THE IMPACT OF PARTICIPATORY CAPACITY AND VULNERABILITY ASSESSMENT (PCVA) IN IMPROVING LIVELIHOOD: A COMPARISON PARTICIPATING AND NON-PARTICIPATING COMMUNITIES IN WAJIR COUNTY.

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A Research Project Submitted in Partial Fulfillment of the Requirement for the Award of Master of Arts Degree in Sociology (Disaster Management).

NOVEMBER, 2015
DECLARATION

I the undersigned declare that this project paper is my original work and that it has not been submitted in any other college or institution of higher learning for award of academic credit.

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This project paper has been submitted for examination with my approval as the Supervisor

Signature ................................. Date........................................

Dr. Robinson Ocharo
Supervisor
DEDICATION

This project paper is dedicated to all my family especially husband Mohamud, my son Abdulrahman, mum Halima, and mum Maryam for constant encouragement and support.
ACKNOWLEDGEMENTS

My gratitude goes to Allah for the successful completion of this Project.

I sincerely appreciate Meeker Family and Mpala Fellowship, Universitity Of Nairobi Centre For Sustainable Dryland Ecosystem and Societies (SCDES) for their relentless financial and moral support to the completion of this degree programme.

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I also appreciate Oxfam GB and Wasda, for assisting in identifying the list of the people who participated in the PCVA process.
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<tr>
<td>PCVA</td>
<td>Participatory Capacity and Vulnerability Assessment</td>
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<td>CMDRR</td>
<td>Community Managed Disaster Risk Reduction</td>
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<td>DRR</td>
<td>Disaster Risk Reduction</td>
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<td>CVA</td>
<td>Capacity Vulnerability Assessment</td>
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<td>KDCMP</td>
<td>Kenya Drought Cycle Management Programme</td>
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<td>DCM</td>
<td>Drought Cycle Management</td>
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<td>IIRR</td>
<td>International Institute of Rural Reconstruction</td>
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<td>UNDP</td>
<td>United Nations Development Programmes</td>
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<td>OXFAM</td>
<td>GBOXFAM GREAT BRITAIN</td>
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<td>UNISDR</td>
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ABSTRACT

Wajir County is one of the arid and semi arid counties in Kenya that has been experiencing the negative effects of recurrent drought throughout. Oxfam GB an international Non Governmental Organization (NGO) has been implementing a Community Managed Disaster Risk Reduction Programme (CMDRR) by employing Participatory Capacity and Vulnerability Assessment(PCVA). This approach uses various participatory tools to gauge people’s exposure to and capacity to resist natural hazards. The study sought to compare the impact of PCVA in two villages. The purpose of the task was to examine whether there is a difference in livelihood between those pastoralists who have participated in PCVA and those who have not. Specifically, the study aimed at finding whether there is a difference in ownership of basic life sustaining properties such as cattle, sheep, goats, and camel. It also aimed at finding out whether the community members have realized any change in their lives in regard with food security, economic growth and increase in animals since 2011 when PCVA was introduced. This research was a comparative study comparing two villages (one with PCVA and one which had not received this intervention).

The PCVA beneficiaries were asked to rate the interventions in terms of risk reduction strategies, livelihood improvement strategies, and drought mitigation strategies. At the same time the study sought to establish whether PCVA is a factor in livelihood improvement by doing Chi-Square tests on animal ownership and level of satisfaction in economic growth, increase in livestock and food security. On establishing whether PVCA had increase ownership of animals the study revealed that the PVCA group had a higher number of animals as compared with the group without PVCA. This could be attributed to the intervention meaning that mitigation measures put in place by PVCA could be a factor in the high numbers of animals owned by the PVCA group. Comparatively there is a high level of satisfaction on the economic growth, livestock increase and food security among the PVCA participating group compared to the group without PVCA.

Chi-Square test of Independence was used to test whether or not 1)There is an association between PVCA and owning animals.2)There is an association between PVCA and satisfaction on the development achieved so far. In the two tests the findings were that PVCA is not associated the number of animals own in Wajir. Neither is the program associated with the level of satisfaction expressed the people of Wajir over the development achieved so far. Meaning that PVCA has made little if any impact on the livelihoods of the people of Wajir. PCVA is not associated with the number of animals that people owned because pastoralism has been the key agricultural production system in the dry lands and remains dominant livelihood base of the people of Wajir (99%).The level of satisfaction expressed on the changes achieved in terms on increase in animals, food security and economic growth is not associated because PCVA might not be different than the previous approach used before and the study recommended that sustainability, ownership and stakeholder involvement diversification of livelihood and pro-pastoral policies and advocacy are crucial in the successful implementation of this approach.
CHAPTER ONE

INTRODUCTION

1.1 Background of the study
Today’s world population is experiencing more frequent disasters than before due to natural, technological and man-made hazards. Such condition has resulted in destabilization and disruption in the society causing widespread human material and environmental losses. Over the last two decades, the discourse in disaster response has been gradually shifting from relief and rehabilitation to disaster risk reduction focused on community participation (Haque, C. Emdad and Uddin M. Salim 2013).

Disaster Risk Reduction (DRR) is a new development framework designed to reduce risk in areas of concern by empowering individuals and communities in the face of disaster. It is premised on the analysis that disasters (as a consequence of natural and/or social hazards) are an act of man (either as acts of omission or commission). The thesis in this new concept is that a disaster only happens when specific individuals and groups and other elements at risk are vulnerable to hazards and their vulnerability has a direct impact on hazards. We are shifting from a reactive approach to hazard events, to one of being proactive in reducing our disaster risks (DRR). Hazard prevention, mitigation and vulnerability reduction are achieved by building people’s capacity to survive and bounce back, and by strengthening/improving the functioning of support systems in our communities (Binas, 2010).

On the other hand, the communities’ effectiveness lies at the core of every effective DRR endeavor. This will entirely depend on the community’s knowledge on hazards, hazard behavior and coping strategies. Communities’ collective learning of their disaster risk will prompt them to proactively offer risk reduction strategies. There is a clear-cut dividing line between disaster risk reduction and disaster management and the dividing line is damage assessment and need analysis which tells if the community could cope or not. The new paradigm espouses building resilient communities, guided by the following principles (IIRR, CORDAID. 2013)
• Communities have accumulated local knowledge in addressing hazard events and navigating from their adverse situation Communities are survivors and not victims
• It's the communities that decide if they are in state of disaster and have the capacity to cope.

The above principles are enshrined in CMDRR which is a process of disaster risk reduction in which communities are actively engaged in the identification, analysis monitoring and evaluation of the risks with the aim of reducing people vulnerabilities and enhancing their capacities. It places the community in the heart of decision making and management of disaster risk reduction measures.

Participatory Capacity and Vulnerability Assessment (PCVA) as an approach in CMDRR uses various participatory tools to gauge people’s exposure to and capacity to resist natural hazards. It is an integral part of disaster preparedness and contributes to the creation of Community-Managed Disaster Risk Reduction programmes (CMDRR) at the rural and urban grass-roots level. PCVA enables local priorities to be identified and appropriate action taken to reduce disaster risk and assists in the design and development of programmes that are mutually supportive and responsive to the needs of the people most closely concerned (CCAP, 2012). According to OXFAM GB, (2012) PCVA is a risk analysis process that is designed to engage with communities in contexts where disasters are significant drivers of poverty and suffering. A PCVA process may be undertaken to achieve a range of objectives, including the following:
• To integrate disaster risk reduction (DRR) and climate change adaptation (CCA) into an existing program
• To inform the design of a new program that will integrate DRR and CCA measures
• To monitor/evaluate the impact of actions taken to reduce risk and enable CCA, and assist in the identification of new ones
• To guide advocacy strategies for DRR and adaptation.
The participatory nature of the process supports men and women to act as agents of their own development who, with the right resources and support, can solve their own problems. It promotes the participation of women in particular as risk analysts and decision-makers when it comes to prioritizing what a community can do to reduce its disaster risks (Anderson and Woodrow, 1998).

In the PCVA process, a thorough assessment of the community’s hazard exposure and analysis of their vulnerabilities as well as capacities is the basis for activities, projects and programs directed to reduce disaster risks. The community must be involved in the process of assessment, planning and implementation. This approach will guarantee that the community’s real vulnerabilities and resources are considered. There is more likelihood that problems will be addressed with appropriate interventions, through this process. This is a diagnostic process to identify the risks that the community faces and how people overcome those risks. The process involves hazard assessment, vulnerability assessment, capacity assessment and risk analysis. In doing the assessments, people’s perception of risk is considered. PCVA is a process that consists of several stages and may vary from weeks to months. The assessment should identify which hazards are more likely to occur and to have the biggest impact on a community or individual’s assets. It is important to remember that, over time, changes can occur in terms of both the vulnerability of a community and the type, causes, nature and intensity of the hazards that it faces.

Hazard can be defined as – An event or occurrence that has the potential for causing injuries to life and damaging property and the environment. While it is common to find hazards referred to as –natural or –man-made, there is an underlying inter-relation between various types of hazards. It can be seen that the root of many disasters lies in a number of hazards which can come together to have a compound effect. For example, landslides may appear to be caused primarily by heavy rains on steep slopes with certain soil types and profiles and, as such, they are classed as ‘natural’. Further investigation could demonstrate however that the probability and intensity of the landslide have been increased by a combination of human activities such as cutting of trees, construction of a road across the slope and agricultural cropping. Hazard assessment is concerned with identifying the underlying causes that influence the occurrence of
hazards and with giving us more details about their frequency, seasonality, geographical area of the hazards’ occurrence and whether there are any distinct trends emerging in relation to any of these. Many hazards, such as those associated with weather systems, are cyclical and seasonal in nature.

Vulnerability assessment is a participatory assessment that enhances the understanding of complex combination of interrelated mutually reinforcing and dynamic factors. It is the process of estimating the susceptibility of elements at risk in the community at various hazards. It identifies element at risk and those at risk of a certain disaster become priority targets when developing risk reduction measures (UNISDR).

Vulnerability is generally understood as people’s susceptibility to a given hazard which is determined by the extent to which they can anticipate, cope with, respond to and recover from its impact. It is defined as: a set of conditions and processes resulting from physical, social, economical and environmental factors, which increase the susceptibility of a community to the impact of hazards. It is possible to equate the vulnerability of an individual or community with the degree to which they have, or lack, assets within the major capitals. There is generally a very high correlation between the chance of being harmed by the impact of hazards and having few assets. The concept of vulnerability informs us of what may happen to a particular population or parts of that population under specific conditions caused by hazards. This predictive quality should allow us to use the information gathered to direct interventions that protect and enhance assets and livelihoods.

**Capacity Assessment**

It is a participatory process that identifies strength and resources in the community to cope with, withstand, prevent, prepare for, mitigate and quickly recover from disasters. All natural hazards do not become disasters. Sometimes, they cause no major damage to life or property because they occur where no one lives or because people have taken measures to prevent or reduce their damaging effects. Even when these events do cause damage, not everyone in a disaster area suffers equally. Why is it that some people suffer more from disasters than other people? The answer is that some people have fewer capacities and are more vulnerable than others.
Capacity is a community’s actual or potential ability to withstand disasters through the presence of material and human resources that aid in the prevention and effective response to disasters. This includes the resources and skills people possess, can develop, mobilize or have access to which allow them to have more control over shaping their future. It is the ability of the community to deal with hazards and their impact.

Capacity assessment is the process to determine what people do in times of crisis to reduce the damaging effects of the hazard, and to secure sustainable livelihood by:

- Understanding people’s previous experiences with hazards that enabled them to develop coping strategies.
- Analyzing which resources are available and used by the community to reduce risk, who has access to these resources and who controls them.

Assessing capacities of people at risk is a very important step in choosing strategies for community disaster risk reduction and capability building. It is a step in the risk assessment process that most people forget. When we put it aside, we can make mistakes in program design and waste scarce external resources.

1.2 Problem Statement

Drought is one hazard that has affected communities in Kenya especially those in arid and semi-arid areas. In Kenya, the cost of drought in 1999/2001 was estimated at Kshs 22.5 billion, which included emergency relief, livestock losses and the cost of operating the early warning systems. Ultimately the prolonged drought in the continent has severely affected peoples economic development and contributed to wide-spread malnutrition, food crisis, famine, loss of life, migration and social conflicts (UNDP, 2008).

According to Oxfam (2010) Kenya has a fairly well established drought management system that incorporates early warning, contingency planning, multi - agency coordination and response analysis mechanisms. However, the linkage between districts and the national level and the
quality of operation of the system at district levels exhibits weaknesses and challenges. Furthermore, differences in approach and a failure of Government of Kenya (GoK) and non-government organizations to coordinate in a more holistic manner means that existing resources and external support provided to the districts are not being optimized and robust preparedness plans are not in place. As a result, there has been a growing realization that the top down approach to drought management is inadequate in addressing the needs of vulnerable communities and harnessing the potential of local resource and capacities. In offering a solution, the International Institute of Rural Reconstruction (IIRR) facilitated the documentation of regional best practices in drought management in 2004. These culminated in the production of the widely used Drought Cycle Management (DCM) toolkit for greater Horn of Africa.

The Kenya Drought Cycle Management (KDCMP) implemented between the year (2005-2007) by ten agencies with the sole aim of piloting DCM concept at community levels. Alongside this there was Community Managed Disaster Risk Reduction programme (CMDRR). This is a condition whereby a community systematically manages its disaster risk reduction measures towards becoming a safer and resilient community, people living in one geographical area, who are exposed to hazards and disasters. However, according to Cordaid (2013), the current lack of capacity to play the facilitation role is a major constraint in the application of CMDRR.

In order to facilitate active participation in risk reduction there was a felt need for community participation in identifying the risks and planning for risk reduction. Therefore, Participatory Capacity and Vulnerability Assessment was introduced. PCVA as a toolkit follows an integrated approach to assessing disaster risk, and using this information to support communities to develop community action plans for disaster risk reduction (DRR). The PCVA is a process where communities willingly participate in analyzing their capacity and vulnerability regarding disasters. It is a stepping stone to the community’s own action plans for strengthening its capacity and reducing vulnerability. The role of the organization conducting the PCVA with the community is to facilitate the process and assist the community to undertake their own analysis. The concern at this point is whether PCVA is making any significant impact for it to be scaled up. It is in this background that this study is designed to compare
the difference in livelihood improvement between a section of the community that has participated in PCVA and those that have not.

1.3 Research Questions
This study was guided by the following questions:
1. To what extent have the community members embraced PCVA?
2. Is PCVA a factor in livelihood improvement?

1.4 Objectives
1.4.1 Broad Objective
The broad objective of the study is to assess the impact of PCVA in improving livelihood among the people of Wajir County.

1.4.2 Specific Objectives
1. To do a comparative livelihood analysis between PCVA beneficiaries with those who have not benefitted from it.
2. To assess the rating of PCVA by beneficiaries.
3. To assess whether PCVA is a factor in livelihood improvement.

1.5 Scope and Limitations of the Study
The study was done in Wajir County because it has been experiencing the negative effects of drought throughout. The task was to examine whether there is a difference in livelihood between those pastoralists who have participated in PCVA and those who have not. Specifically, the study aimed at finding whether there is a difference in ownership of basic life sustaining properties such as cattle, sheep, goats, and camel. It also aimed at finding out whether the community members have realized any change in their livelihood since 2011 when PCVA was introduced. The PCVA beneficiaries were asked to rate the interventions in terms of risk reduction strategies, livelihood improvement strategies, and drought mitigation strategies. At the same time the study sought to establish whether PCVA is a factor in livelihood improvement by doing Chi-Square tests on animal ownership.
1.6 Definition of Concepts

**Hazard** is potential event that could cause loss of life, or damage to property or environment.

**Disaster** refers to the serious disruption of the functioning of society causing widespread human, material or environmental losses, which exceed the ability of the affected communities to cope using their own resources. Disasters occur when the negative effects of the hazards are not well managed.

**Disaster Risk Management** is the systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

**Disaster Risk Reduction** is a framework and a tool that determines the degree of risk and describes measures to increase capacities and reduce hazard impact on the elements at risk so that disaster will be avoided.

**Capacities** refers to individual and collective strength and resources that can be enhanced, mobilized and accessed to allow individual and communities to shape their future by reducing disaster risks.
CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

This chapter reviewed existing literature on Participatory Capacity and vulnerability Assessment (PCVA) as an approach in Community Managed Disaster Risk Reduction (CMDRR) in Kenya and Globally. In chapter two, theories guiding this study are discussed and a conceptual framework provided.

2.1 Community managed Disaster Risk Reduction

According to Binas, 2010 development work has traditionally been centered on poverty reduction/ alleviation strategies, with attention on developing livelihood opportunities at the community level for the most disadvantaged. With climate change and the increasing frequency of natural hazards - including typhoons, floods, earthquakes and volcanic eruptions - the progress of poverty alleviation strategies has been severely compromised. Disaster Risk Reduction (DRR) is a new development framework designed to reduce risk in areas of concern by empowering individuals and communities in the face of disaster.

Binas, 2010 goes on to draw a distinction between Community Managed Disaster Risk Reduction (CMDRR) and Community Based Disaster Risk Reduction (CBDRR) as follows:

In Community Managed Disaster Risk Reduction (CMDRR), emphasis is placed on the interactive nature of people's participation during the entire project cycle, while in Community Based Disaster Risk Reduction (CBDRR), information from the community is gathered to determine interventions, which are primarily dependent on external facilitators.

In CMDRR, the facilitation process is aimed at co-coordinating the facilitators and the people in the community. The goal of CMDRR is to facilitate learning and positive change at the individual and community level. In contrast, the CBDRR process is aimed at gathering information for the goal of developing local plans and programs.

In CMDRR, the community implements the project while the external facilitator provides guidance. In CBDRR the facilitators implement the project while the community participates.
CMDRR is aimed at facilitating and enriching the learning process within the community, between the facilitator and the community, as well as through the network of the facilitators' organization and other stakeholders. In contrast, CMDRR institutionalizes Participatory Planning, Monitoring and Learning (PPMEL), as a systems approach and tool, to strengthen the community's organizational capability to ultimately manage and own its DRR project(s), thereby ensuring community resilience and self-reliance. CBDRR, to some extent, depends upon an external organization’s capability to manage the project; in the long run, self-reliance of the community organization is not guarantee.

The CMDRR process takes reinforcing people's capacities as its point of departure. Community Managed Disaster Risk Reduction brings people together to analyze and address a common disaster risk. Communities conduct their own risk analysis to implement their Disaster Risk Reduction measures. The CMDRR process guarantees community ownership of interventions, which ensures their sustainability in the medium and long term.

2.1.1 The Essential Six Steps of CMDRR
In each community, a facilitator will support the community through the six CMDRR steps:

1. Training communities in the CMDRR concepts and process;
2. Risk mapping: identifying main hazards and ranking them in terms of priorities for action, while simultaneously mapping vulnerabilities and capacities of the community to manage the hazard;
3. Community organization: reinforcing existing or creating new community Disaster Risk Reduction committees;
4. Planning: developing a long-term action plan for risk reduction and disaster preparedness, and linking communities with local governments for financing and implementation in case communities cannot do it all themselves;
5. Implementation of the action plan;
6. Documentation, monitoring and evaluation managed by the community.
2.1.2 Some Key Characteristics of CMDRR

- Owned by the community;
- Demand-driven;
- Emphasis on learning and positive social change at community level;
- The community chooses and implements, often in coordination with local government or other agencies;
- Flexible local planning;
- Cost sharing by community.

2.1.3 The Advantages of CMDRR

- Promotes empowerment and reduces dependency on external help;
- Enhances social cohesion and equality through participation of all community members;
- Guarantees ownership of interventions;
- Builds technical and organizational capacity of communities;
- Cost effective;
- Improves community life also when no hazards occur.

2.2 Meaning and Historical Background of PCVA

Byron, J. (2003) Ehrhart (2009 (2003) define PCVA as being a risk analysis process that is designed to engage with communities in contexts where disasters and climate change are significant drivers of poverty and suffering.

PCVA has its roots in two proven social development methodologies. First, it stems from capacity and vulnerability analysis (CVA) methodology. This has long enabled development and humanitarian aid workers to design programmes based on a community's capacities as well as its vulnerabilities, CIDT (2001). It recognizes that vulnerable people have capacities to cope with adversity and can take steps to improve their lives, however difficult their situation may be (Oxfam GB 2010).
It is rooted in the belief that enabling communities to genuinely participate in programme design, planning, and management leads to increased ownership, accountability and impact, and is the best way to bring about change. PCVA draws on a wide range of participatory learning and action (PLA) techniques and tools that are designed to channel participants’ ideas and efforts into a structured process of analysis, learning, and action planning, with the overall aim of reducing a community’s disaster risk (Ehrhart 2009).

The participatory nature of the process supports men and women to act as agents of their own development who, with the right resources and support, can solve their own problems. It promotes the participation of women in particular as risk analysts and decision-makers when it comes to prioritizing what a community can do to reduce its disaster risk (Ambrose 2009).

PCVA places importance on local knowledge and draws on information and knowledge of communities, and their analysis of the information. However, as important can be the introduction and analysis of outside information – such as climate information, weather forecasting and disaster records, to support a greater understanding of local risk. It is a participatory process — local communities are at the heart of conducting the PCVA, (AUS-AID 2005).

PCVA can allow collecting and analyzing information to develop specific CCA/DRR initiatives, preferably in an integrated way. It also allows the integration of CCA and DRR into other sector programs such as natural resource, water management, sanitation and hygiene (WASH) and sustainable livelihoods. The results of a PCVA can also provide practical evidence for advocacy on climate change and disasters issues, (Benecke, 2011).

According to ACF (2012) the degree of vulnerability of people, their ability to withstand, cope and recover often depends on social, cultural, economic and political trends. Trends are widespread phenomena occurring over decades and can be divided into changes in local climatic parameters, environmental degradation, changing demographics, economic marginalization or informal/formal governance issues. Many natural hazards are worsened by these trends. People are
generally more vulnerable where poverty and/or inadequate social protection reduce their ability to resist. To reduce vulnerability capacity has to be enhanced.

People’s capacity is divided into their ability through:

i. Coping mechanisms as temporary responses to reduce or minimize effects of a stressful event or an unfavorable situation. For instance, food access is abnormally disrupted during drought, flood, earthquake or military activity so people reduce their consumption

ii. Adaptive mechanisms as measures used to manage and minimize the risk from recurring situations such as chronic food insecurity. Adaptation is a process of adjustment to a longer-term solution. For instance, pastoralists moving to new migratory areas with better rainfall and pasture growth; farmers using drought- or salt-resistant crop varieties.

2.3 PVCA in Selected Countries

From ICRC (2006) the following cases of PVCA have been cited as successes:

In Nepal, after conducting a VCA-type process, the National Society worked with villagers to create community-based programmes to deal with local hazards such as flooding. The participatory nature of the process and the difference that people were able to make through their own actions helped them to realize that disasters were something they could influence and as a result they have become less fatalistic about risk.

In 2005, the Yemen Red Crescent Society carried out a VCA in two districts badly affected by flash floods. The assessment turned up some surprising findings: over the past 15 years, more people had been killed in road accidents in Yemen than as a result of flooding. The National Society therefore initiated a road safety programme designed to reduce such accidents, especially near schools, which has been much appreciated by the local population.

Since the 1940s, the relationship between two distinct groups in one of the Solomon Island coastal villages had been affected by land disputes. The two groups had lived and worked in separate and different ways until August 2004, when the Solomon Islands Red Cross decided to carry out a VCA. The process brought the two communities together and gave them a forum in
which to communicate. During one of the VCA meetings to discuss the construction of a drainage system, which both communities had identified as essential, a representative of one of the groups acknowledged the importance of community youth development and invited the two communities to work together to improve living standards and to help their young people. As a result, elders and young people from both groups became closely involved in VCA activities. The VCA process was a landmark event for the communities’ youth, who expressed a keen interest in cooperating with other community VCAs and in developing a local Red Cross group in 2005.

In a number of Caribbean countries, National Societies undertook a programme to strengthen roofs against hurricanes. Many of the intended beneficiaries, however, gave a higher priority to improving their kitchens. To outsiders this might seem to be courting disaster, but for local people it was more pressing to relieve the daily struggle to cook and perform household chores than to withstand a hurricane that might not arrive for many years. The National Societies agreed to help local people improve both their kitchens and their roofs.

While seeking to address food insecurity, the Rwanda Red Cross conducted a VCA in which it divided out the various topics of discussion according to local expertise. The elderly were assigned history, with special emphasis on problems relating to food security; women focused on the seasonal calendar and the daily work routine; and young people produced a map of the sector showing community development achievements.

In Rwanda, women are usually the ones who tend the fields and take care of the children. They know a great deal about their land and the daily difficulties and obstacles that they face. The women’s group, therefore, started by drawing up a seasonal work calendar in order to pool their collective image. The discussion centred on the best crops to grow and revealed that, for example, production of coffee had slowed after several dry seasons – even though the income generated from coffee production was far higher than that from growing vegetables. The group highlighted the need for washing stations where the coffee beans could be properly treated and sold at current market prices as one way of reducing the community’s vulnerability to food insecurity.
In Summary it can be said that what VCA represents needs to be clear; otherwise everyone involved – communities, National Society staff and volunteers, government, non-governmental organizations, etc. – may not understand why only a few areas take part in the process when hazards are widespread.

It does not matter if VCA leads to an activity or programme that is not related to the hazards affecting the area in question, as long as local people are engaged and become active; and local and national governments become more involved in supporting their citizens. The process will in all likelihood result in increasing awareness of other types of risk even when the immediate activities are not related to natural hazards (ICRC, 2006).

2.4 Theoretical Framework

2.4.1 Community Empowerment Model
Empowerment refers to the ability of people to gain understanding and control over personal, social, economic, and political forces in order to take action to improve their life situations (WHO, 1986; Minkler, 1989; Baum, 2008). According to Baum (2008) empowerment is the ability of people to gain understanding and control over personal, social, economic, and political forces in order to take action to improve the healthy living. Over time community empowerment has developed to encompass both processes and outcomes (Israel et al., 1994; Tesoriero, 2010) leading to community development.

On the other hand, empowerment has been described as a multi-level construct and includes individual level, organisational, and the community level empowerment. At the level of individual, psychological empowerment describes a concept that extends intra-psychic self-esteem to include people’s perceived control in their lives, their critical awareness of their social context and their participation in changes (Israel, et al., 1994). As Gershon (2006) argues, an empowering organisation incorporates the processes of organisation and provides avenues for the development of personal control, including competence to act and the development of interpersonal, social, and political skills.
It is through empowerment that individuals gain control over their organization in order to influence policies and decisions in the larger community. It also makes it possible for individuals and organizations to apply their skills and resources in collective efforts to meet their respective needs. According to Braithwaite and Lythcott (1989) empowerment at the community level is connected with empowerment at the individual and organizational levels. In practical sense, and as McMurray (2007) states, empowerment brings back power to the people by improving people's participation, increasing individual and community control over various programs that impact their development and also improves a sense of local ownership and collaboration.

2.4.2 The theory of Risk Reduction and Participation
Theory of risk reduction and theory of participation fused into a participatory risk reduction conceptual model was applied into this study. The pressure and release model of risk reduction theory by Blaieke, et al (1994) is reversal of crunch model indicating how hazards and vulnerability can be reduced through mitigation and preventative practices by sustainable and management intervention on hazards and also reducing the progression of underlying and dynamic causes to ensure safe condition

Figure 2.1: Pressure and Release Model

Source: ROOTS, 2011
The theory of participation by the framework of (Arnstein,1969) recognizes different levels of participation from very weak manipulated participation to genuine participation, stressing best participation at the highest level of citizen involvement. This led (Burns ,et al1994) to modify the Arnstein ladder of participation to ladder of empowerment where citizens can be effectively involved at various levels of participation to ensure the desired goals are met.

2.5 Conceptual Framework

Figure 2.2: Conceptual Framework

From the conceptual model above, hazards can only be understood by clear understanding of risks surrounding a given community. The risks in return have to be mirrored on the elements at risk in order to identify vulnerability levels. This knowledge is vital for positive development. However, this knowledge has to be localized in the community themselves. It is only through this that the following can be achieved as stated below:

- Designing of a new program for development.
- Enable monitoring/evaluation of the impact of actions taken to reduce risk
- Guide advocacy strategies for DRR and adaptation.
- Integration of disaster risk reduction (DRR into an existing development programs
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
The chapter contains the methods that were used in this research. This chapter is structured into the study area, research design, and population of study, sample, data collection and data analysis.

3.2 Description of the Study Site
Sabuli and Habaswein village are divisions in Wajir south covering 70km and 240km respectively. Habaswein and Sabuli were known to be main livestock holding market thought drought has had great effect on survivability and livelihood of the community. According to information narrated by the community during the drought period the most affected livestock is cattle, sheep and goats. Camels portrayed resistance to the drought.

3.3 Research Design
According to Kombo and Tromp (2006), research design can be thought of as the structure of research. This research is a comparative study comparing two villages. On the one hand a village that has used PCVA as a tool to priorities and identified appropriate actions to be taken to reduce disaster risk and assists in the design and development of programmes that are mutually supportive and responsive to the needs of the people most closely concerned and on the other hand a village that has not participated in PCVA.

3.4 Target Population
The targeted respondents for this study included community members, Key Informants including chiefs, elders and representatives of NGOs in both locations Sabuli and Habaswein in Wajir County. In this particular case, the survey was restricted to households who have participated in PCVA from Sabuli and those who have not participated in PCVA from Habaswein. A household for this study constitute either a group of people living together under one roof or a housing unit,
under one roof and sharing common holdings such as a source of income and food, which normally, but not necessarily, required them to eat from a common pot at all times.

### 3.5 Sources of Data
This composed of both secondary and primary data.

a) **Primary data**
These data were collected from those individuals who have participated in PCVA who were interviewed. On the other hand data was also collected from those that have not participated in PCVA. Household heads were interviewed. Key informants, FGDs and NGO representative were also interviewed.

b) **Secondary data**
Data was collected from documented evidence on the implementation of PCVA including evaluation reports.

### 3.6 Sampling
For the community that has participated in PCVA a list of participating individuals was obtained from the implementing partner (in this case OXFAM) and all the 50 individuals who have participated were picked and interviewed. For the community that has not participated in PCVA an equal list of 50 households were picked and interviewed. Apart from that there were two Focus Group Discussions (Women and Men separately) in every village.

### 3.7 Data Collection Methods
a) **Interviews**
The sampled individuals and household heads were interviewed using a structured interview schedule. Key informants were also interviewed.
b) Observation
The researcher observed the development that has taken place in the selected sites and the activities which people engaged in.

c) Focus Group Discussion
The researcher conducted a total of four Focus group Discussions (two for each village) to discuss vulnerability and methods to reduce vulnerability.

3.8 Tools for data collection
The following tools were used in this study;
   i. Interview schedule
   ii. Observation guide
   iii. Key Informant Interview guide and
   iv. Focus Group Discussion Guide

3.9 Data Analysis and Presentation
The study used Statistical Package for Social Sciences (SPSS) to analyze quantitative data. Orodho (2005) explains that SPSS is a comprehensive, integrated collection of computer programme for managing, analyzing and displaying data. The qualitative data was coded thematically and then analyzed. Themes were developed as per the study objectives, and data from the various tools synthesized and triangulated.
CHAPTER FOUR
DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction
This chapter presents the demographic data of the respondents as well as data on how the respondents who have benefitted from PVCA compare with those have not in terms of animal ownership and success in development achieved so far. There is presentation of data looking at how beneficiaries of PVCA rate their progress in livelihood improvement since 2011 when the PVCA program was introduced and this is compared with how those who have not benefitted from PVCA compare rate their progress since 2011 to date. At the same time there is data on how beneficiaries of PVCA rate the program. Finally, there is data associating PVCA with improvement in livelihood using only animal ownership.

4.2 Demography of the Respondents
The demographic data in this section are on gender, age, and main occupation, level of education, marital status, number of children per household and number of children working. These data provide basic information on the composition of respondents.

Table 4.1: Gender of the Respondents

<table>
<thead>
<tr>
<th></th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>42</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Although there was a deliberate effort to have an equal number of respondents (50/50) from PVCA beneficiaries and non-beneficiaries, it turned out that gender of household in the two groups is not equally distributed. From table one above it is clear that there are more male (58%) participating in PVCA as compared with 42 percent female. This can be attributed to
the patriarchal nature of the community where male are considered heads of households. Therefore, unless otherwise, for who is to participate in a community intervention, male are more likely to consider themselves first. So a random selection is likely to give one more male than female.

On the other hand a random selection of the non-beneficiaries of PVCA shows more females (56%) as compared to males who are 44 percent. The explanation to this is that in Wajir county there is an increase of female headed households.

**Table 4.2: Age of the Respondents.**

<table>
<thead>
<tr>
<th>Age</th>
<th>PVCA GROUP</th>
<th></th>
<th>GROUP WITHOUT PVCA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Less than 31</td>
<td>7</td>
<td>14</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>31-40</td>
<td>23</td>
<td>46</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>41-50</td>
<td>14</td>
<td>28</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>51-60</td>
<td>5</td>
<td>10</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Above 60</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

It is evident from table 2 above that the age distribution in the two groups is almost the same. Majority of the respondents (88% of the PVCA group) are between the youthful age of less than 31 year and young adults of age 31 to 50 years old. As for the group without PVCA this category constitutes of 70 percent of the total respondents interviewed. This confirms Madsene et al’s (2005) age structure and development with their claim that the world has the largest generation of young people in history, with 3.6 billion people under the age of 30 worldwide. A population’s age structure (the relative size of each age group) deeply affects development opportunities and plays a major role in security and governance challenges. This means therefore, that Wajir county has a resource (a youthful population) for tapping to spearhead the county's development. The PVCA intervention should be seen as a factor in tapping this resource.
Table 4.3: Occupation of the Respondents

<table>
<thead>
<tr>
<th>Occupation</th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Livestock rearing/pastoralist</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>Civil servant/community leader</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Business person</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Housewife</td>
<td>16</td>
<td>32</td>
</tr>
<tr>
<td>Farmer</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Apart from what the wajir community is known for (pastoralist) and which is presented by 26 percent and 20 percent in the PVCA group and the group without PVCA respectively, they are those who have taken up other livelihood activities such as business and farming as their main activities. Table 3 above indicated that 32 percent of the respondents in the PVCA group are housewives, 28 percent are doing business as their main occupation and 12 percent are civil servants. It is evident that farming has not picked up in Wajir as only 2 percent are engaged in it as their main occupation.

Contrary, 42 percent of the respondents from the group without PVCA are engaged in business and 22 percent in farming. This can be explained by two facts; One is that PVCA is about building resilience with focus on a people's livelihood and therefore, the reason for number of respondents in the PVCA engaged in livestock rearing as their main occupation. Secondly by the fact that female participants in the PVCA intervention are not expected to be in any other occupation given the patriarchal norms that guide the community. That is the reason why 32 percent of the respondent in the PVCA group are housewives.
Table 4.4: Respondents’ Level of Education

<table>
<thead>
<tr>
<th>Education level</th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>None</td>
<td>38</td>
<td>76</td>
</tr>
<tr>
<td>Primary</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Secondary</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>College</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>University</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

From table 4 above it can be deduced that the representation there is an expression of “felt need” where majority (76%) of the PVCA group have no formal education while only 18 percent of the respondents from the group without PVCA have no formal education. It can be argued that that lack of formal education and therefore, diminished opportunities for earning a living through employment and other ventures that require formal training, naturally pushed majority of the illiterate members of the community to embrace PVCA. As argued education, training and a well-functioning labor market are prerequisites to reap the benefits of progress through the demographic transition. Education for women and men as well as vocational training programs in the growing sectors of a country’s economy increase the chances for families to earn stable incomes (Madsen et al’s 2005).

Table 4.5: Marital Status of the Respondents

<table>
<thead>
<tr>
<th>Marital status</th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Married</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Widowed</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Divorced/separated</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Single</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>
Data in table 5 above indicates that majority (52%) of the PVCA group are married. The number of the non PVCA group who are married is equally high (54%). This could explain why majority of the non PVCA group are engaged in business (table three above). In both cases the push factor could be the need to take care of their families.

Table 4.6: Number of Children per Household

<table>
<thead>
<tr>
<th>Number of children</th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>No child</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>1-4</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>5-8</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>9-12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Above 12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 6 above indicates that the respondents family size (number of Children) concentrates around 1 to 8 children per family in both groups. As for the PVCA group 36 percent of the respondents have between 5-8 children per household and 58 percent of the group without PVCA have the same number of children. This places a high burden on the family to meet all its needs satisfactorily.

This confirm the country’s concern over the large numbers of children in the Kenyan family:

On 9th April 2015 it was reported that Kenya’s poor rural households have defied the well-oiled birth control campaigns to retain their position as drivers of the country’s rapid population growth, a newly released demographic report says. On average, a rural woman has nearly twice the number of children as her urban counterpart while the poorest family in Kenya today has three times as many children as a rich one, according to the Kenya Demographic and Health Survey (KDHS) report that was released on Wednesday. The survey, conducted by the Kenya National Bureau of Statistics (KNBS), however shows that the
country's birth rate has dropped from 4.6 children per family five years ago to 3.9 by end of 2014 — mainly driven by a decline in the number of children in rich and urban families (Business daily, 29th April 2015).

4.3 Comparison of animal ownership between beneficiaries of PVCA and those who have not benefitted.
As stated above PCVA stems from capacity and vulnerability analysis (CVA) methodology. Therefore the aim is to facilitate development using the target community's capacities as well as its vulnerabilities, CIDT (2001). It recognizes that vulnerable people have capacities to cope with adversity and can take steps to improve their lives, however difficult their situation may be, Oxfam GB (2010). In the case of wajir the strongest capacity is in the animals since the community is largely pastoralist. However, these animals are vulnerable to the harsh climate (majorly drought). In order to understand whether PVCA has succeed in achieving its goal, the study first sought to find out the status (in animal ownership) in two groups, those who participated in the program (PVCA) and those who did not and the results are presented in table below.

Table 4.7: Number of animal Owned

<table>
<thead>
<tr>
<th></th>
<th>PVCA GROUP</th>
<th>GROUP WITHOUT PVCA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cattle</td>
<td>Sheep</td>
</tr>
<tr>
<td>Number</td>
<td>F. %</td>
<td>F. %</td>
</tr>
<tr>
<td>Zero</td>
<td>1 2</td>
<td>33 66</td>
</tr>
<tr>
<td>1-3</td>
<td>9 18</td>
<td>9 18</td>
</tr>
<tr>
<td>4-6</td>
<td>22 44</td>
<td>5 10</td>
</tr>
<tr>
<td>7-10</td>
<td>10 20</td>
<td>2 2</td>
</tr>
<tr>
<td>Above 10</td>
<td>8 16</td>
<td>1 2</td>
</tr>
<tr>
<td>Total</td>
<td>50 100</td>
<td>50 100</td>
</tr>
</tbody>
</table>

From table 7 above it is clear that the people of Wajir rarely invest in sheep. Only 32 percent of the PVCA groups have invested in sheep with 28 percent owning between 1-6 sheep per household. On the other hand, only 8 percent of the group without PVCA owning between 1-6
sheep per household. Heavy investment is on Camel followed by goats then cattle for the PVCA group where by 54 percent own 7 and above heads of camel per household, 64 percent for goats in that category and 36 percent heads of cattle in the same category. As for the group without PVCA the concentration is around 1-6 animals per household where 78 percent own 1-6 camels, 88 percent own goats in that category and 72 percent own cattle in that category.

The other notable feature is that in the PVCA group that is an increase of number of animals owned as compared with the group without PVCA. This could be attributed to the intervention meaning that mitigation measures put in place by PVCA could be a factor in the high numbers of animals owned by the PVCA group.

The second step was to find out from the two groups their level of satisfaction in economic growth, increase in livestock and food security since 2011 when PVCA was introduced to date. Findings are presented in table 8 below.

### 4.3.1 Comparison of Level of Satisfaction between Beneficiaries of PVCA and those who have not Benefitted.

**Table 4.8: Level of Satisfaction**

<table>
<thead>
<tr>
<th></th>
<th>PVCA GROUP</th>
<th></th>
<th>GROUP WITHOUT PVCA</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Economic</td>
<td>Increase</td>
<td>Food</td>
<td>Economic</td>
</tr>
<tr>
<td>Extent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td>4</td>
<td>8</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>To some extent</td>
<td>30</td>
<td>60</td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td>Fairly so</td>
<td>10</td>
<td>20</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Not at all</td>
<td>6</td>
<td>12</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Comparatively there is a high level of satisfaction on the economic growth, livestock development and food security among the PVCA participating group and compared to the group
without PVCA. From the table, 8 percent 6 percent and 10 percent PVCA members are very satisfied for the economic, livestock and food securities developments respectively. On the other hand only 4 percent members of the group without PVCA are very satisfied in each of the three development areas.

At the bottom of the rating (not satisfied at all) 12 percent, 10 percent and 12 percent of the PVCA group reported so for economic, livestock and food security indicators. On the other hand, 24 percent, another 24 percent and 20 percent respondent from the group without PVCA reported not satisfied at all in the economic, livestock and food security development respectively since 2011. The results displayed above could be an indication that PVCA has brought about positive change among the participating group.

4.3.2 Rating of PVCA.

Third, the group that participated in PVCA was asked to rate the intervention in risk reduction, livestock increase and drought mitigation and results are presented in tables 4.9, 4.10 and 4.11 below.

<table>
<thead>
<tr>
<th>Table 4.9: Rating of PVCA Strategies with other Risk Reduction Strategies used before</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>PVCA is the best</td>
</tr>
<tr>
<td>PVCA is better</td>
</tr>
<tr>
<td>PVCA is Fair</td>
</tr>
<tr>
<td>PVCA is not any better</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

From table 4.9 above 36 percent of the PVCA group rated the intervention as fair, 34 percent rated it as better, 24 percent rated it as the best and 6 percent said it was not any better. Form the key Informants’ point of view, the intervention was said to have improved the lives of the people however, they felt there is need for improvement. Form the Focus Group Discussions the common sentiment was that there is no much difference between the program and the other
strategies that had been earlier used in the community. Therefore the accrued benefits might have been the same as those accrued from the other strategies as well as the failures. They argued that the PVCA strategies were not radically different from those used before: That there was a lot in common between PVCA and other coping mechanisms used.

Table 4.10: Rating of PVCA Strategies with other Strategies in Livestock Increase

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVCA is the best</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>PVCA is better</td>
<td>29</td>
<td>58</td>
</tr>
<tr>
<td>PVCA is Fair</td>
<td>13</td>
<td>26</td>
</tr>
<tr>
<td>PVCA is not any better</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Findings are that 4.10 percent rated PVCA as the best, 58 percent said it was better, 26 percent said it was fair, and 6 percent said that it was not any better. Given that the Wajir people are livestock keepers their expectation would have been raised very high to an extent that minor improvement might not make a difference.

Table 4.11: Rating of PVCA Strategies with other Strategies in Drought Mitigation

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVCA is the best</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>PV</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>PVCA is Fair</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>PVCA is not any better</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

In mitigating against drought 20 percent said it was the best, 50 percent said it was better, 24 percent rated it as fair and 6 rated it as not any better. In this case PVCA program is rated higher
than the other strategies. This is an indication that in terms of mitigating against drought, the strategy did well and could only be sustained and even be improved to be the best for the whole population.

4.3.3 Chi-Square Tests
In this section Chi-Square test of Independence was used to test whether or not

i. There is an association between PVCA and owning animals.

ii. There is an association between PVCA and satisfaction on the development achieved so far.

Is such a situation, the tests proceed with a null hypothesis that PVCA and the other two variables (animal ownership and satisfaction) are independent of each other. Meaning PVCA is not a predictor in either animal ownership of satisfaction on development achieved so far.

If the calculated Value of $X^2$ is less than the table value at a given level of significance for a given degree of freedom the conclusion is that both animal ownership and satisfaction are independent of PVCA.

On the other hand, if the calculated Value of $X^2$ is more than the table value at a given level of significance for a given degree of freedom, the conclusion is that PVCA is associated with both animal ownership and satisfaction.

4.3.3.1 The Nature of Relationship between PVCA and Animal Ownership.

<table>
<thead>
<tr>
<th></th>
<th>NUMBER (MEAN)</th>
<th>OWNING ANIMAL</th>
<th>NUMBER</th>
<th>NOT OWNING ANIMAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVCA GROUP</td>
<td>20</td>
<td>21</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>GROUP WITHOUT PVCA</td>
<td>15</td>
<td>14</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

$X^2 = 1.64$

The degree of freedom = (r-1) (c-1)

= (2-1) (2-1) = 1
The table value of $X^2$ for 1 degree of freedom at 5% level of significance is 3.841
This therefore, means that animal ownership is independent of PVCA.

4.3.3.2 The Nature of Relationship between PVCA and Animal Satisfaction.

<table>
<thead>
<tr>
<th></th>
<th>NUMBER OWNING ANIMAL</th>
<th>NUMBER NOT OWNING ANIMAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(MEAN)</td>
<td></td>
</tr>
<tr>
<td>Observed</td>
<td>Expected</td>
<td>Observed</td>
</tr>
<tr>
<td>PVCA GROUP</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>GROUP WITHOUT PVCA</td>
<td>13</td>
<td>15</td>
</tr>
</tbody>
</table>

$X^2 = 1.52$

The degree of freedom = \((r-1)(c-1)\)

= \((2-1)(2-1)\) = 1

The table value of $X^2$ for 1 degree of freedom at 5% level of significance is 3.841
This therefore, means that animal ownership is independent of PVCA.

In the two tests it can therefore be concluded that PVCA is not associated the number of animals people in wajir own neither is the program associated with the level of satisfaction expressed the people of Wajir over the development achieved so far. Meaning that PVCA has made little if any impact on the Livelihoods of the people of Wajir.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary
PCVA is not associated with the number of animals that people owned because Pastoralism has been the key agricultural production system in the dry lands and remain dominant livelihood base of the people of wajir (99%). Major livestock units such as shoat, cattle, camel and donkey are common in the area. The recurrent drought and other related hazards during the past 2-3 decades have seriously reduced the livestock asset base of the community. There is no homely produced food rather selling asset like shoats was a common practice to purchase food. Crop production was not practiced by the community there is an indication that there is reduced rearing of sheep because they cannot survive for many days without water the same as cattle which are heavy feeders and they could not afford to provide forage for the during dry spell. Both cattle and sheep cannot trek for long distance to look for water when the nearby water pans dry up.

When the implementing organizations finalized facilitation stage of the PCVA process with the community, community disaster management plans are developed and communities identifies local priorities that needs to be implemented by either the state or non state actors and impact assessed after sometime to ascertain whether community expressed satisfaction on the changes as a result of PCVA.

5.2 Conclusion
However there is still more to do with achieving development and satisfaction and increase in animal owned trough PCVA process. The process of change in the lives of community members is just beginning. PCVA has to be continuous and sustainable process because changing the mindset of communities that they should own their own development initiatives is not easy. Creation of strong link of the existing DRR institutions with local government offices and other institutions will enhance the benefits and sustainability of the community project. Especially in
implementing part of the community disaster management plan and identification of investment priorities through participatory process.

5.3 Challenges
Lack of or low capacity to adapt to climate change and increasing exposure to disasters because; information and knowledge on climate change and DRR is limited in local level government agencies and communities; and levels of poverty and landlessness reduces adaptive capacity notwithstanding, most governments of countries with pastoral populations are reluctant to invest in pastoral production systems, pastoralism being regarded as backward with little potential for improvement
- Although the PCVA is intended as a community based exercise, in many places it can be difficult to carry out the work without the approval of local Government authorities. And this presents a challenge and affect the sustainability of the approach
- Vulnerable groups such as women have minimal voice in how they are to be involved in PCVA, DRR and natural resource management, and existing DRR and natural resource management practice and policies do not always reflect local challenges or incorporate the knowledge, experience and needs of these vulnerable groups.

During the drought when the milk is scarce and young ones cry for milk it's me who bear the brunt because am at home taking care of them the man is always away to look after the larger herds so I must find away to take care of the small herds at home to enhance their milk production to avert hunger and improve the immunity of my young ones says Habiba bare in Sabuli with a family size of 10 whose source of livelihood is livestock

5.4 Recommendations
Since PCVA and its methodologies is newly introduced approach, Contituinity and project sustainability can only be achieved by ensuring government counterparts and the target communities have ownership of the project throughout the implementation period and by ensuring project activities are integrated into established structures and processes. This will be achieved by: (1) providing training, and strengthening the local government’s capacity to access
contingency funds put in place by governments (2) building community awareness and leadership capacity to take action; (3) handing over management and implementation responsibility for scaling-up activities by the end of the first year; (4) fostering process and policy ownership by involving counterparts and communities in contributing to project learning and advocacy and (5) by integrating project interventions into established structures and processes, strengthening long term sustainability through systemic change.

**Integrated livelihood and ecosystem strategies:** Development change in the target communities cannot be achieved without improving economic opportunities and livelihoods to respond to climate variability and change. To build community resilience necessitates an integrated approach of addressing short, medium term crisis.

**Stakeholder involvement**
The main stakeholders in this process are the community members themselves. But remember that communities are not homogeneous; there are significant differences based on gender, age, socio-economic status, as well as individual and collective interests. Securing buy-in from a wide range of stakeholders is the key not only to a successful PCVA process, but an effective action plan to reduce disaster risk. As well as members of the community, involving other stakeholders like state and non state actors is also very crucial. Firstly, local officials can be useful key informants and can contribute to the PCVA sessions on Governance Analysis and other local knowledge. Secondly, it may help to increase government understanding of local issues and create better linkages between the community to the government for support in implementation of the identified priorities.

**Policy and advocacy**
There is need to make relevant national and local pro-pastoral policies that are friendly and aim to contribute to poverty reduction among livestock keepers by supporting the implementation and formulation of policies which improves their livelihood, mitigate the vulnerability of pastoralist and facilitate income diversification and adoption of alternative livelihood.
Lesson learnt

- DRR approach requires respect culture, negotiation of the community, linking with gov’t and community institutions and initiatives, addressing community priority and respecting their decision are equally important in overall processes.
- Participatory and bottom up planning, through involvement of all stakeholders are needed in order to create self-ownership and ensure sustainability.
- Having a well-defined/planed entry and exist strategies are also crucial for smooth functioning and handing over processes.
REFERENCES


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Haque, C. Emdad and Uddin M. Salim 2013: Disaster Management Discourse in Bangladesh: A Shift from Post-Event Response to the Preparedness and Mitigation Approach Through Institutional Partnerships


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APPENDICES

APPENDIX 1: INTERVIEW SCHEDULE FOR RESPONDENTS IN SABULI Re- request for data collection

I am a post graduate student pursuing a Master of Arts degree in sociology (Disaster Management) at the university of Nairobi. I am required to submit as part of my study a research project report. My research is on the impact of PCVA in Wajir County. To achieve this, I have selected your village to participate in the study. I kindly, request you to grant me a few minutes to interview you on PCVA. The information you will provide will purely be used for academic purposes and will treated in confidential

Appendix 1: Community members Interview Schedule

Name of the Location……………………………………………………

Indicate the Survey area (village)………………………………………… Date of interview………………………………………………………………
Name of the interviewee……………………………………………………

1. Personal Characteristics
   a. Kindly indicate your gender
   Male [ ] Female [ ]
   b. Age
   Less than 31 years [] 31-40 [] 41-50 [] 51-60 [] Above 60 [ ]
c. Please state your main occupation.

........................................................................................................................................
........................................................................................................................................


d. What is your level of education?

Primary[] Secondary [] College [] University []

Other................................................

g. What is your marital status?

Married [] Widowed [] Divorced/ separated []

i. How many children do you have?.................................

ii. How many of your children are working? .........................

2. PROPERTY OWNERSHIP

h. How many of these animals do you have in your household

<table>
<thead>
<tr>
<th>Type of livestock</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
</tr>
<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Camel</td>
<td></td>
</tr>
</tbody>
</table>
3. Life Changes since 2011

(j) To what extent can you say you are able to satisfactorily meet your economic needs such as school fees, medical and food since 2011?
   a) Very much []
   b) To some extent []
   c) Fairly so []
   d) I have not seen any improvement []
   e) There is no improvement at all []

(k) To what extent would you say your livestock has increased since 2011?

   a) Very much []
   b) To some extent []
   c) Fairly so []
   d) I have not seen any improvement []
   e) There is no improvement at all []

(l) To what extent would you say food security has improved

   a) Very much []
   b) To some extent []
   c) Fairly so []
   d) I have not seen any improvement []
   e) There is no improvement at all []
APPENDIX II: INTERVIEW SCHEDULE FOR RESPONDENTS IN QULALE

Re- request for data collection
I am a post graduate student pursuing a Master of Arts degree in sociology (Disaster Management) at the university of Nairobi. I am required to submit as part of my study a research project report. My research is on the impact of PCVA in Wajir County. To achieve this, I have selected your village to participate in the study. I kindly, request you to grant me a few minutes to interview you on PCVA. The information you will provide will purely be used for academic purposes and will be treated in confidential

Appendix 1: Community members Interview
Schedule
Name of the Location…………………………………….
Indicate the Survey area (village) …………………………….
Date of interview……………………………………………….
Name of the interviewee……………………………………

1. Personal
Characteristics
b. Kindly indicate your gender
Male [ ] Female [ ]
c. Age
Less than 31 years [] 31-40 [] 41-50 [] 51-60 [] Above 60 []
d. Please state your main occupation.
……………………………………………………………………………………………………
……………………………………………………………………………………………………
e. What is your level of education?
Primary [] Secondary [] College [] University []
h. What is your marital status?
Married [ ]  Widowed [ ]  Divorced/ separated [ ]

iii. If married man, how many wives do you have?…………………………

iv. How many children do you have?………………………………………
v. How many of your children are working? ………………………………

2. PROPERTY OWNERSHIP

i. How many of these animals do you have in your household

<table>
<thead>
<tr>
<th>Type of livestock</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td></td>
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<tr>
<td>Goats</td>
<td></td>
</tr>
<tr>
<td>Camel</td>
<td></td>
</tr>
</tbody>
</table>

3. Life Changes since 2011
(j) To what extent can you say you are able to satisfactorily meet your economic needs such as school fees, medical and food since 2011?
a) Very much [ ]
b) To some extent [ ]
c) Fairly so [ ]
d) I have not seen any improvement [ ]
e) There is no improvement at all [ ]

(k) To what extent would you say your livestock has increased since 2011?
a) Very much [ ]
b) To some extent     []
c) Fairly so          []
d) I have not seen any improvement     []
e) There is no improvement at all     []
f) To what extent would you say food security has improved since 2011?

a) Very much     []
b) To some extent     []
c) Fairly so     []
d) I have not seen any improvement     []
e) There is no improvement at all     []
APPENDIX III: KEY INFORMANTS QUESTIONNAIRE

1. Personal Characteristics of Informants

a) Name..............................................................................................................

b) Kindly indicate your gender

Male [] Female []

c) Position/Rank.................................................................................................

d) How many years have lived in this county?

Below 10 years [] 10 – 20 years [] Over 20 years []

e) What is your level of education?

Primary [] Secondary [] College [] University []

2. Level of PVCA

a) What would you say are the major changes that you are faced with in implementing PVCA? ECONOMIC CHANGES

..............................................................................................................................

..............................................................................................................................

..............................................................................................................................

SOCIAL CHANGES

..............................................................................................................................

..............................................................................................................................
What suggestion will you give to counter these challenges?
APPENDIX IV: FOCUS GROUP DISCUSSION GUIDE

1. Kindly explain your understanding of vulnerability

2. Explain who are most vulnerable in your village, to what the are vulnerable to and why.

3. Suggest the most effective actions for communities, individuals or families, government agencies and other institution for poverty lessen the effects of drought.
   a) Communities
   b) Individuals or families
   c) Government agencies
   d) Other institution for poverty