locality.

Dekens adds that there is difficulty in identification and utilisation of local knowledge and practices, diversity, changeability and distance management (2007). Indeed in communities with many knowledge experts, it may really be difficult to identify the type of knowledge to rely on since each of them thinks that what they know is the best. This can even be worse in a community with sharp gender differences as the knowledge possessed by women may not be considered and yet they directly interact with the environment.

Kitutu et al (2011) also argues that another key challenge to applicability of CBK is the generally lack of understanding of what this knowledge actually is and how it can be explored.

This study also noted that CBK keeps changing over time being influenced by western knowledge and globalisation. This even presents further challenges with identification and documentation especially in developing countries where systems of updating information are not well developed. Additionally, it can also be argued that the continued influx of western knowledge systems into local communities through education has remarkably influenced CBK. In education systems, the existence of CBK is not very noticeable as discussions about it do not usually stretch further than the challenges it presents with. Indeed Maila (2007) in Kitutu et al (2011) observes that much as community based knowledge is very helpful, it is sometimes marginalised in the education system because it is seen as non-scientific and non-engaging in formal education.

However, critical reflection also indicates the limitations within CBK itself thus presenting challenges to its application. For example Kitutu et al (2011) indicate that terrace farming which has been adopted by farmers in most parts of the parish is not really popular for some places as it promotes water infiltration and may trigger landslides.

Similarly, it is arguable that the move away from using modern fertilisers to using natural fertilisers may not help much in producing food to suffice the large and still growing population in the district. So biotechnology in food production becomes of significance.

With regard to local structures, there are instances when some community based structures have not proved effective in extreme situations for disaster management creating the generalisation that these structures cannot be relied upon. For example it cannot be guaranteed that all community members may hear a drum sounded for an urgent meeting especially when there is noise (UNEP, 2008). Also, person-to-person communication or social networks may not yield much success in a community deficient of norms of reciprocity and mutual trust (Evans, 1996).

5.9. Humanitarian assistance and relief aid gone bad

When the disaster struck the information about it spread very fast to the international community. This was facilitated by the improved communication systems, especially the telephones and internet. In response, countries, national and international organisations and individuals started to channel in material and non-material assistance to help the affected communities to cope with life. Indeed Luna (2001) posits that funding is more easily accessed in disaster situations due to media exposure and also because the need is visible.

However findings from the study indicated a general feeling among community members that not all that much aid sent and intended for them eventually reached the real affected people and indeed many of them claimed that they never got any form of external assistance. According to these members, politicians and other officials put much of this assistance to personal use. Moreover the actors in charge made no effort to be transparent and accountable to these people, let alone to involve them in the process of reception and distribution of this assistance. Therefore the affected people did not even have any starting point to demand for accountability since they did not have the necessary information to do so.

As revealed by Luna (2001), corruption is very prevalent in times of disaster. This may be because some of the relief agencies assume that the affected people do not understand the concept of accountability perhaps because many of them are not educated, and they do not even

know the sources of aid. The researcher thinks that this assumption partly underpins inadequate information sharing about disaster and humanitarian needs as well as the relief supplies between development actors and communities. In a related way, it is important to note that at times the information is available but in a language that is not understood by affected people.

It can also be asserted that when disasters occur, the initial reasons for which aid flows in or is sought do not to a large extent eventually turn out as points of action because by the time relief aid is received, the situation has changed and there is no longer need for it. In such cases, such aid is misappropriated for personal needs.

5.10. A district disaster a committee without communities members

Bududa District boasts of a disaster management committee. However community members and other sub county leaders revealed that this committee does not consist of any community members from Nametsi Parish. To many of them this suggested that the committee had some inherent goals which were not for the benefit of community members. Indeed during an FGD of men in Nametsi Village, the exclamations of one of the community members were as follows;

'...just how do we start to believe that the committee is well intended to address our needs in this difficult situation when we are not part of it...could it be because we are not educated?...how will they understand our needs without us expressing them in discussions...even then how does the committee exist without us...it seems this committee is not for us, it is just exploitative...absence of community members on this committee is as good as having a body without a head...'

In the above expression, the researcher drew the understanding that community members recognise the existence of the committee although they also noted that they had been left out and so wished that they should have been an integral part of it. This way they would be able to express their challenges and contribute ideas on how the challenges could be managed. This expression also implied that community members did not have adequate trust in *a committee for them without them*. This leads to the inference that with such a trend of events it is not viable to count on community support for the activities of the committee. Even if truly most of these people are illiterate and others semi illiterate, care should be taken that they still have the

potential to sabotage activities which they perceive to be not well intended for them. By implication, community involvement and support is very important for the DM committee.

Drawing from the Indian experience, the Ministry of Home Affairs (2004) suggests that prevention, mitigation, preparedness and relief are key elements that contribute to implementation of sustainable development policies. To this end, the ministry proceeds to recommend that these elements should be integrated into development plans and efficient measures of follow up be put at community level among others. Arguably, it may be difficult for communities to do a follow up of activities which they did not plan, or decide on. Bishnu and Kenji (2005) also suggest that apart from decision making and planning, communities should play an active role in implementation of development activities intended for them.

The study also made it explicit that members from other departments at the district engaged in development were part of this committee. The integration of these members into the committee is very important as this could pave way for disaster management activities like prevention and mitigation to be mainstreamed into the district development plans.

5.11. Why communities should be involved in disaster management

As argued by Bishnu and Kenji, lack of community participation could result in failures in meeting the appropriate and vital humanitarian needs, unnecessary increase in the requirement for external resources, and general dissatisfaction over performance despite the use of exceptional management measures (2005). To this end, Saito and Sumoto (2006) suggest that communities can be involved through information sharing, decision making and initiating action rather than merely responding to initiatives from outside agencies. In the researcher's view, it is also important that after initiating action, affected people should also take part in enacting the action and also evaluating outcomes of the actions. Additionally, it is important that groups which are most vulnerable to disasters like women get involved as this will greatly contribute towards building disaster resilient communities. It is almost truism that when communities collectively and actively participate in disaster management, social cohesion and cooperation is strengthened and consequently social capital built. All these are important tenets and prerequisites for sustainable development.

Kirsten et al (1997) in Kitutu et al (2011) also noted that there is close connection between local farmers' assessment of landslide hazards and landuse patterns in Kathmandu Valley in Nepal. Consequently, Kitutu et al point out that farmers are good observers and so integration of their knowledge may be essential for sustainable development.

It is important to note that the issue as to whether CBK should be utilised for disaster management has become a point of contention for many development actors in disaster situations. However, proponents of participatory approaches in disaster management such as Battista and Baas (2004) suggest that communities in disaster-prone areas have accumulated a lot of experience over time in the form of local knowledge. Indeed Dekens (2007) reveals that by default, community members become the primary actors when a disaster strikes. To a large extent these actions are shaped by the experience/knowledge they have accumulated overtime. During the study, a URCS official revealed that communities always appear at the scene and take possible action before any relief agency steps in. Arguably, the actions they undertake are premised on knowledge of some kind through certain local structures. This knowledge and structures cannot be overlooked but instead they it should be prioritized by all those who seek to extend any form of assistance to these communities. Interestingly Dekens (2007) states that the United Nations World Conference on Natural Disaster Reduction in Yokohama required nations to accord more attention to traditional knowledge and community based action than previously achieved in disaster management. Arguably, this was premised on the realisation that even developed nations which are financially well-equipped like Japan were unable to prevent disasters probably because the community resource had not been taken into account.

Additionally, community members help to inform these agencies about the phenomena through their social networks and community organisation. A host of scholars for example PAHO (1999) and Scharffscher (2005) assert that in disastrous situations, it is wrong to think or even assume that people are helpless to do anything to redeem the situation. In any case they do so much more than anticipated and this forms one of the major reasons why they cannot be left out of the disaster management process.

Similarly, people in communities also understand the magnitude of the situation better than anyone else. They are in most cases able to articulate the extent of the damage caused by the

disaster, identify missing persons and the dead if any. Additionally, they are better placed to provide all the necessary information other agencies may require for example during rapid assessment.

In another trajectory, the DFG revealed that these members need to be involved because they are the ones mostly affected by the disaster,

'they are at the centre of it, they are the victims and they suffer the adverse effects...it is not sustainably feasible to leave them out of disaster management efforts...they need to generate some information or solutions to the problem'.

He seems to suggest that being the most affected category, communities become key stakeholders in the process of managing disasters. This is likely to contribute to sustainable efforts of disaster management such that even in the absence of external assistance communities can be ably placed to manage disasters as and when they occur.

5.12. State-Civil Society synergy and the shift of responsibilities

An interview with a URCS official indicated that there was a need to sensitise people on sustainable environmental usage. However the official maintained that much as civil societies have so much been absorbed in training communities and preparing them for any future disasters, the state still bears the responsibility. In the Philippines, too, Luna (2001) reveals that most NGOs perceive that developments to prevent and mitigate disasters such as infrastructural developments are a responsibility of the government because of the financial and technical input required. Interestingly, there was a general feeling that the state had since relinquished this role to civil society and it was not putting much effort in it. The researcher thinks that although sometimes governments indeed relinquish these roles, it is also important to consider the reality that many times they are constrained by inadequate resources to execute all the development plans and in such a case, civil society should gladly step in and fill the gap. Although care should be taken that in developing countries civil society is not as well developed as is the case in developed economies and so they could as well lack capacity to perform some of these roles.

While recognising that the state alone cannot provide all the goods and services which communities need, and that civil society needs to be acknowledged by the state in order to

provide their invaluable services to communities, and also that communities alone do not have all the necessary capacities to afford their day-to-day needs (and yet they must support the training programs), the researcher thinks that the three parties should be mutually interdependent since each of them has a role to play. Similarly, Ostrom notes that each of these parties play roles that the other cannot perform well and suggests that in such a case, the need for complementarity becomes even more apparent (1996). She also suggests that complementarity can be facilitated by nurturing norms of participation, loyalty, mutual trust and cooperation among these actors. Ostrom further suggests that all these actors can be involved in phases of public projects as this reduces the state's cost (1996). Participation can be enhanced by transparent policies which will also greatly contribute to bridging the state-civil society divide. By implication, the state and civil society should co-operate and carry out community training - training which should be community based and supported.

In another development, participants expressed that it was not fair for district environmental officers to contend that their 'marginal' actions on the environment caused the landslide disaster. They were much more offended by the feeling that these officials considered their actions to be a consequence of their lack of education. FGDs held in Kubewo also revealed the community feeling that even when relief agencies came, the efforts of community members became less relevant to the rescue efforts, '*...we just became bystanders, we watched as the UPDF and Red Cross worked...it seems they thought since we are not educated we could not do much...*' By implication, the researcher observed that communities felt undervalued and worthless. It also showed that these actors are in some sort of competition where each one wanted to do something but also a situation where efforts of one party were either ignored or hindered by the other. And of course in competitive situations, communities are usually at a disadvantage.

While analysing local perceptions of landslide causes, the researcher also realized an attempt by community members to deny responsibility; they did not seem to accept that indeed their actions had a major contribution to the landslide.

Such kinds of attitudes indicated that there is growing divide and disconnection among relief agencies, community members and district officials. Importantly, Evans (1996) reveals that theorists of social capital allude that the expansion of the formal bureaucratic organisation of the state 'crowds out' informal networks without providing the same range of value and functions

leaving communities worse off. This seemed to be the case in Nametsi Parish especially during the rescue efforts.

On the other hand however, Putnam (1993) in Evans (1996) argues for a synergy whereby civic engagement should serve to strengthen state institutions and where effective state institutions create an environment in which civic engagement is more likely to thrive. Evans adds that public agencies should facilitate forging of norms of trust and networks of civic engagement among ordinary citizens and using these networks for developmental ends. Putnam further argues that engaged citizens are a source of discipline and information for public agencies and a good force to reckon with during implementation of public projects. Otherwise it can be argued that unengaged citizens may most likely sabotage or completely ignore public projects.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.0. Introduction

In this chapter, a presentation is made with regard to key conclusions drawn from and recommendations made in this study. The conclusions are mainly drawn on basis of research questions, findings, and key themes in the analysis whilst the recommendations are made on basis of findings and conclusions.

6.1. Conclusions

The study assessed the role of community based knowledge and local structures in disaster management in the three villages of Nametsi Parish of Bukalasi Sub County in Bududa District. It was premised in the thesis that these communities constitute primary stakeholders in times of disasters and their actions are based on knowledge and local structures which they have developed over time. Most importantly, the study found out that community perception of causes of a disaster remarkably shapes their responses towards the phenomenon.

The study found that the ways people in Nametsi Parish explained causes of the landslide disaster and how they responded to it were as many as they were diverse. Some acknowledged that their actions like deforestation, slope undercutting and poor farming methods contributed to the phenomenon. Some community members attributed the landslides to incessant rainfall and gave explanations pointing to the fact that this area goes through natural processes like volcanism which also contributed to landslides. Others stated that one self professed witch and rainmaker ‘Womaniala’ caused the landslide whilst others contended that the landslide was an act of God. On this premise they respectively responded by tree planting, and improved farming methods, an attempt to remove evil people like ‘Womaniala’ from the community and by praying to God.

It was also found that major effects of the landslide on livelihoods of local communities included loss of lives, destruction of businesses and personal property, destruction of infrastructure, destruction of farmland, farms and livestock, internal displacement of people and disease

outbreaks. Women as a category faced some specific challenges in comparison with their male counterparts including difficulty of remarrying, increased workload, lack of access to information, health and reproductive challenges, and psychological effects.

In light of the expand-contract model coined by Fakir (1998), the study revealed that communities in Nametsi Parish have developed knowledge and structures which can be used at the four strands of disaster management. This knowledge and structures should therefore be harnessed and integrated in disaster management programs. Interestingly, a number of ways were presented on how CBK and local structures can be utilised including the direct involvement of communities, changing attitudes towards CBK and local structures, capacity building and empowerment of communities.

In another trend, the study indicated that CBK and local structures cannot be wholly relied upon because of various inadequacies for example lack of documentation and updates, limited applicability to specific communities, its inherent weaknesses, several conflicting sources of it, poor attitudes towards it, and threats and influences from modern/scientific knowledge systems.

Finally, the study found significant disconnections between relief agencies, government agencies and communities in disaster management. Whereas government agencies ignored the need to train communities in disaster management, relief agencies felt and expressed that it was still the role of government to spearhead the training. On the other hand, community members felt that their efforts had been undervalued by relief agencies especially when they became more like beneficiaries than active participants in rescue and relief efforts in their own community. They further expressed the view that individuals from relief agencies misappropriated the aid meant for them and also felt that it was not fair for government and relief agencies to attribute such an extreme event like a landslide to their actions and lack of education.

6.2. Recommendations

Based on the study findings and the conclusions drawn, the researcher made the following recommendations in regard to the role and modes of application and utilisation of CBK and local structures in disaster management.

Communities need to be sensitised about the effect of their activities on the environment as well as other causes of disasters. This way they could be able to accept responsibility for outcomes of their actions and stop attributing causes to individuals and to God. Also sensitisation about aspects of vulnerability in the parish would cause community members to see reason to relocate or take precautionary measures against future disasters. Government agencies should collaborate with relief and other development agencies to sensitise people on aspects such as hazard identification, emergency handling, evacuation management, health and sanitation, and environmental education. This sensitisation should be founded on community knowledge. When this knowledge is exhausted, communities will appreciate and accept the introduction of new and/or external knowledge. Additionally, government and relief agencies need to collaborate with community members to develop community based disaster warning systems.

Following the global trend, the population growth in Bukalasi Sub County is very high and still growing. Consequently, there is commensurately growing pressure on the available resources like land. This has led to over cultivation and deforestation all of which have accelerated soil erosion. This means that the need to control population growth cannot be any more apparent. Government can do this by emphasising formal education because when people stay long in school, they don't find a lot of time to produce many children but also they learn some of the effects of a big population on the economy. Also, non-formal adult education programs on family planning could be developed to sensitise community members on why and how to control population growth.

The other recommendation is that the local government leadership should make effort to include community members from Nametsi Parish on the District Disaster Management Committee since they are most affected by the landslide. Communities have developed knowledge which could help this committee function more effectively and bringing them on board is a key step to putting this knowledge to use. The other aspect is that community members are more capacitated to articulate their needs and challenges at all levels of disaster management than any other party.

The government needs to rethink communally acceptable income-generating activities for people in Bukalasi Sub County and Bududa District as a whole because many people live below the poverty line and can hardly afford all their basic necessities like food and clothing. Many of

them survive on begging from neighbours. Indeed the study revealed that much as some people had used CBK to learn about the signs of the disaster, they were unable to relocate to safer places because they did not have the means to do so, *'they just sat and held onto divine intervention'*.

As long as some community members still live in Nametsi Parish, the government needs to construct an access route to the area, and put in place tentative health and educational centres. Many development organisations, district community development workers and researchers dread going to Nametsi Parish because of its remote nature.

Nametsi Parish in Bukalasi Sub County presents a host of vulnerabilities including, *inter alia*, extreme poverty, bimodal rainfall patterns, inaccessibility, overarching poverty, lack of health and educational facilities, a high population growth rate, cracks on mountain slopes, lack of disaster preparedness, and environmental degradation. These aspects make the parish uninhabitable for human beings and by all means government should find a way to relocate people to a safer place especially those who are still resisting relocation.

Government, relief agencies and local communities need to collaborate, conduct research to harness and document the existing community based knowledge and local structures for disaster management in communities since the study indicated a gap at this level. The government should also develop a system of updating this knowledge whenever deemed necessary. The findings from the research need to be built on and be complemented by modern and scientific knowledge because it is not worthwhile to treat these knowledge forms as competitors.

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APPENDICES

Appendix 1: Data collection Instruments

- Semi structured interviews
- Focus Group Discussions
- Qualitative review of document review

Research questions that guided data collection

1. How do communities perceive disaster situations with respect to causes and response?
2. What are the effects of disasters on livelihoods of communities?
3. What types of community based knowledge and local structures exist in regard to disaster preparedness and management?
4. To what extent can community based knowledge and local structures be utilised in disaster preparedness and management?
5. Is there any synergy between relief agencies and communities in regard to disaster management?

Table 1: Categories and numbers of participants in the study

Category	Number of participants in a category
Community members (Females and Males)	3males and 3 females from Kubewo, 2 males and 3 females from Namangasa, 1 male and 1 female from Nametsi
Chief Administrative Officer	01
Forest Guard	01
Gombolola Internal security Officer	01
Local Leaders	03 (I from each village studied)
Focus Group Discussions (Kubewo)	1 for 8 males and another 6 females
Focus Group Discussion (Namangasa)	1 for 6 males and another for 6 females
Focus Group Discussions (Nametsi)	1 for 4 females
Relief Agencies	01 (Focal Person URCS)
Elders	1 male and 1 female from Kubewo, 1 male and 1female from Namangasa
Total of participants	54

Interview guide for community members

1. What do you think are the causes of landslides? Why?
2. How do you usually deal with landslide occurrences and the effects?
3. In which areas of life have landslides affected you?
4. How were you affected?
5. Why do you think your community was more affected than any other communities?
6. Were you able to tell that landslides would occur?
7. How did you know?
8. Who helped you to know?
9. Is there any way you are being prepared to deal with disasters
10. Who is preparing you?
11. Which relief agencies stepped in to assist you to deal with landslides?
12. Do you think relief agencies are relevant during disaster situations?
13. How and when do they usually intervene during landslides?
14. Do they ever seek your ideas before, during and after intervention in disaster situations?
15. How do they usually do this?
16. Does the district have a disaster management committee?

Focus group Discussion Guide for community members

1. What do you think are the causes of landslides?
2. Did you have any idea that a landslide would occur?
3. How did you get the idea?
4. If you had an idea that landslides would occur, what did you do to ensure that the disaster would not have bad effects on you?
5. What has been your response to landslides?
6. What are the effects of disasters on livelihoods of communities?
7. Are there any particular ways in which women have been affected during landslides as compared to men? Why?
8. What types of CBK and local structures exist in regard to preparedness for and management of landslides?
9. Do you think this CBK is reliable? How and why?
10. Do you the local structures are reliable? How?
11. Is there any synergy between relief agencies and communities in regard to disaster management? How?

Focus Group Discussion Guide for community leaders

1. What do you think are the causes of landslides?
2. Did you have any idea that a landslide would occur?
3. How did you get the idea?
4. If you had an idea that landslides would occur, what did you do to ensure that the disaster would not have bad effects on members in this community?
5. How do community members in this community respond to landslides?
6. What are the effects of disasters on livelihoods of communities?

7. Are there any particular ways in which women have been affected during landslides as compared to men? Why?
8. What types of CBK and local structures exist in regard to preparedness for and management of landslides?
9. Do you think this CBK is reliable? How and why?
10. Do you think the local structures are reliable? How?
11. Do you think relief agencies usually work hand in hand with communities in disaster management? How and why?

Focus Group Discussion Guide for local leaders

1. What do you think are the causes of disasters in your community?
2. What challenges do local communities face in disaster situations?
3. Do you think actors in disaster situations in Nametsi Parish have attempted to involve communities? Why and how do you think this has been done?
4. Do you think there is coordination among relief agencies in disaster management? How?
5. Which kind of knowledge do community members have in relation to landslide occurrences?
6. Do you think this kind of knowledge can be relied on? Why and how?
7. Has this community developed any structures through which issues regarding landslide occurrences can be utilised?
8. How often have these structures been put to use?

Interview guide for elders

1. Are you able to tell that landslides are about to occur? How?
2. How often have you relied on these signs?
3. Through which means do you make other communities members aware of a pending landslide?
4. What do you think are the causes of landslides in this community?
5. How do they respond to the information? And why?
6. How do community members help each other during landslides?
7. Do you have any medicines you use to treat patients due to landslides? How did you get the knowledge you use?
8. In which other ways do you help community members during landslides?
9. What challenges have you faced while using the knowledge you have during landslides?
10. How do you think community members should respond to landslides?
11. What challenges do local communities face during landslides?
12. What can members in these communities do to avoid these challenges as well as to prepare for future landslides?
13. Why did you resist being relocated to Kiryandongo District?
14. How do you think you can be assisted to relocate?

Interview Guide for relief agencies

1. How long has this relief agency operated in this area?
2. Which other organisations operate in Bududa district on disaster related issues?

3. What challenges do local communities face in disaster situations?
4. How often do you consult with local leaders and community members during intervention in disaster situations?
5. On which issues do you usually consult with them?
6. How do you think local communities perceive the role of Red Cross in disaster situations? And why?
7. What is your intervention strategy during disasters?
8. How do you help communities to prepare for future disasters?
9. Do you think there is any relationship between the way communities perceive causes of disasters and their responses towards disasters?
10. Are you aware of any CBK which communities have used for managing landslide occurrences?
11. How often and in which ways does this agency integrate community based knowledge in its intervention strategies?
12. Do you know of any local structures in Nametsi Parish which could be utilised during disaster situations?
13. How often are these structures utilised?
14. How often does this agency coordinate with other agency in disaster management?
15. Are there times when you felt there was no coordination among relief agencies?
16. What led you to feel that way and which do you think were the reasons why there was no coordination?
17. Do you think it is significant to involve communities in disaster management? Why do you think so and how can this be done?

Interview Guide for DEOs and DDMC

1. How long have you worked in this district?
2. What do you think caused the landslide?
3. What challenges do local communities face as a result of the landslides?
4. What specific challenges do women as a category face?
5. What contributions has your office made towards managing landslides and their effects in this district?
6. What is your entry point? Preparedness or relief provision? How is this done?
7. Do you face any challenges while extending services to communities in disaster situations? Why is this so? Which challenges and how have you dealt with them?
8. Do you think communities have developed some knowledge on which to survive during landslides? Give examples.
9. How much do you utilise this knowledge and existing local structures in your intervention strategies?
10. Can these structures and knowledge be relied on?
11. What do you think is the extent of coordination among relief agencies operating in Nametsi Parish in disaster management?
12. Do you think it is significant to involve communities in disaster management? Why do you think so and how can this be done?
13. What challenges have you faced in attempting to relocate people to other areas before and after landslides?

Appendix 2: Letter of introduction to the field



Date: 02 December 2010

Visiting Address:
Phone: +47 38 14 16 74

TO WHOM IT MAY CONCERN

This letter is to verify that Ms DOREEN MUDIBO is a full-time student at the University of Agder, Kristiansand, Norway. She is in her second year of study for a Master of Science degree in Development Management. Ms Mudibo is presently preparing to conduct fieldwork which will provide material for her master's thesis.

The title of the proposed thesis is: *Disaster and Development: The Role of Community-Based Knowledge and Local structures in Disaster Management. A case study of landslide occurrences in Bukalasi sub-county of Bududa District, eastern Uganda.*

The theme of Ms Mudibo's thesis is of central importance and should provide insights which may certainly be beneficial for the population of Bududa District in understanding local disaster situations. Consequently, as Doreen Mudibo's supervisor, I kindly request all assistance to be provided to her during the collection of data for this project. It goes without saying that she is a very capable and diligent student and I have every reason to believe that she will be successful in this endeavour.



Dr Jonathan Baker,
Professor of Development Studies,
University of Agder

Appendix 3: Letter of permission into the field

BUDUDA DISTRICT

Chief Admin. Officer: 0772 546 955
District Chairperson: 0772 434 059



THE REPUBLIC OF UGANDA

LOCAL GOVERNMENT

P.O. Box 292
Mbale - Uganda

In any correspondence

on this subject please quote No.CR.220/1.....

13th December, 2010

The Sub County Chief,
Bukalasi Sub County,
Bududa District .

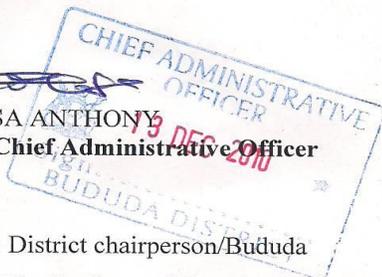
FIELD RESEARCH BY MS. MUDIBO DOREEN

I refer to a letter from the University of Agder Norway introducing **Ms. Mudibo Doreen** a student studying a Master of Science Degree in Development Management.

Her research title is focusing on Disaster Management in Bududa District. She is scheduled to undertake the research in January 2011.

The purpose of this letter is to request you to assist her accordingly.


WEASA ANTHONY
For : Chief Administrative Officer



Copy : District chairperson/Bududa
District Internal Security Officer /RDC/Bududa
District Environment Officer /Bududa
LCIII Chairperson/Bukalasi

Handwritten blue ink initials or a signature, possibly "V/A".