

**UNIVERSITY OF NAIROBI**

**FACULTY OF ARTS**

**DEPARTMENT OF SOCIOLOGY AND SOCIAL WORK**

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**Barriers to the Application of Famine Early Warning  
Systems to Drought Crisis Response: A case of  
Selected Humanitarian Agencies in Kenya**

**C50/75881/2009**

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**A research project submitted in partial fulfillment of the requirements for  
the award of the degree of Master of Arts in Sociology (Advanced Disaster  
Management)**

**October, 2014**

**Barriers to the Application of Famine Early  
Warning Systems to Drought Crisis Response: A  
case of Selected Humanitarian Agencies in Kenya**

## DECLARATION

I hereby declare that this project is my original work and has not been presented for any award for degree in any other university

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C50/75881/2009

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Date

### **Supervisor Declaration and Approval:**

I hereby declare that this project has been submitted with my approval as supervisor

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PROFESSOR E.K. MBURUGU

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Date

## **DEDICATION**

This research is dedicated to all humanitarian workers who risk their own lives to make a difference in those of many children, mothers and men affected by disasters across the world. Your commitment, dedication and resilience are forever treasured.

To all sociological thinkers and practitioners whose love for knowledge and intellectual empowerment has brought about desired social changes and made a huge difference to many lives across the world.

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## LIST OF ACRONYMS

ASAL	Arid and Semi-Arid Lands
DC	District Commissioner
DMC	Drought Management Committee
ELP	Emergency Livestock Programme
EW	Early Warning
EWS	Early Warning Systems
FAO	Food and Agricultural Organization
FEWSNET	Famine Early Warning System Network
FFW	Food for Work
FSNAU	Food Security Nutrition Analysis Unit
UN	United Nations
IIRR	International Institute of Rural Reconstruction
KANU	Kenya African National Union
KFSM	Kenya Food Security Meeting
KFSSG	Kenya Food Security Steering Committee
MUAC	Mid-Upper Arm Circumference
NDMA	National Drought Management Authority
NGOs	Non-Governmental Organizations
NORAD	Norwegian Agency for Development Cooperation
ODI	Overseas Development Institute
PPR	Peste des Petit Ruminants
SSA	Sub-Saharan Africa
TDCPU	Turkana Drought Contingency Planning Unit
TRP	Turkana Rehabilitation Project
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office Coordinating Humanitarian Assistance
WFP	World Food Programme
WHO	World Health Organization

## **ABSTRACT**

Whereas Kenya boasts of advanced drought Early Warning Systems (EWS), research evidence shows that Early Warning (EW) signals are not often translated to early responses as required. Evidence of drought-related food distress and famine shows that even when EW information is available on time, humanitarian agencies are either caught by surprise or take too long to respond, making the whole EW – Response system to malfunction at the most critical times it is meant to intervene to save lives and livelihoods of the most vulnerable. Given the increasing frequency and magnitude of drought-induced disasters in Kenya, the need for this research and application of the findings cannot be overemphasized as a precursor for improving both policy and practice.

This research was undertaken among selected humanitarian agencies and has revealed that while earlier researches showed that all the six categories of barriers had the same significance, sustainability and logistical barriers are the most significant barrier categories that severely prevent the use of EWS to trigger early drought response in Kenya. The research also found that system barriers comprising of indicator, timeliness and predictive capability had much less significance compared to the other set of system barriers related to interpretation, presentation and communication capacities of EWS. With a fifth significance ranking, institutional barriers also present a significant barrier especially implying that there is a huge amount of corrective action that these organizations can undertake to remove the barriers and enhance their effectiveness. This study recommends actions that include universal early trigger thresholds as well as system audits and repositioning to resolve some of the barriers. More research will however be necessary on how these barriers play out with regard to government and donor entities that were not included in the scope of this study.

# CHAPTER I: INTRODUCTION

## 1.1 BACKGROUND

In the year 2011, the Horn of Africa experienced what was termed the most severe emergency of its kind this century (Save the Children and Oxfam, 2012:3). The emergency was triggered by severe drought that led to a massive 13 million people, most of them women and children, falling at risk of death through starvation. At the peak of the crisis that continues even at the time of this research, estimates indicate that hundreds of thousands of people perished as a result of extreme hunger in the worst affected countries including Kenya, Ethiopia, Somalia and Djibouti. In Somalia alone, over 260,000 people died.

As the long-term effects of the dire humanitarian situation continue to unfold, the most disturbing fact about it is that it was not a sudden-onset disaster, but a crisis that unfolded despite having been predicted correctly by the region's early warning systems (EWS) as early as August 2010. Available evidence shows that forecasts of the impending disaster were released immediately following failure of the 2010 long rains (April – June) due to the La Nina phenomenon. In early November 2010, further predictions highlighted worsening trends occasioned by poor performance of the October – December short rains.

Similar to the case above, the early warning (EW) information and signals were not immediately translated to a timely response to save lives and livelihoods of the most vulnerable, even though it is documented that the cost of delayed response is often highly punitive. For instance, in the 2004 - 2005 Niger Emergency, WFP's initial food deliveries in February 2005 cost \$7 per beneficiary, but the response to the appeal was weak; by

August the situation had reached crisis, money began to flow, but the cost per beneficiary had risen to \$23 (Save the Children and Oxfam, 2012:9).

In December 2010, the EW predictions came true yet again. The Food Security and Nutrition Working Group for East Africa (FSNWG) was then prompted to set up a La Nina taskforce that recommended that “pre-emptive action is needed to protect livelihoods and avoid costly lifesaving emergency interventions.” Even then, review of secondary data shows that any significant response action only started with the multi-agency scenario planning that took place in February 2011, just a month before the release of yet another famine alert by the USAID-funded Famine Early Warning Systems Network (FEWSNET) in mid March 2011 (Save the Children and Oxfam, 2012:9-10). In this alert, FEWSNET warned that the prevailing situation was already alarming and would deteriorate further if the March to May rains were as poor as expected. In fact, FEWSNET stated that even average rains would lead to a critical food security situation until May or June, and predicted “localized famine conditions in southern Somalia.

The Save the Children and Oxfam report further documents that “the greatest tragedy is that the world saw this disaster coming but did not prevent it.” It adds that “early signs of an oncoming food crisis were clear many months before the emergency reached its peak....yet it was not until the situation had reached crisis point that the international system (including humanitarian agencies) started to respond at scale.” Unfortunately, this disaster is not the only one to befall the Horn of Africa countries; Kenya included (Save the Children and Oxfam, 2012:1-8). It is with this background that this study sought to explore the barriers in the application of EWS to drought crisis response by humanitarian agencies with operations in Kenya.

## 1.2 PROBLEM STATEMENT

Whereas Kenya boasts of advanced drought Early Warning Systems (EWS), there appears to be a significant problem translating Early Warning (EW) information into timely drought crisis response. Evidence of drought-related food distress and famine shows that even when EW information is available on time, humanitarian agencies are either caught by surprise or take too long to respond (Save the Children and Oxfam, 2012:3). Yet, early warning and response are components of a single system whose parts need to function in harmony to be able to save the lives and livelihoods of drought-affected people.

Since the early 1970s, there have been substantial investments in famine EWS (UNSDR, 2009:42). The most comprehensive of these investments was the FAO's Global Information and Early Warning Systems on Food and Agriculture (GIEWS) that was developed after the world food crisis of the early 1970s. The system has become the worldwide network for providing information on food production and security (UNSDR, 2009:42). It is now used in at least 115 countries, 61 NGOs and various other trade, research and media organizations in adapted forms. Intensive efforts in the last 20 years have also seen new systems developed. Other leading systems now in use in Sub-Saharan Africa include the USAID-sponsored FEWSNET and UNICEF's DevInfo implemented by UN Country Teams.

These developments have been extremely vital in enhancing the practice of EW and developing and refining new methodologies and approaches. However, late responses to drought crises continue to be prevalent even within the raft of improvements in EWS (Buchanan-Smith, 2000:6). The question that follows then is why does Kenya take too long to respond to a crisis it is aware of weeks or months in advance? Are there specific

systems-related, institutional and socio-political barriers that inhibit the application of EWS data to trigger timely drought crisis response by humanitarian agencies? In Kenya, too much weight is given to the food aid system as opposed to the national EWS (Save the Children and Oxfam, 2012:9). This situation mirrors that of the rest of the Sahel and Horn of Africa countries where there is a growing concern about the poor record of famine prevention, despite the quantity of resources allocated to it. The time has come, therefore, to shift the debate forward from a preoccupation with information and EW towards tackling constraints and barriers on the response side (Buchanan-Smith and Davies, 1995:10-11).

This study follows a similar study done by Buchanan-Smith (2000) and previous research done in Kenya that led to the publication titled “Famine Early Warning and Response – the Missing Link” where the disconnect between EWS and response action was seen as the missing link (Buchanan-Smith and Davies, 1995). In her study, Buchanan-Smith (2000: 3-15) explored factors that influenced how donor agencies apply EWS in drought response action. This study sought to explore the missing link in Buchanan-Smith’s own study – the influence of EWS on drought crisis response by humanitarian agencies that often work with donor agencies and governments to respond to disaster crises.

In addition, it is often the humanitarian agencies, not donors, which are at the forefront of mounting physical interventions such as distribution of relief assistance to drought crisis situations. Therefore, exploring barriers that impede use of EWS data to trigger drought response has a fundamental bearing on the quality of response as well as its timeliness, appropriateness and effectiveness. By so doing, this study aims to plug a gap in knowledge on how EWS and response play out from the focus of humanitarian agencies as opposed to donors and governments. This will then generate new knowledge for disaster management practitioners.

Furthermore, in their research, Buchanan-Smith and Davies portrayed NGOs as passive users of EWS and EW and contradicted themselves in terms of the role NGOs play (Buchanan-Smith and Davies, 1995:14). If NGOs were increasingly taking centre stage within the international relief system, why were they therefore portrayed as near-end users of the EWS in the EWS process and model of an information system? In reality, this is both inaccurate and not the case since NGOs as implementers often have a direct link with affected communities and are therefore significant actors that feed data and information into the EWS/Response continuum. In Kenya, NGOs play a major role in EWS by directly engaging in the seasonal and regular data collection, analysis and dissemination of information for decision-making. They also play the role of responding to the needs once data indicates the need for specific interventions. These roles clearly indicate that humanitarian agencies or NGOs are not just passive users of EW information but active participants throughout the continuum. This is one other missing link in Buchanan-Smith and Davies' own research and which this study is predicated on.

This study is based on the fact that EW information is reliable, timely and consistent. It is also based on the reality that there are clear processes for feeding the information into decisions about how and when to respond, and that there are clear and rapid response mechanisms in place in Kenya today. The study seeks to explore factors, including societal, political, logistical and systems-related factors that hinder the application of EW information to drought crisis response by the humanitarian agencies in Kenya. The study will help identify why it is not always used to its full potential. Findings of the study will be used to suggest ways to improve the current practice, in which case the EWS can be strengthened and timely drought crisis response enhanced by humanitarian agencies working in Kenya.

### **1.3 RESEARCH QUESTIONS**

This research seeks to answer the following questions:

- i) How do the barriers of EW indicators, timeliness, predictive capabilities of the EWS influence use of EW information for drought crisis response?
- ii) In what ways do interpretation, presentation and communication of EW information affect early response to drought?
- iii) In what ways does sustainability of EWS influence the EW – Response continuum?
- iv) What institutional barriers or issues impede use of EW information for early response to drought crises in Kenya?
- v) What political and logistical factors currently influence the application of EW information to drought response by humanitarian agencies in Kenya?

### **1.4 RESEARCH OBJECTIVES**

#### **1.4.1 Broad Objective:**

In broad terms, this study explores the systems-related, institutional and socio-political barriers that inhibit the application of EWS data to trigger timely drought crisis response by humanitarian agencies working in Kenya.

#### **1.4.2 Specific Objectives:**

The following are the specific objectives that this research will seek to achieve:

- i) To examine how EW indicators, timeliness and predictive capabilities of the EWS influence use of EW information for drought crisis response by humanitarian agencies in Kenya



- ii) To understand how EW indicators, interpretation, presentation and communication of EW information affect early response by humanitarian agencies in Kenya
- iii) To explore how sustainability of EWS influences the EW – Response continuum with regard to humanitarian operations in Kenya
- iv) To examine how institutional barriers and those related to use of EW information determine the success or failure of drought response in Kenya
- v) To explain the political and logistical factors currently influencing the application of EW information to drought response by humanitarian agencies in Kenya

## **1.5 JUSTIFICATION OF STUDY**

Given the increasing frequency and magnitude of drought-induced disasters in Kenya, the country cannot afford to fail to develop and apply efficient and effective EWS that rapidly influence decision-making among humanitarian agencies that are at the forefront in the response to drought-induced crises in the country. Efficient and effective EWS are characterized by being able to trigger a timely response before destitution is reached in order to protect lives and livelihoods of the most vulnerable.

To be able to do this, EW information should be translated rapidly into response action to save lives and livelihoods. However, this is not the case in Kenya, even though the country has some of the most advanced EWS in Africa and also has clear mechanisms to ensure that the EWS data feeds into decision making to make possible to respond swiftly. Nonetheless, evidence shows that like the case in many other Sub-Saharan countries, Kenya is ill-equipped to translate EW information into early response. This, therefore,

created an urgent and necessary need to explore the barriers that prevented EW information being used for decision-making among key responders to crises, in this case the humanitarian agencies hence the need for this study.

Research has also shown that in the country there are serious flaws in how the EWS is configured to address these barriers that prevent the EW/ Response system from meeting its goals. First and foremost, most attempts to improve early response have focused on improving the performance of one or two actors, or introducing new tools to achieve a better and faster response. Such interventions are needed, but only if they are part of a much more holistic approach to putting things right. Secondly, the actual performance of the Kenyan EW/Response system is far below what can be justified with the current capacity of individuals and organizations and with current knowhow (Abdinoor et al, 2011:21).

In many instances, attempts to address the imbalance have been directed at enhancing existing capacity. However, improving capacity is important, but on its own does not address how the actors in the system relate to one another, and the linkages between them. The whole system needs therefore to be investigated to remove the barriers and to draw ways of improving practice and performance. This inquiry therefore served as a means of exploring linkages that would resolve some of the existing problems while at the same time adding new knowledge and recommending new measures to improve practice.

## 1.6 SCOPE AND LIMITATIONS OF STUDY

This study only reviewed the application and influence of EWS to drought response by selected humanitarian agencies working in Kenya. The study focused on the humanitarian agencies mainly NGOs such as the Kenya Red Cross, World Vision Kenya and Save the Children who respond to the various crisis situations on the ground, based on their mandates and the humanitarian imperative. By so doing, this study aimed to explore the many concerns that cause the malfunction of the EW – Response continuum.

The study sought to examine how EW indicators, timeliness and predictive capabilities of the EWS influence use of EW information for crisis response by humanitarian agencies in Kenya. It also hoped to create an understanding on how EW indicators and the interpretation, presentation and communication of EW information affect early response in the country. Given that the EWS need to be self-sustaining and triggering, the study also explored how sustainability of EWS influences the EW – Response continuum while at the same time examined how indicator barriers and those related to use of EW information determine the success or failure of drought response in Kenya. Hopefully this would generate new knowledge to inform disaster response practice, an aspiration that the study also sought to achieve by understanding what political and logistical factors currently influence the application of EW information to drought response by humanitarian agencies in Kenya.

For purposes of narrowing down the scope, the research particularly explored barriers to the use of EWS in drought response by these agencies and not, for instance, by governmental or donor agencies as was the main focus in the study by Buchanan-Smith and Davies (1995). Nonetheless, this study was building on research done by Buchanan-

Smith and Davies in Ethiopia, Sudan, Chad, Mali and Kenya and the Overseas Development Institute (ODI) in the Horn of Africa countries including Kenya. However, unlike the earlier studies, the focus here was shifted from donors to non-governmental humanitarian agencies working in Kenya.

One most severe limitation to this study is scarcity of relevant literature available for review and comparison. As EWS are mainly computer-based systems, a lot of work on them is done on the internet and not in books to which reference can be made with ease. Most of the EWS are technology-based systems with limited literature available outside their own existence. The second limitation of the study is that the findings, based on a limited selection of humanitarian agencies, may not be extrapolated to all responders who tap into EW information. In social research, too small a sample size poses specific problems in representation of the whole population and thus increases the chances of unreliability or invalidity of generalizations (Mulwa, 2006:69). Further, the study does not address the issues related to the integrity or comprehensiveness or usability of EWS data, nor does it analyze the entire decision-making and response process. But to the extent that EW information forms the empirical basis for designing and targeting responses, it examined the relationship between EW information and response and attempted to make recommendations to strengthen linkages between them.

## **CHAPTER II: LITERATURE REVIEW AND THEORETICAL FRAMEWORK**

### **2.0 INTRODUCTION**

This chapter provides a review of relevant literature pertinent to this study as well as explores structural functionalism and systems theories to explain the various theoretical aspects important to the study. It also incorporates the conceptual framework that is used to ground this study and define various concepts of significance to the study. The chapter begins with the literature review.

### **2.1 LITERATURE REVIEW**

According to research done in Kenya and other countries in Sub-Saharan Africa, there are many barriers that influence how EWS are applied to drought crisis response. Through content analysis, these barriers can broadly be categorized into two sets of barriers – general barriers applicable to a large scope of the EWS-Response interface and specific barriers that research data can be collected from and accurate measurement done. The following literature review discusses these two categories of barriers and also links them to the various theoretical approaches and a conceptual framework used to interpret them for purposes of this research. The review begins with the general barriers to the EWS-Response interface here below.

### **2.1.1 General Barriers to the EWS – Drought Crisis Response Interface**

In Kenya, like many other developing countries in the world, humanitarian agencies often team up with affected communities to mount disaster responses. However, these responses are often delayed since EW data are not used to effectuate immediate and timely response. This in turn undermines the EWS and naturally renders them ineffective as famine warning mechanisms. In many cases, research has shown that EWS actually provide information but response action is still late.

In diagnosing the problem, a study by the ODI found that in the Horn of Africa, Kenya included, EW reports were not lacking, they were just not triggering response (Abdinoor et al, 2011: 2-8) leading to what the researchers termed a “system failure”. This is obviously important in the sense that to be effective, EWS “must be able to trigger a timely response, intervening before the point of destitution is reached, to protect livelihoods, before lives are threatened,” (Buchanan-Smith, 2000:3).

Research done in Kenya by ODI showed that there were a number of barriers to effective use of EW information to inform rapid crisis response. These factors included inadequate or delayed funding, inadequate policy or poorly defined policy actions to guide response, poor response planning and the country having no clear triggers for response action. These inhibiting factors were further compounded by poor infrastructure in areas often affected by drought and in some cases by internal NGO systems such as procurement that are slow to respond to crisis situations (Abdinoor et al, 2011: 6).

In other cases, research also showed that there is lack of prioritization of response action among internal competing priorities within organizations involved hence delayed response

action even when the EW information is available on time. Political factors such as lack of internal and external good-will as well as delayed declaration of emergency by the government further prevented humanitarian agencies from being able to proactively respond on time (Abdinoor et al, 2011: 6). These barriers gained even more prominence in cases where there were poor donor relations and a lack of pre-emptive dialogue between the humanitarian agencies and donors.

Findings by Buchanan-Smith (2000: 2-17) also showed that some of the major barriers to the EW - response interface were competing EWS by different actors seen as duplication of effort, mistrust if EWS are not jointly owned and therefore not respected by all and mistrust on credibility and the validity of EW reports. According to Buchanan-Smith, “research shows that who ‘owns’ EW information is critical to how it is used.” In her study, she found that “the source/ provider (of EW information) must be known and trusted” for it to be used to make response decisions and therefore give way to a crisis response. Highlighting the case of Ethiopia in the '80s and '90s under Mengistu's regime, she says donors set up their own parallel EWS, “only trusting the assessment carried out by FAO and WFP, even though, in some years, this merely confirmed the figures of the national EWS.”

In some cases, little quantified understanding of impact of crisis on livelihoods was seen as the missing link in EW- response continuum. This was particularly a great limitation in cases where the EW was limited to meteorological factors as opposed to livelihood issues such as the government-run EWS in Kenya hence making activation of EWS occurring after emergency has started (Abdinoor et al, 2011: 7). Further, poor information flow between the field and the centre where decisions are made e.g. at headquarters of humanitarian agencies and having a no common understanding of EWS and their function offered even more barriers. EWS in some research were also found to be not community-

geared with regard to information being collected and shared hence dealing a further blow to the EWS – response interface (Abdinoor et al, 2011:7-8). These factors then lead to a situation where EWS malfunction at the most critical time when they are meant to give timely and effective information.

The International Institute for Rural Reconstruction (IIRR) and the Catholic Organization for Relief and Development (Cordaid) define EW as “the provision of timely and effective information through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response,” (IIRR and Cordaid, 2007:23). This definition clearly articulates the linkages between EW and response. The assumption made here is that EW actually leads to rapid decision making that leads to early response to avoid disaster or reduce risk. According to Neefjes, this correlation is essential since EW is particularly geared towards preventing disaster such as famine that is an outcome of “a complex web of factors that reduce the entitlement to food of particular groups of people” (Neefjes, 2000:37). But as stated earlier, EW information has not often translated into early response, hence the need to study and possibly resolve the barriers that inhibit them playing this important role in crisis response. This is critical to giving EW the edge it needs to inform early crisis response.

Distilled from extensive research findings from Kenya among other countries in the Horn of Africa, EWS are seen as a system of data collection to monitor people’s access to food, in order to provide timely notice when food crisis threatens and thus to elicit appropriate response (Buchanan-Smith, 2000:2). In coming up with this definition, Buchanan-Smith made a critical assumption that EWS are capable, at a minimum, to trigger an appropriate crisis response. However, this assumption is not always correct. In her own research on early warning and crisis response by donor agencies, she found that there are factors that



severely affect how EW information is used to make decisions for early response. These include ownership of EW information, clarity and consistency of EW messages, interpretation of EW information, donor bureaucracies and other political factors (Buchanan-Smith, 2000:4-17). Some of the factors entirely affect use of the EW information. This is particularly the case of ownership of the EW information.

According to research done by Buchanan-Smith and Davies (1995) and on which this study predicated, famine prevention has remained elusive because better prediction has not led to corresponding improvements on the response side. The missing link according to Buchanan –Smith and Davis is *between the provision of EW information and the use of that information to trigger a timely preventive response* (Buchanan-Smith, 1995:1). In their research, they found that the key reasons underlying the failure to use EW information for a timely response were that the EWS was not sufficiently vociferous; the information was inappropriate, late or untrustworthy; donors were ill disposed to help a particular government; adequate resources were not available; institutional and logistical obstacles overwhelmed good intentions; and that the domestic political will to react was lacking. While these findings are true, Buchanan-Smith and Davis (1995) limited their study mainly to how these barriers play out among government and donors. *This focus critically left out the analysis of how these barriers affect the utilization of EW information to trigger responses by humanitarian agencies. This, therefore, created a huge research gap in the study by Buchanan-Smith and Davies, hence necessitating this study aimed at plugging the research gap in order to generate new knowledge to inform disaster response action in Kenya.*

### **2.1.2 Specific Barriers and Emerging Research Gaps:**

In section 2.1.1 above, the general barriers that prevent application of EWS to response have been discussed. These barriers have been drawn mainly from the regional, and not country-specific, research done in the vast Horn of Africa and the Sahel regions. However, they left serious gaps that this research sought to fill. To begin with, these barriers were derived from research in the whole of these regions and cannot therefore be accurately generalized to be the case specific to the Kenyan context. Secondly, these barriers were researched on how they affect operations of governments, donors and NGOs in general. This assumption is critically fatal and misleading because the context of each of these actors in application of EW to response action differs significantly. Therefore, this study aimed to plug this gap and specifically explore how the specific contextual barriers apply to humanitarian agencies. Thirdly, research on all these barriers does stop at defining the barriers but not identifying specific action that humanitarian organizations need to take to plug the gap between EW and response. Instead the researches give overall recommendations to all actors – governments, donors and NGOs. The assumption here is that each of these actors will find the recommendations applicable to their case. This is not true and therefore this generalization leads to a self-defeating assumption.

In reality, evidence of failure of this assumption can be seen in the continued malfunction of the EW – Response interface we continue to witness to-date, years after these innovative studies were conducted. If their recommendations were clear and triggered appropriate action we could be seeing some significant change of practices. But the specificity of contexts makes the application of their findings for humanitarian organizations difficult hence the need for this research to plug the gap. This study, therefore, aimed to actually

make specific and practical recommendations that can be used by humanitarian organizations to ensure that EW triggers early action.

In application of EWS to response, contextual factors such as type of organization are important to how these barriers affect use of EW to trigger early response. This means that the barriers have to be narrowed down to specific cases where they can be analyzed at a micro level that is in sync with the type of organization in question. To do this, these barriers have to be categorized into specific clusters that relate to the practical operations of such organizations, in this case the humanitarian organizations operating and responding to drought crises in Kenya.

Furthermore, of all the researches reviewed in section 2.1.1 above, the exploratory one for Buchanan-Smith and Davis (1995) was perhaps the closest to dealing with contextual factors in Kenya, even though a lot of cases were drawn from only one district - Turkana. However, this research is almost two decades now and a lot of contextual changes have happened in the country since then. To begin with, for instance, the Kenya Food Security Steering Group (KFSSG) that significantly shaped drought response in the country was formed several years later. Secondly, the political dispensation in Kenya has changed significantly, ushering in devolved systems of governance since the promulgation of the new constitution in August 2010. Some of these systems have now taken on drought response action in their mandates.

Thirdly, the country now has a National Drought Management Authority (NDMA) that works with humanitarian organizations to respond to EW to institute early action. This was not the case then when the research was done. Fourthly, and finally, drought continues to ravage this country even at the time of this study hence suggesting that there are still serious

barriers that need to be studied to ensure that EWS truly serve their function of helping the country to trigger early response actions that save lives and livelihoods before destitution is reached. This study therefore hoped to shade new knowledge and insights into the application of the EW – Response framework and particularly investigate the prevailing anomalies.

Thus, analysis of the Kenyan case studies included in the studies by Buchanan-Smith and Davies (1995) and other case studies in Kenya reviewed in this chapter raises a lot of valid research gaps important for this study. These gaps are linked to the reasons why EWS are not always able to trigger a timely response, as was the objective of the study. The following is a summary of the four specific categories of barriers that lead to the failure of the EW/ Response continuum contributing to a situation where EWS malfunction at the most critical time when they are meant to give timely and effective information to trigger the much desired and needed early response action:

#### **2.1.2.1. Barriers Related to the EWS themselves (system-related barriers):**

Upon critically examining research evidence, Buchanan-Smith and Davies found that the key factor why EW information is, or is not, used first has to do with the EWS itself and the information provided. The leading factor explored here is especially the internal working of the EWS, with emphasis on the scope of the indicators, accuracy of the data and timeliness of the warnings to inform rapid decision-making to trigger a timely response. On the basis of research evidence, Buchanan-Smith and Davies (1995) further broke down system-related barriers into four sub-barriers. These are discussed here below:

#### **2.1.2.1.1. Timeliness and predictive capabilities of the EWS:**

In the case of Turkana EWS, particularly in 1992, evidence reviewed by Buchanan-Smith and Davies (1995) showed that the EWS seemed to lose its edge in terms of predictive capacity. The signals emerging from the EWS in its bulletins did not convey an adequate sense of seriousness of the food crisis developing, nor of the likely sequence of events leading to famine (Buchanan-Smith and Davies, 1995:186). The bulletins for the second and even the third quarter of 1992, when the last stage of “emergency” had been reached and there were already signs of famine, expressed the need for food assistance in very general terms without clear and compelling messages or detailed recommendation on which plans could be based (Buchanan-Smith and Davies, 1995:187).

As expected, EWS malfunctioned at the most critical time bringing us to the question; do the bulletins or public releases by the current EWS used in Kenya convey the sense of urgency to act so as to avoid the repeat of the huge delays in response witnessed in Turkana in 1992? If yes, what feature of the bulletins and releases convey this urgency (seen in terms of the format, presentation, details, summarized information) for busy decision-makers especially among humanitarian agencies? If not, what needs to be done differently or improved on?

#### **2.1.2.1.2. Interpretation, presentation and communication of EW information:**

In the Turkana case study, the other reason for the failure of the EWS to trigger a rapid response was because of the poor presentation and communication of EW information to decision-makers. Since TDCPU's warnings were not communicating the urgency to act the

interpretation was also for a lackluster response since the EW information was not showing any need for urgency to respond. The recommendations were also not that precise and urgent. With this, there was a huge delay to respond to the 1992 crisis as opposed to the 1990 and 1991 cases. Incidentally, the failures in 1992 are still evident even in the current responses to drought crises in Kenya as shown in the background and problem statement to this research.

Examining evidence in this case study brings us to the vital questions that needed to be answered. Do decision-makers in humanitarian agencies find the format of EW bulletins, websites or other media friendly for use in decision-making? If yes, which of these media do they find most useful as a preferred source of information for urgent decision-making? Do they as decision-makers within the EW/Response continuum find EW data or information easy to interpret to help them make a quick decision? If yes, what do these decision-makers find most useful in helping them to interpret EW data or information? If not, what needs to be done to improve uptake and use of EW data and information for decision making for early response?

#### **2.1.2.1.3. Sustainability of EWS:**

In case studies by Buchanan-Smith and Davies (1995) in Kenya, Sudan, Ethiopia, Chad and Mali, one common theme that runs in all these cases is financial sustainability of the EWS. Properly set up EWS should be sustainable and have a guarantee for funding their operations. According to the two researchers, this will avoid costly targeting errors in responses and will therefore be a “small price” to pay for better responses to drought crises. The researchers state that without timely and reliable information the response is

sure to be late and the costs of launching an emergency operation at the last minute much higher. Without good information, it is almost impossible to attempt a cost-effective targeting. Maintaining a strong information system is a small price to pay to prevent the waste of resources in relief operations which are not directed and planned on the basis of reliable data (Buchanan-Smith and Davies, 1995:188).

The questions regarding the sustainability of EWS, therefore, were: first regarding the system sustainability, how can EWS be sustainably funded in a climate of dwindling donor support? What is the role of humanitarian agencies in advocating for and supporting EWS? How can the systems be self sufficient in raising funds needed for their operation? Would there be possibility, for instance, to charge users of information for EWS costs? Second, regarding institutional location of EWS, does it matter the department or organization where EWS are situated? If yes, what matters and how? How can EW information uptake be improved regardless of where they are located?

#### **2.1.2.1.4. Indicator Barriers and those related to use of EW Information:**

In 1990, it was remarkable that EW information showing fluctuations in environmental indicators alone was sufficient to trigger a response - the launch of the Emergency Livestock Programme (ELP) in Turkana, Kenya. This is quite different from the case studies in Chad and Sudan, where evidence of human stress was the most influential trigger when other indicators had failed. In both Chad and Sudan, key decision-makers witnessing human stress firsthand, and high malnutrition rates, played important advocacy roles in speeding up a sluggish response.

In Turkana, an EW bulletin in mid-1990 which warned of an imbalance between natural resources and livestock numbers was regarded as sufficient evidence for the ELP to be launched, even though no deterioration in livestock indicators was shown until September. Nor was there a deterioration of nutritional status among people throughout this period: indeed in mid-1990 it was reported that malnutrition rates were declining. This is an example of a genuine, yet rare attempt to protect livelihoods before lives are under threat (Buchanan-Smith and Davies, 1995:189). Two principal reasons were given for this preventive intervention.

First, the district-level decision-makers were close to the situation to which they were being asked to respond. They were more in touch with the problem, and in the absence of other obstacles it took less to convince them of the need to take action, compared to officials hundreds or thousands of miles away who have to take decisions about an area with which they are less familiar with or in touch – a situation typical of national and international EW and decision-making systems (Buchanan-Smith and Davies, 1995:189).

With this finding, this study was more interested to understand how this dynamic plays out now. In particular, this study aimed to explore whether or not this is the case in Kenya now. Further, the study sought to understand whether or not this is the case with centralized EWS run from Nairobi by humanitarian agencies, the government and other actors at present. The study also aimed to answer the questions: which sources of EW information and EW indicators do they rely on to make this decision – local, national or international? Which one of these do they trust the most and why? Do they have a standing allocation of funds for unforeseen emergency responses when specific indicators show the need for specific action?



### **2.1.2.2. Institutional Barriers**

The second set of barriers is that incorporating the institutional contexts within which the EWS sits, and the institutional links to decision-makers. In this case who owns the EWS and provides EW information is critical to its use for decision making. In the case of the Turkana famine of the early 1990s, TDCPU as the secretariat for the DMC took initiative to call ad hoc DMC meetings whenever there were important messages and recommendations to be conveyed. TDCPU established a reputation of high credibility, and was in command of data and information which were available nowhere else within the district administration. This facilitated its recommendations becoming decisions in times of stress (Buchanan-Smith and Davis, 1995:191).

In 1991, the DMC immediately endorsed the TDCPU's assessment of the food crisis in Kakuma Division, including its estimate of the people in need of assistance, without any time-consuming crosschecking or duplication of effort. But during the much more serious 1992 drought, when the government was reluctant to acknowledge impending famine, the DC was party to this line and did not heed the early warnings until late into the crisis, in effect immobilizing the decision-making role of the DMC as well as paralyzing actions of humanitarian agencies. This led to a much larger crisis that led to loss of lives and livelihoods. These findings beg of us to explore what the situation is at present. Are there changes in the institutional barriers or issues impeding use of EW information for early response to drought crises in Kenya? How does the current aid structure support or impede use of EWS in decision-making for drought responses in Kenya? How can current practice be improved?

### **2.1.2.3. Political Barriers**

The third sets of barriers are those to do with the broader socio-political environment. According to Buchanan-Smith and Davies, it is not the severity of the crisis, but relations between international donors and national governments which tends to be the single most important determinant of the timing and scale of the international response (Buchanan-Smith and Davis, 1995:2). Citing the case of the southern Africa drought response in 1992-3, they say that the national capacity to respond, the desire of the donors to keep structural adjustment programmes on track and a determination to avoid further political unrest in the region conspired to create a timely response by the international relief system. The same did not combine to trigger a timely food crisis response in the Sahel region in 1991 (Buchanan-Smith and Davies, 1995:3). But this focus on government and donors was the other missing link in their study. Leaving out the humanitarian agencies in studying application of EW information to disaster response was a critical missing link that only looks at a segment of the whole picture in the EW-Response interface.

Findings of research in Kenya showed that changes in the Kenyan political context between 1990 and 1992 were probably the single most important factor explaining why the EW/Response system worked well in the first two cases in 1990 and 1991 in Turkana, and much less so in the third in 1992 (Buchanan-Smith and Davies, 1995:192). In 1990 and 1991 where the response was district-based, the local political environment was relevant and conducive to a timely response. Resources were available, good relations existed between aid representatives in Turkana and the district government, and the latter was willing to act swiftly.

In 1992, the political context was different. The drought coincided with the run-up to the December 1992 multi-party elections. At both local and national levels, government officials

and politicians were reluctant to admit that there was an impending famine for fear that it would reflect badly on the performance of the ruling KANU party. Early warnings were played down. Thus, high-level district officials in Turkana paid little attention to the TDCPU's EW information and, as part of government, the unit was constrained in the extent to which it could raise the alarm and use other channels for communication. It was not until June 1992 that the President made an international appeal for assistance. This delay hindered the response of UN agencies, such as WFP, which needed government approval before an appeal could be made to international donors for relief.

A second important factor is the politics of international aid. During the early 1990, the clamour for multi-party democracy in Kenya reached fever-pitch with various opposition groups getting international support to push for reforms in the country (Buchanan-Smith and Davis, 1995:192). The KANU regime was facing stiff opposition both internally and externally from the growing numbers of entities pushing for political reforms in Kenya. This period also coincided with the coming to an end of a particularly well-funded period of aid programmes and projects. An example of this is the sudden phase out of the ELP in Turkana that was funded by WFP and the last of the NORAD funding. For this project, the collapse of the relations between Kenya and Norway in the early 1990s was the last nail on the funding coffin. Even though WFP funds were available and were used to scale up the FFW programme in Kakuma Division in 1991, even these resources were rapidly dwindling setting the stage for an unprecedented crisis in mid 1992.

The run-up to this crisis also witnessed many aid programmes being suspended by Western governments from November 1990 with the hope of pressing the Kenyan Government to move to multi-partyism, to hold a general election and to improve its human rights record (Buchanan-Smith and Davies, 1995:193). As Murphy's Law would explain,

these events in nature were conspiring to create an incredible result, a situation which devastated many lives in Turkana and other ASAL districts such as Wajir that were facing acute food crises. By the time of the 1992 drought, Kenya's relationship with Western donors had deteriorated. They were slow to respond to appeals for Kenya's food crisis when attention was diverted to other parts of the world.

At the same time, international agencies receiving the TDCPU's bulletins in Nairobi were not well disposed to taking action on its warnings" (Buchanan-Smith and Davis, 1995:193), even when the local media, led by The Nation and The Standard played an immense role in highlighting the crisis and speeding up the response. Nevertheless, by the time the stories hit the press, it was already too late. In no way were these stories a form of early warning.

As Kenya currently settles into a new form of government characterized by the national and devolved governments, it is imperative to ensure that the EWS/ Response process is clearly defined to allow for complementarity and reciprocity in implementing respective mandates. The balance of power is critical to ensure that both levels of government clearly participate in use of EW information for decision-making as well triggering early response. At a bare minimum, the balance of power should seek to ensure that the ability to respond (defined by funding, staffing and other resources) is always at equilibrium between the two levels of government. When the balance of power is upset, disaster response by both levels of governments will be lackluster, delayed and unmatched to the scale of crisis.

The idea of decentralized decision-making should be accompanied by the commensurate decentralization of resources – financial, logistical, human, material or otherwise to allow for an appropriate early response action by the county governments for disaster episodes within their jurisdiction. This thinking is premised on the fact that disaster management is

an issue of national security and that no civilized entity can claim its authority morally unless it is able to prepare and respond appropriately when the lives of its citizens are threatened (Buchanan-Smith and Davies, 1995: 194).

According to the findings of the research in Turkana Kenya, a local-level system seems to be better able to recognize the interaction between relief and development needs, while the international system sharply compartmentalizes relief from other forms of aid for procedural, political and logistical reasons. But it is unlikely that a local system will ever have sufficient resources to cope with more than a localized problem (Buchanan-Smith and Davies, 1995:201). In all the cases studied by Buchanan-Smith and Davies (in Ethiopia, Darfur Sudan, Chad, Mali and Turkana Kenya), none of the EWS failed to sound the alarm; it was the response system which failed to take heed sufficiently early and therefore to provide timely assistance. Even in Sudan, the under-resourced EWS provided clear signals early on that large amounts of relief food were needed, although it was unable to carry out more refined monitoring later in the year (Buchanan-Smith and Davies, 1995:204). These findings beg some questions and answers that this study was interested in. What political factors currently influence the EW/Response continuum in Kenya? What political factors currently influence how EW information is used to make decisions for drought crisis response by humanitarian agencies in Kenya?

#### **2.1.2.4. Logistical barriers**

The last group of barriers is the logistical obstacles to launching a timely and adequate response. In their research, Buchanan-Smith and Davies found that many countries in the Sahel and the Horn of Africa, Kenya included, relied heavily on the international relief

system to provide resources to run relief operations in times of food crisis. National governments rarely had the adequate resources and capacity to respond. Donor agencies and humanitarian agencies, the key actors within the international relief system, had been particularly the ones providing the resources, expertise and the logistical capacity for response (Buchanan-Smith and Davies, 1995:2). Of great significance, the researchers found that the international relief system responds to famine once it is underway but is ill-equipped to respond to genuinely *early* warning, to intervene in time to prevent it. The research question to be answered here then was: how are these logistical barriers influencing the application of EW information to early response by humanitarian agencies in Kenya?

## **2.2 THEORETICAL FRAMEWORK**

### **2.2.1. Structural Functionalism Approach**

As society interacts with the physical environment, there are inherent risks that need to be addressed through a raft of strategies or other measures in order to make it possible to realize societal goals (Adams and Sydie, 2002: 90). The components of society (institutions, policies and other ingredients) must function optimally to ensure the proper function of the whole. It is through this functional interdependence that the social system is able to meet the goals of a society, such as the Kenyan society, that is rapidly progressing from simple to complex (Adams and Sydie, 2002: 90-97).

Structural functionalism begins with the observation that society is structured and that the relationships between members of society are organized in terms of rules and function.

According to Haralambos (1980:10), functionalist analysis turns into a consideration of how structure functions. This involves the examination of the relationships between different parts of the structure and their relationship to society as a whole. From this examination, the functions of institutions are discovered, reinforced and upheld for posterity.

Additionally, structural functionalists believe that an analysis of the things – the structures, and particularly the functions – that a social system needs to survive are extremely critical. According to Ritzer (1992: 238), functional prerequisites are characteristics that a society must have to survive. Ritzer believes that a society must have an adequate method of dealing with its environment in order to survive. A society must be able to extract from the environment what it needs to survive. However, this extraction should not be done at the expense of future subsistence exemplified by destruction of resources (Ritzer, 1992: 238).

At its simplest, function means effect. For instance, the function of the family is the effect it has on other parts of the social structure and society as a whole. Similarly, EW institutions are seen in the effect they have on the social system, for instance in helping the country predict deterioration of food security due to drought for a possible early response to avert suffering among the most vulnerable members of society. In practice, therefore, the term function is used to indicate the contribution an institution makes to the maintenance and survival of the social system. In determining the functions of the various parts of the social structure, we are guided by the idea that societies have certain basic needs or requirements which have to be met if they are to survive (Haralambos, 1980:10). These requirements are known as functional prerequisites.

From a structural functional perspective, society is regarded as a system, an entity that is made up of interconnected and interrelated parts that function together to ensure the

survival and maintenance of the whole. According to Haralambos (1980:11), for the social system to survive its various parts have to possess some degree of fit and hence at least maintain a minimal degree of integration between the parts in order for them to function optimally. In the case of famine EWS in Kenya, the various components of the system themselves as well as other institutions charged with the responsibility of collecting, analyzing, disseminating data need to play their respective roles for EW signals to be picked and used proactively to trigger drought crisis response to avert suffering. In this way, the society will meet its functional prerequisites necessary for its survival attained through not just the integration of the parts but the optimal functioning of these parts to further the existence and objectives of the whole.

### **2.2.2. Systems Theory Approach**

In studying social systems, Adams and Sydnie raise important questions that are also important to this study: what does the system do? What and whose needs does it meet? What is its purpose? How does it work? What function does it perform? (Adams and Sydnie, 2002:345). These questions are in line with the thinking of structural functionalists such as Kingsley Davis and Wilbert Moore who tend to see the components of the system as contributing positively to its continued operation. Structural functionalism in this case is seen to be concerned with the relationship of one part of the system to another. Furthermore, the parts of the system, as well as the system as a whole, are seen as existing in a state of equilibrium, so that changes in one part lead to changes in other parts (Ritzer, 1992:235). More importantly, the changes in parts may balance each other in the quest to achieve the requisite equilibrium that ensures that the system is still able to meet its goals.



In this regard, a society should be able to maintain its existence and the requisite population-environment equilibrium to be able to guarantee its survival. This is the role EWS help societies to play. As societal resources, EWS monitor various indices including environmental indicators of the nature and rate of extraction of goods needed for human survival. The system is oriented to sounding an alarm when these indicators fluctuate outside of normal ranges and therefore portraying a threat to the survival of populations in the affected areas. This is the primary functional role that these systems (EWS) play. However, in cases where EW warnings are not heeded or used to take corrective action the result is a malfunction of the system and functional disintegration of the social system. This is the case when EW information is not acted upon on time thereby leading to a situation where drought-induced famines wipe out vulnerable members of society through starvation or related causes of mortality such as associated communicable diseases.

When extrapolated to the Kenyan social system, there are several actors that interact with the EWS. These include donors, humanitarian agencies and governmental agencies such as line ministries. Because of the nature of fluid interactions between these components of the system, each of them needs to function optimally so as to maintain the requisite equilibrium needed for social systems. In other words, for Kenya to be able to address the drought-induced food crises it faces recurrently, and most especially EW information being a trigger for early response, the various parts of this system need to deliver their parts to make the whole function to the fullest extent possible. However, evidence shows that EWS in Kenya have not been better triggers for timely disaster response necessary to save lives and livelihoods prior to destitution being reached. Hence, there is need to explore further both Kenya's social system as well the EWS to understand their interactive influence on

each other (Abdinoor, 2011:6-8). Nonetheless for purposes of focus the study used humanitarian agencies as a research focus.

### **2.2.3. A Framework for Understanding EW – Response Continuum**

This study is a macro-level sociological analysis of the Kenyan social system with regard to its performance in meeting societal goals, most importantly those related to the use of EWS in response to the prevalent drought-induced food crises in the country. Using a structural functional perspective and systems theory as a guide, the study delves into a social system envisaged by Adams and Sydie and authorities in the field of EW and seeks to explain how the EWS influence drought crisis response within the Kenyan social system. EWS are a vital part of decision-making to trigger a timely response in a functional social system that seeks to meet the needs of its vulnerable members. For these systems to work effectively, information from them needs to be channeled to enable appropriate response action to be taken on a timely basis in order to save lives and livelihoods.

As mentioned earlier, Kenya's EWS are well developed systems that would ordinarily help the country to preempt the food crisis induced by drought. However, the systems do not effectively play this important role, at least in as far as use of the information to trigger a timely response is concerned. This is because there are significant institutional, logistical, system-related and political barriers that prevent the systems from meeting this goal. Consequently then, this study sought to examine these barriers and possibly make recommendations on how to resolve them.

For purposes of research design (data collection, analysis and interpretation of findings), this study borrowed a conceptual framework designed by Buchanan-Smith and Davies

(1995:3-6). This model is a theoretical spiral of famine and its linkage with EWS. This framework is the most applicable to this study because once the research data clearly identified the reality of the factors that inhibit the peak performance of EW – drought response continuum, then it can specifically pin point the “nodes” or points in which action needs to be taken to ensure that EW data informs decisions by the humanitarian agencies responding to drought crisis situations.

In other words, if the barriers are clearly mapped, it would be clear at which point of the spiral to famine that humanitarian agencies will act to institute timely response. As found in the literature review especially earlier on covered in this chapter, humanitarian agencies often respond to drought crisis after destitution has been reached in most cases. The case study of Turkana in 1992-4 is a classic example of this situation. The same case happened in 2011, two decades later as documented in the publication by Save the Children and Oxfam discussed in the background to this study.

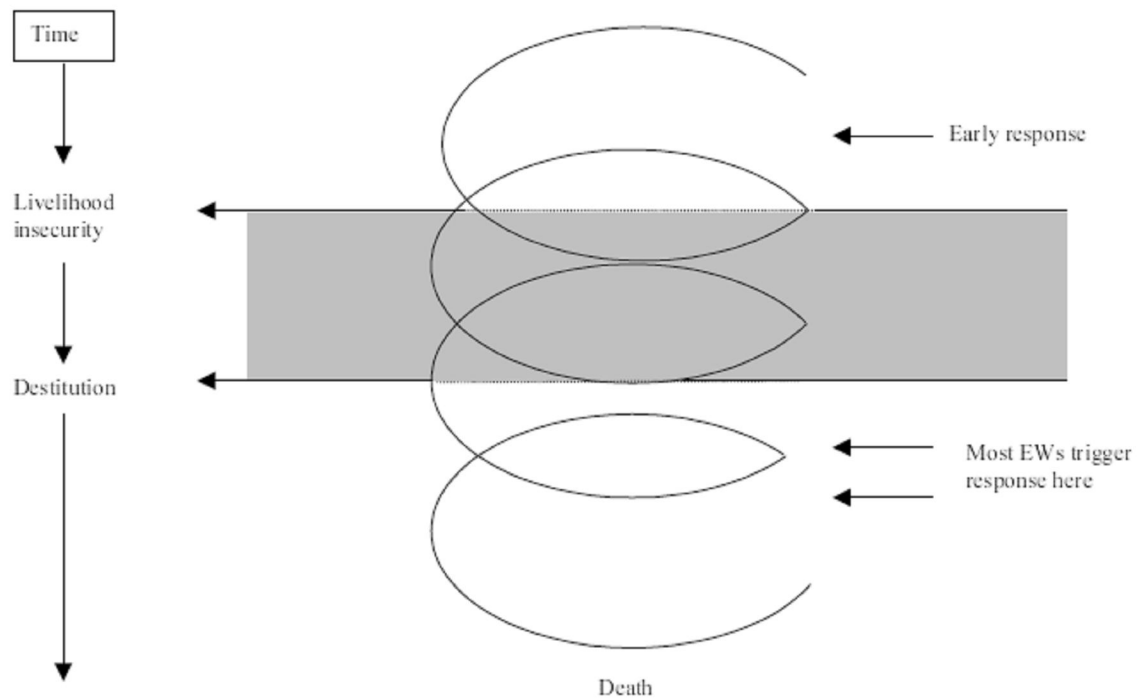
On another note, while this study sought to understand the relationship between EWS and drought response, it is important to note that famine especially in Kenya is the outcome of a spiral of drought that worsens over time and devastates lives to the scale of famine. This, therefore, illustrates that drought, as one of the causal hazards of a famine disaster has an extremely intimate connection and links to famine hence application of the famine spiral conceptual framework to the EWS- drought response continuum. Furthermore, it is also important to note that many of the EWS currently in existence in Kenya and most parts of Sub-Saharan Africa were mainly designed to prevent famine hence their being called “famine early warning systems.” This further illustrates the fluid relationship between drought and famine and the interface between them and EWS.

## **2.3 CONCEPTUAL FRAMEWORK**

### **2.3.1. The Famine Spiral Framework:**

As dealt with in sub-section 2.2.3 above, this study therefore aimed to apply the famine spiral framework to understand the factors that impede the performance of the EWS in triggering a response before destitution is reached, and the factors that enable or disable early response triggers using EW information already in abundance within Kenya's EWS and among humanitarian agencies. The study also hoped to explore and understand the strengths and weaknesses of EWS in being response triggers that would help improve the application of the conceptual framework to prevent destitution and famine caused by drought in Kenya. In particular, the study aimed to make recommendations that would improve practice by suggesting ways that will help EW information to be triggers of response at the correct time illustrated in the framework below (before livelihood insecurity is reached) as opposed to the current practice where EW information triggers response after destitution, when it is already too late. Below is the original conceptual framework adapted to the study and but modified following the critique below and the need to shift framework from the focus on identifying the response timing to graduated response action:

**Figure 1: The timing of response in the downward spiral of famine**



Source: Buchanan-Smith and Davies, 1995

### 2.3.2. Critique of the Famine Spiral Framework:

*A Critique of Buchanan-Smith and Davies (1995) conceptual framework and its adaptation and modification to suit the purpose of this research:*

In their conceptual framework illustrated above (Figure 1), Buchanan-Smith and Davies indicate that most EW signals trigger response only after destitution has been reached (Buchanan-Smith and Davies, 1995:14). In particular, the framework merely points out at

what stage the response action is initiated by the responding entities as a result of EW triggers. The focus of the framework is therefore towards identifying when early action is supposed to start and compare this to actual practice as per their research findings. In their case, therefore, there is much more emphasis on marking the timing of response and not necessarily the scale of response action that can reverse the direction of the spiral to destitution and eventually death of the most vulnerable.

The other gap in the framework by Buchanan-Smith and Davies (1995) is in reference to the role of the humanitarian agencies. The framework portrays humanitarian agencies or NGOs as passive users of EWS and EW information. This contradicts the role humanitarian agencies play in the EW-Response interface. If these agencies were increasingly taking centre stage within the international relief system, why were they therefore portrayed as near-end users of the EWS in the EWS process and model of an information system? Often, humanitarian agencies (NGOs) work with government and donors to mount response as EW information and signals are received. This means that at any one time the agencies are engaged in responses, even though most of these are late compared to the time EW signals are received. This is therefore a conceptual gap that this research seeks to fill by proposing a *Graduated EW-Response Framework* as described here below.

### **2.3.3. Graduated EW- Scaled Response Framework**

From secondary and field data, this research has found that there is overwhelming evidence that indicates that the humanitarian agencies, as implementers and users of EW information, at any one time are responding to the needs of the communities they serve and do not just wait until destitution has been reached before triggering a response. Field

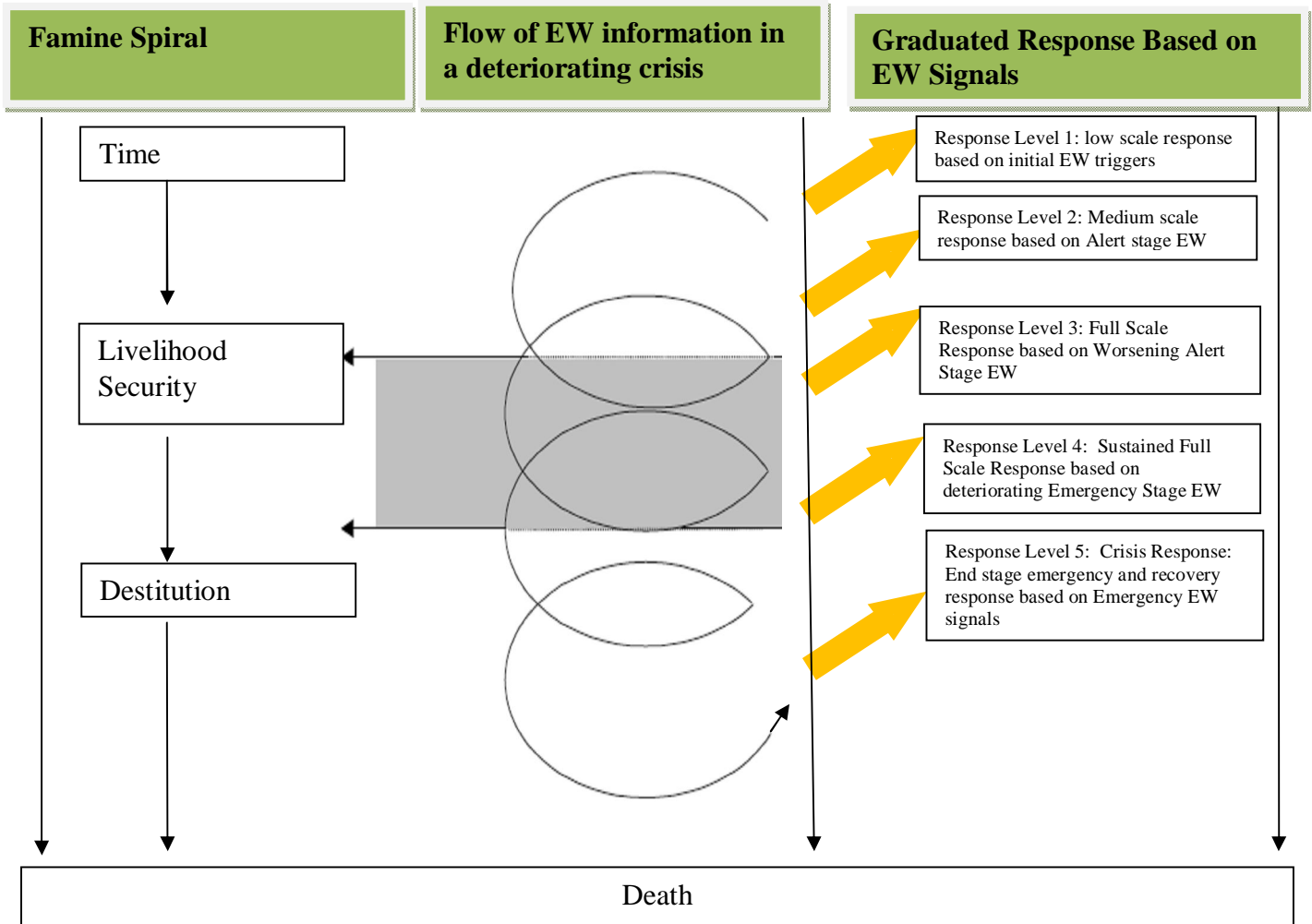
data also shows that what has led to EW information not triggering a response at the required scale has to do with the technical and logistical capacity of these agencies to use the information on time and marshal sufficient resources for a more urgent and effective response. This means that the conceptual framework in practice has all elements of response going on both during early response stages (before destitution is reached) to the later stages when the situation spirals into famine and eventual death of those vulnerable.

Field data also shows that in Kenya, these agencies (humanitarian) play a major role in EWS by directly engaging in the seasonal and regular data collection, analysis and dissemination of information to decision-making. This means that response can be graduated to match with the scale of EW signals throughout the EW-Response continuum if the framework is modified to show “nodes” of response where new response action can be initiated and scaled up based on EW signals. Applying this graduated response model to match the threshold of EW signals will therefore remove the view in Buchanan-Smith and Davies’ model of seeing humanitarian agencies or NGOs as passive users of EW information instead of active participants throughout the continuum. This will plug the gap in Buchanan-Smith and Davies’ own research and conceptual model.

In this proposed conceptual framework, the emphasis is to ensure that the graduated response by humanitarian agencies across all the spiral are strengthened by increasing the technical and logistical capacity of these agencies to use EW signals to trigger a response to avoid famine all together. In particular, the graduated response based on EW triggers will reverse the direction of the spiral towards destitution to recovery as response action is increased and done on time to match the needs. In this case, destitution will no longer be an automatic trigger for response action but instead a marker of scale only reached when the whole system fails. This study therefore has proposed this amended form of the original

conceptual framework in Figure 1 above to increase its effectiveness. This proposed framework is illustrated in Fig 2 below:

**Figure 2: Graduated EW- Scaled Response Conceptual Framework**





## **CHAPTER III: STUDY METHODOLOGY**

### **3.1 INTRODUCTION**

This study was a form of applied research aimed at finding a solution to the problem of EW signals perennially failing to trigger early response action to drought-induced disaster in Kenya. According to Kothari (2004: 3), the central aim of applied research is to discover a solution for some pressing practical problem, where basic research is directed towards finding information that has a broad base of applications and thus, adds to the already existing organized body of scientific knowledge. Therefore, this study aimed not just to add new knowledge to the existing body of knowledge but make practical recommendations that can resolve the recurrent malfunction of the EW – Response continuum.

In terms of the research approach and methodology, this study was largely qualitative in nature and mainly collected and analyzed qualitative data. In social research, the qualitative approach is concerned with the subjective assessment of attitudes, opinions and behaviour (Kothari, 2004:5). The research in this situation is therefore a function of the researcher's insights and impressions. Thus, such an approach to research therefore "generates results either in non-quantitative form or in the forms which are not subjected to rigorous quantitative analysis," (Kothari, 2004:5). Accordingly then, any quantitative data collected such as on gender disaggregation of key informant interviewees would then be subjected to a simple quantitative analysis and results presented in appropriate graphs. Nonetheless, the study still remained largely qualitative in nature. The following sections define other aspects of the methodology applied, beginning with the site selection and description.

### 3.2 SITE SELECTION AND DESCRIPTION

Research seeks knowledge about phenomena that occur in specific populations (Mugenda, 2011:181). Site selection as a key component of research design in sociological research therefore deserves all attention due as it helps the researcher to focus the study to the important elements being studied in the universe of interest. In this study, site selection was focused broadly to Kenya. However, since Nairobi is where EWS for drought response are located and that Nairobi is also the hub that houses the headquarters of the humanitarian agencies being studied then this research was specifically focused to Nairobi.

For EWS, Nairobi is where collation of information from districts/ counties is done and also serves as the nerve centre for response decision-making. While it would enhance the quality of output to actually explore how the EWS influence crisis response in all drought-stricken districts, this study was severely constrained by financial and time constraints to achieve that purpose. The site selection was therefore premised on the fact that Nairobi is the principal centre of coordination of humanitarian operations in Kenya and that it is also the leading administrative hub of the government as well as majority of the humanitarian agencies working not only in Kenya but in the other parts of the East, Central and Horn of Africa region. Additionally, the selection of Nairobi in the case of this study enabled comparison of application and utilization of EWS on drought crisis response across different humanitarian agencies. Even then, EWS are expensive to set up and not available in many districts/ counties where drought operations are implemented.

### **3.3 TARGET POPULATION**

This study targeted middle to top level management staff of targeted humanitarian agencies affiliated to the NDMA or KHF and involved in decision-making. Respondents were carefully selected on the basis of their involvement in the EWS-response mechanisms within their organizations. They were either local or international staff but working with agencies with operations in Kenya and that interact with the EWS and drought response.

### **3.4 UNIT OF ANALYSIS AND UNIT OF OBSERVATION**

In social research, the unit of analysis is the major entity that the researcher is analyzing in his or her study. It is the 'what' or 'who' that is being studied. Units of analysis are therefore the entities around which or on which one collects data. In statistical terms, they are essentially the phenomena the researcher examines in order to create summary descriptions of them and explain differences among them. For the purpose of this study, the units of analysis were the humanitarian agencies, both local and international, with operations in Kenya and that have been involved in responding to drought crisis in the country over the last seven years. The selection of seven years was matched with three major droughts that occurred in 2007/8, 2011/12 and the current one that is unfolding now in 2014. In all these droughts there was interface of EWS and drought crisis response.

According to Mugenda (2011:181), the unit of observation is the unit on which one collects data. More clearly, it is the entity from which one collects data (i.e. the entity the researcher actually gets the data from). Statistically, it is the subject, object, item or entity from which we measure the characteristics of, or obtain the data required in the study. In this study, the units of observation were the representatives or officials of humanitarian agencies that have been mentioned in the paragraph above. They were the ones who answered the questions about their organizations.

### 3.5 SAMPLE SIZE AND SAMPLING PROCEDURE

#### 3.5.1 Sample Size

For this research, 40 humanitarian agencies constituted the sample size to be used for data collection, analysis and presentation of results. Due attention was taken to purposefully decide on this sample size to ensure appropriate representation of the various characteristics sought for this study. The following sampling criteria was used to select cases in order to maximize the benefits of purposive sampling namely hand-picking cases of subjects because they are informative or possess the required characteristics: first, the sample was selected on the basis that the individuals are representatives of humanitarian agencies with operations in Kenya over the last seven years; secondly, the humanitarian agencies were actually members of the Kenya Humanitarian Forum (KHF) and were involved in operations that are linked to drought crisis response in Kenya; third and finally, the respondents were senior management staff of their respective organizations involved in decision-making, such as when a decision needs to be taken to respond to drought when EW information and signals dictate so. Thus, based on the criteria above, the following humanitarian agencies were pre-selected for the study:

**Table 1: Selected Humanitarian Agencies:**

Type of Agency	Name of Agency	Notes
UN (5)	WFP, FAO, UNICEF, UNOCHA, UNDP	Sampled because of being direct implementers of humanitarian responses related to drought
Non-governmental organization(32)	Concern Worldwide, Cordaid, Catholic Relief Services (CRS), World Vision, Kenya Red Cross Society, COOPI, ADRA, Practical Action, Oxfam GB, CARE, Oxfam Netherlands, Solidarite, GIZ, CAFOD, Merlin, VSF, MSF, HARDO, CED, SADO, HIJRA, JCC, SAACID, TARDO, ACF, Islamic Relief, Food for the Hungry, Danish Refugee Council, Norwegian Refugee Council, Salvation Army, Neighbours Initiative Alliance, Catholic Diocese of Ngong	Registered in Kenya and have been in involved with drought operations in the last five years
Specialized in EWS (3)	FESWNET, ALRMP, FSNAU	Collect EW data for use in humanitarian operations
<b>Total Respondents</b>	<b>40</b>	<b>Each organization had at least one respondent</b>

### **3.5.2 Sampling Procedure**

Sampling theory expects that all possible elements or units in the target population be identified so that the probability for selecting a random combination of units, which constitute the sample can be calculated in advance (Mugenda, 2011: 182). Accordingly, therefore, the researcher is assumed to have access to a full listing of all the units in the target population, or when no such list exists, it is assumed that the researcher can develop one within a reasonable time. For purposes of this study, non-random sampling or purposive sampling was used for case selection since this method of sampling is most ideal for sociological studies as the case at hand. According to Kothari (2004: 59), in this method items of the sample are selected deliberately by the researcher and his choice concerning the items remains supreme.

By focusing on key management staff of selected humanitarian agencies involved in decision-making in their respective organizations, this sampling method therefore gave the researcher room to purposely choose the particular units of the universe for constituting a sample on the basis that the small mass that he selected out of a huge one would be typical or representative of the whole. For purposes of this research, selection of cases was based on key staff from each of the organizations who fit one or several of the following criteria: first, heads of agencies (akin to Chief Operating Officers in the corporate world) or their designates; secondly, high-level or senior humanitarian managers with full responsibility to undertake humanitarian operations; thirdly, agency staff with at least six months experience in responding to drought emergencies in Kenya and who were with the organization at least six months prior to the study; fourthly, agency staff with mandates to make decisions regarding application of EWS to drought crisis response; fifth and finally, agency staff involved in research or day to day collation, analysis and dissemination of EW information.

## **3.6 METHODS OF DATA COLLECTION**

### **3.6.1 Collection of Quantitative Data**

Since this study was largely qualitative, it was therefore not critical that quantitative data would be purposively collected. However, during the course of doing the research, a significant amount of quantitative data was collected. This data was collated, analyzed and presented using simple quantitative techniques. The researcher made this choice to allow for a quick comparison of the various aspects of data categories as well as to make it easy to assess the relevance and importance of the various sub-categories of barriers being studied. The data was grouped along the six categories and their sub-categories upon which significance of each was weighed and a percentage score calculated against the number of those respondents that agreed to that category or sub-category being a current barrier. This information was then tabulated in tables for each category of barriers.

In research, use of both quantitative and qualitative methods is generally seen to strengthen the evidence of the phenomenon being sought and researched. Thus, the decision by the researcher not to ignore quantitative data of significance to the study enhanced this aspect of research in social sciences. In this way, the researcher was able to provide not just qualitative data and analysis that would enrich the study but also explored the linkages of the qualitative and quantitative data to draw conclusions.

### 3.6.2 Collection of Qualitative Data

The following techniques were used to collect primary data:

a) Key Informant Interviews (KII):

Key informant interviews are usually conducted to obtain special knowledge. A key informant is therefore one who has special knowledge on a particular topic and is expected to answer questions about the knowledge and behavior of others especially about the operations of the broader systems (Mulwa, 2006:88). For the purposes of this study, key informants were selected and interviewed to provide needed information, ideas, and insights on the study. To ensure that the study objectives were met, due consideration was given to the two essential characteristics of key informant interviews that need special attention in social research.

First, only a small number of informants are interviewed. To meet this characteristic, 10 key informants were interviewed and their selection was based on the assumption that they possess information or ideas that can be sought by the researcher from each of the types of agencies sampled. Individuals with a good understanding of EWS and drought response within humanitarian agencies were carefully selected as representatives of their organizations in the study. Since this was not a formal or even an informal survey in which a relatively large number of people are interviewed, the selection of 10 key informants were sufficient to meet the threshold for generalizing the findings (Kumar, 1989:6).

The second characteristic to be given due attention is the fact that key informant interviews are essentially qualitative interviews that are conducted using interview guides that list the topics and issues to be covered during a session. The key informant interview guide was used to guide the process of framing the actual questions in the course of interviews. Since

the interviews were informal and resembling a conversation among acquaintances the interviewer then subtly probed informants to elicit more information and took elaborate notes which were developed later. In cases where all the relevant items were not covered in a session, additional information was sought as necessary before concluding the study.

b) Telephone/Skype Interviews:

For key informants not available for a one-to-one interview, a telephone/ Skype interview were conducted to ensure that their essential input into the study is received. According to Kothari (2004: 17), this technique of collecting data plays an important role especially when the survey has to be accomplished in a very limited time. The same guide used for key informant interviews was used for the telephone/Skype interviews.

c) Email Questionnaires:

In cases where potential respondents were neither immediately available for key informant nor telephone/Skype interviews, an email questionnaire was used for data collection. The questionnaires were emailed to the respondents with a request to return after completing the same. Kothari (2004:17) cautions that before applying this technique a pilot study for testing the questionnaire is conducted to reveal potential weaknesses, if any, of the questionnaire. Further, the questionnaire must be prepared very carefully so that it may prove to be effective in collecting the relevant information. Thus, the email questionnaire was first piloted with a selected group of respondents before it was amended accordingly and sent to all the required respondents.



### **3.6.3 Sources of Secondary Data**

Secondary data was collected using library research. The methods used were two-fold: first, analysis of historical records regarding EWS and drought responses; secondly, analysis of documents. For historical records, notes were taken in areas relevant to the study and analyzed together with other data sources through other methods and techniques. Whereas content analysis was used since the beginning of this study as well as in the literature and theoretical review in earlier chapters of this study, this technique was used throughout the collection, analysis, interpretation and presentation of data reviewed. Given that EWS is an evolving subject, efforts were also made to seek any other digital content available in the topics of interest to the study. Content analysis was also done for all documents available on the subjects of interest.

Since EWS are largely computer and technology based systems review of secondary data was further done online and through other documents available in print. Documents on how the EWS are set, their functioning, evaluations and technical information such as manuals were reviewed as available. Other sources of data on EWS and crisis response including reports, manuals, journals, newsletters, news articles, online updates, archived data sets and books were reviewed and key information transcribed for analysis.

## **3.7 DATA ANALYSIS AND PRESENTATION**

### **3.7.1 Data Analysis**

Since this study was principally qualitative in nature, the data sought was largely descriptive and was therefore grouped into categories on the basis of emerging themes (however, any quantitative data received was coded and analyzed to triangulate findings). After obtaining all the required data, the researcher read and re-read the text to understand the information therein before proceeding to focus the analysis on the basis of questions, events, time or topic of interest to the study. After this, connections and relationships between questions (topics, time, events or period) were then used to focus the study by case, individual or groups among respondents. When done, the information was categorized into themes or patterns (ideas, concepts, behaviours, interactions, incidents, terminology or phrases used). This was the crucial coding stage for the data.

According to Coffey and Atkinson (1996: 26), all researchers need to be able to organize, manage, and retrieve the most meaningful bits of data. Essentially, this means that appropriate tags or labels need to be assigned to the data in order to condense the bulk of the data sets into analyzable units by creating categories with and from the data. Furthermore, coding should be seen as a way of relating the data to the researcher's ideas about those data. Thus, the resultant codes will represent the decisive link between the original raw data, that is, the textual material such as interview transcripts or field notes, on the one hand, and the researcher's theoretical concepts on the other (Coffey and Atkinson, 1996: 27).

The themes or patterns were then organized into coherent categories that summarize and bring meaning to the text. Abbreviated codes using a few letters or symbols or words were then used to mark the categories before they were provided with a descriptive label for each of the categories created. To allow for greater discrimination and differentiation, sub-categories were developed as dictated by data being categorized. As many categories as possible were developed until there were no further emerging themes.

Once the categories were fully developed, patterns and connections within and between categories were then identified and where possible themes/ categories were clustered to form super categories or paired categories in cases where there were cause and effect relationships between the categories. Significantly divergent themes or categories were also identified at this stage and note taken on why they differ to that extent. The final step was then to interpret the data to bring it all together by attaching meaning and significance to the analysis. A list of key findings was then made and synthesized to deepen understanding for purposes of presentation.

### **3.7.2 Data Presentation**

Data was then presented both in descriptive terms as well as in graphical form as deemed most appropriate. For descriptive data, quotes or examples given by respondents were used to enrich the text and enhance the findings of the study. A tabular display was used to illustrate connections between phenomena including those that were not clear and needed further investigation. This being an exploratory research, gaps were also indicated accordingly as findings dictated.

## CHAPTER IV: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

### 4.1 INTRODUCTION AND GENERAL INFORMATION

After approval of this research at the end of March 2014, field work was commenced immediately to gather relevant field data of interest to this study. As per the design of the research, field data was collected in Nairobi among selected humanitarian agencies. The field work took approximately one and half months of key informant interviews, administration of email questionnaires as well as content analysis done to fill research gaps. Out of the targeted 40 agencies, a total of 35 participated in the study representing 87.5% response rate. Tables 2-4 below give a breakdown of the various categories of agencies that participated in the study and the demographic characteristics of respondents:

**Table 2: Study Participants (Respondents):**

S/No	Type of Agency	Targeted Number of Respondents	Number of Respondents	Response Rate (%)
01	United Nations	5	3	60.0
02	Non-governmental humanitarian agency	32	30	93.6
03	Agency specialized in EWS	3	2	66.7
	<b>Total</b>	<b>40</b>	<b>35</b>	<b>87.5</b>

**Table 3: Gender Disaggregation of Respondents:**

S/No	Type of Agency	Total Number of Respondents	Male	Female
01	United Nations	3	1	2
02	Non-governmental humanitarian agency	30	18	12
03	Agency specialized in EWS	2	1	1
	<b>Total</b>	<b>35</b>	<b>20</b>	<b>15</b>

**Table 4: Disaggregation of type of non-governmental humanitarian agency:**

<b>S/No</b>	<b>Type of non-governmental humanitarian agency</b>	<b>Number of NGOs</b>
01	International	21
02	Local	9
	<b>Total</b>	<b>30</b>

As discussed in Chapter III of this study, due attention was taken to purposefully decide on the respondents. The respondents were mainly senior management staff of these agencies responsible for drought or disaster responses and also with decision-making authority with regard to the application of EWS on drought responses within their agencies. These groups of respondents were largely representatives of their agencies at the Kenya Humanitarian Forum (KHF) and were involved in operations that are linked to drought crisis response in Kenya. Some of the respondents were actually the heads of agencies (akin to Chief Operating Officers in the corporate world) while a proportion of them were high-level or senior humanitarian managers with full responsibility to undertake humanitarian operations.

In selected cases, some of the heads of department delegated the task to respond to the interview to their senior technical staff with more day to day understanding of the use of EWS in drought responses. Since the researcher had a specific focus, in this latter case the researcher requested for agency staff with at least six months experience in responding to drought emergencies in Kenya and who have been with the organization at least six months prior to the study. Lastly, due emphasis was also placed on seeking respondents with mandates to make decisions regarding application of EWS to drought crisis response as well as those involved in research or day to day collation, analysis and dissemination of EW information. On the basis of the interviews conducted during the study, the following findings were found for each of the objectives of the research:

## **4.2 SYSTEMS RELATED BARRIERS**

### **4.2.1 Indicator, timeliness and predictive capability barriers**

Out of the 35 respondents interviewed either as key informants or through questionnaires, it emerged from data analysis that 100% of them had interacted with EWS systems in one way or another and therefore understood the role of EWS in drought crisis response. On being asked about the role played by EW indicators and the EWS in general, one respondent who had over 15 years of hands-on experience in use of EWS systems for drought response answered that EW indicators and systems were *“important components of disaster management and specifically provide important information or data on trends of developing environmental or other phenomena that has the potential to cause loss of life and destruction of property.”* He added that indicators helped him and his organization to *“systematically analyze EW data in order to develop possible scenarios that facilitate in making appropriate and timely decisions on resources and capacity required to respond early to developing crises therefore preventing loss of life, displacements or destruction of property.”*

The research found that the case above applied to more than 80% of the respondents interviewed. In over 80% of the humanitarian agency representatives interviewed, respondents indicated that they use EW data to develop their annual work plans, strategic plans, response plans or even drought contingency plans that would guide their responses across various drought-prone districts in the country. This finding is important in the sense that the problem actually is not lack of EW information but how this information was used to make decisions for early response to drought.

In approximately 40% of the agencies interviewed, EW information was specifically used to amend the response plans used for drought emergency response. In other cases

approximating 30%, EW data was used to re-design programmes. With regard to this, one respondent gave the response: *“I was involved in a programme where we were providing water to community members through water trucking in response to drought. As implementation was ongoing and we had only covered half the number of villages initially targeted, there was early warning information about the region receiving above normal rains in the short rains season with possibility of floods. This was discussed with the community and the donor and with the onset of the rains the activity was scaled down and resources invested in water harvesting infrastructure.”* Similarly, another respondent told the following to the interviewer: *“I have used EW data to track trigger indicators and execute a crisis modifier/contingency fund within a five-year project. The project was funded under a five-year development assistance plan but had an emergency fund to quickly respond to crises as they occur. A few households in the project areas that had suffered the drought in Wajir recently were supported.”*

This finding of use of EW information to modify or adjust response was indeed a worrying revelation. At less than 40% application of EW information to trigger review of response plans, it means that humanitarian agencies are actually underutilizing the potential of EWS to support early action and better resource allocation as found out in the literature review in Chapter II of this study. By so doing, therefore, this research has revealed one of the key issues that actually make it difficult to ensure that EWS are able to be effective in triggering early response. EWS seem not to be automatically seen as providers of useful data that would assist organizations to plan better and channel their resources to the most critical sectors that prevent spiral into destitution by the most vulnerable target groups supported by these agencies. This finding underscores the need for more awareness and deliberate planning necessary to ensure that EWS are integrated into the day to day operations of humanitarian agencies that are often at the forefront of disaster responses. On the

contrary, the benefits of this awareness were illustrated in the case revealed by one of the humanitarian agencies operating in Isiolo.

In this case, this study found that the humanitarian agency was able to effectively apply EW indicators to respond early to an outbreak of a livestock disease (PPR) in Oldonyiro in Isiolo. Once the information was received from EWS, the agency mobilized other humanitarian agencies into a consortium to respond to the threat to the pastoral livelihoods. The consortium used the EW signals received in June- August 2013 to initiate a rapid response. One of the consortium members, a Swiss humanitarian agency, closely worked with the County Director of Veterinary Services and obtained information that helped the consortium respond on time, saving livelihood assets of pastoral communities. The community disease reporters trained by the District Veterinary Officers (DVOs) in Isiolo collected data and confirmation done by the Vet department. Testing was done in laboratories in Nairobi and the available funding through the “emergency envelop” was used to initiate a quick response. In this case, the signals picked from EW indicators were used to initiate early response activities using a fund managed by a board comprising partners and the donor (ECHO) based on criteria agreed prior to the crisis. The funding was used to facilitate logistics for vaccination of animals against PPR, also for coordination and supporting the humanitarian agency and ministry staff to make mobile outreaches. Over 100,000 shoats were successfully vaccinated preventing possible losses.

Nonetheless, unlike the cases where EW signals were not put into action as per the research by Buchanan-Smith, in this case EWS, indicators and data sets were actually applied to respond to a possible disease outbreak in the drought affected regions of Isiolo County. The researcher delved deeper to understand what worked in this response that could possible lead to resolving barriers related to indicators, timeliness and predicative



capacity of EWS. Data collected from this case found that some of the leading reasons for the successful use of EW information here were, first, the availability of the “funding envelop” mechanism to meet emerging needs indicated by EW information. Secondly, the community disease reporters collected good information in a timely manner, sent it for action within the consortium early enough and the information was accurate, hence good predictive outcomes. Thirdly, the additional samples collected to triangulate data received from community disease reporters confirmed accuracy of the EW hence building trust among the consortium members, the ministry staff, country government officials as well as the donor and other stakeholders. Fourthly, and finally, good coordination and open sharing of EW data across the various actors both at Nairobi and field level in Isiolo helped in quick translation of EW information into a rapid response action that saved the shoats and livelihoods of communities already weakened by repeated episodes of drought.

Whereas the above findings concur with earlier researches by Abdinoor et al and Buchanan-Smith and Davies (1995, 2000), a number of deviations emerged from this research. Analysis of data collected from the questionnaires and key informant interviews has indicated that numerous barriers related to EW indicators, timeliness of EW information as well as predictive capability continue to prevent full utilization of EW data for early response action. The following is a tabulation of key barriers enumerated by the 35 respondents who answered the question on indicator, timeliness and predictive capacity barriers in the use of EW information for drought responses in Kenya:

**Table 5: Findings on indicator, timeliness and predictive capability barriers:**

S/No	Sub-Category of Indicator, Timeliness and Predictive Capacity Barrier	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	Current EW indicators were too complex and technical	35	29	83
2	Had no means to analyze data from the EW indicator	35	23	66
3	No clear definition of indicator thresholds to institute response action	35	28	80
4	EW information does not define the exact timing of catastrophic event	35	14	40
5	Do not trust the EW indicators currently in use	35	2	6
6	EW signals are not timely in predicting the extent of expected damage	35	4	11
7	Prediction is often inaccurate	35	6	17
	<b>Average</b>	<b>35</b>	<b>15</b>	<b>43</b>

#### 4.2.2 Interpretation, presentation and communication barriers

The following table presents the findings on barriers related to interpretation, presentation and communication of EW signals to trigger appropriate early action:

**Table 6: Findings on interpretation, presentation and communication barriers:**

S/No	Sub-Category of Interpretation, Presentation and Communication Barrier	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	There is no clearly agreed definition of what EW signal means	26	10	38
2	EW indicator classification is confusing and leaves room for misinterpretation	26	22	85
3	EW data presentation is complex to non-technical decision-makers	26	26	100
4	EW data is not presented in a way affected communities understand	26	26	100
5	There is no jointly agreed decision-making protocol upon receiving signal	26	19	73
6	EW signals are not translated to local languages for affected communities	26	26	100
7	No feedback to communities after collecting EW data from them	26	21	81
	<b>Average</b>	<b>26</b>	<b>21</b>	<b>82</b>

## **Presentation and Discussion of Findings on System Related Barriers:**

The study revealed that 100% of the respondents believed that EWS play a major role and therefore it was indeed necessary to address the barriers that could prevent their full utilization to help the country respond to drought early enough. 90% of the respondents interviewed revealed that EWS and EW information were indeed very useful for planning, prioritizing and executing their organizational mandate. According to at least 80% of respondents, EWS were an important component of disaster management and specifically provided important information or data on trends of developing environmental or other phenomena that had the potential to cause loss of life and destruction of property. Further, they expressed that systematically analyzing EW data helped them to develop possible scenarios that facilitate in making appropriate and timely decisions on resources and capacity required to respond early to developing crises therefore preventing loss of life, displacements or destruction of property. Other respondents said that they use the EW information for designing interventions, communication, donor fundraising, strategy review to sharpen focus, early preparation of activities to respond and for planning short and medium-term scenario planning to improve ways of working. However, the reliability and validity of EW information was in some cases not sufficient.

To address these barriers, some of the respondents interviewed proposed that proactive structured engagement in periodic assessments would help address the barriers on timeliness of EW data since drought was more and more cyclical and easy to predict. With regard to interpretation, proposals were floated by at least 83% of the respondents that there was need to simplify EW indicators and information. The threshold for emergency response is quite scientifically derived using complex indicators and yet the reality on the ground may not immediately equate to scientific thresholds needed to declare crisis, even if

the paces of that unfolding crisis deteriorates quite fast. Sometimes agencies waited for those thresholds to be reached and for all trigger indicators to be met before declaring a disaster hence delays. Even then, respondents said that caution needs to be applied in simplifying and reworking indicators in order not compromise accuracy. The research found that sometimes an emergency can be overrated or understated. Scientific methods should therefore be employed and EWS should seek to always improve the system of data collection and analysis. Of great significance, over 80% of the key informants interviewed said that all EW data/ information should, at a bare minimum, include information on possible responses. A response analysis framework would be useful and should be incorporated in the design of EWS. Also, EWS should have linkages to contingency funds or flexible/ emergency fund reserves to immediately set in motion response if needed.

#### 4.3 SUSTAINABILITY BARRIERS

With regard to sustainability barriers, a number of questions were put to respondents during the field work. As a result, within the data collected from the interviews and questionnaires, the following sub-categories of barriers emerged as the most significant with regard to sustainability of EWS and their application to drought response in Kenya:

**Table 7: Findings on sustainability barriers:**

S/No	Sub-Category	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	Funding	35	35	100
2	Contingency planning	35	28	80
3	Locus of ownership of EWS	35	24	69
4	Technical capacity	35	35	100
	<b>Average</b>	<b>35</b>	<b>31</b>	<b>87</b>

## **Presentation and Discussion of Findings:**

Among all respondents interviewed, sustainability was seen as one of the leading causes of the malfunction between EW and early response action. Compelling evidence gathered during key informant interviews as well as through questionnaires indicated that funding was one of the leading causes of the EWS not being able to provide the necessary depth and coverage of analysis needed to make meaning of high level data often collected and disseminated. An average of 87% of all the respondents agreed with the finding that sustainability was a key barrier. This finding was overwhelming and goes to underscore the very problem this research is seeking to address.

In specific sub-categories, a 100% of those interviewed agreed to funding and technical capacity being two of the most outstanding sub-categories of sustainability presenting significantly huge barriers to the application of EWS to drought response. As earlier reviewed in the problem statement and literature review section (Chapter II) of this research, there was concurrence in findings between the case studies by Buchanan-Smith and Davies (1995) in Kenya, Sudan, Ethiopia, Chad and Mali regarding financial sustainability of the EWS with the findings of this study on this sub-category. However, in this study, the main departure is that financial sustainability is not just tied to the investment needed for the EWS systems to function but the need to have some unrestricted financial capacity to fund immediate action as recommended by the EWS.

All the respondents interviewed especially during key informant interviews underscored the need for financial resources being available within humanitarian agencies to enable implementation of early action as soon as EW information is received and before potential donors/ funders get involved or before additional resources are sought elsewhere. This

finding was more illustrated by the PPR response in Isiolo in 2013 where the emergency funding envelop already available before the crisis gave the La Nina Consortium partners enough room to respond early enough and use those interventions to mobilize additional resources that came later on.

On the sub-category of technical capacity, it emerged that not all humanitarian agencies had the required technical know-how to navigate through and utilize EW information to make informed choices on whether to respond or not. In nearly half the number of organizations sampled (excluding EW specialized agencies such as FEWSNET), no personnel were specifically trained on EWS and how to extract this data to inform early action. This meant that there existed a gap in potentially maximizing utilization of the already available EW information and data to aid decision making. 100% of all the key informant interviewees talked of the need for continued capacity building of staff of agencies to have the requisite skills. In some cases, these agencies had actually sought to have the National Disaster Management Authority (NDMA) to take lead in ensuring that there is a structured framework for continuous capacity building of agencies in utilization of EW data for early action. However, resource constraints and capacity gaps at the NDMA itself have curtailed realization of this dream for most of the agencies. This then has meant that each organization relies on its own resources to make this desire a reality hence the obvious inadequate technical capacity found by this study among the humanitarian agencies sampled. Most of the respondents agreed to the statement that properly set up EWS should be sustainable and have a guarantee for funding their operations. This, in their view, would afford their organizations the means to avoid costly targeting errors in responses and would therefore be a “small price” to pay for better responses to drought crises. Accordingly, the respondents said that this funding should be factored into their contingency plans with at least 80% of them agreeing to this as a required minimum to

sustain EWS. This group of respondents also agreed to the notion that maintaining a strong information system is a small price to pay to prevent the waste of resources in relief operations which are not directed and planned on the basis of reliable data.

In exploring the sustainability of EWS, a question was also asked as to whether or not it matters where the EWS were located and who operated them. 69% of the respondents agreed that who owns EWS or where they are located determines the success or failure of the utilization of EW information to trigger appropriate timely responses. According to those respondents, the locus of EWS determines the credibility and the attendant trust built around the information collected by these EWS and hence critical to the EW information being used to institute an early response action to drought. In other words, a significant majority (at least 69%) agreed that if EWS are held and operated by a trustworthy agency there was high chance that they would find the information credible and take it seriously to appeal to their agencies to respond accordingly to the warnings.

When this line of responses was explored further, a question was put to the respondents to name one such EWS they found more credible and useful. The USAID-funded FEWSNET was said to be the most trusted. However, the NDMA's County Bulletins collected from the various counties in the arid and semi-arid areas were also seen to be very trusted to especially monitor the situation in local areas within the counties. This finding was indeed quite interesting to the researcher since it showed the discrepancy in trust to EWS and EW information on the basis of not just the locus of the system but the content of information collected and disseminated. This meant that uptake of EW information can be improved regardless of where they are located as long as the content was appealing enough to the various audiences and target groups.

#### 4.4 INSTITUTIONAL BARRIERS

The following institutional barriers emerged from the analysis of respondent answers to questions during the research:

**Table 8: Findings on institutional barriers:**

S/No	Barrier Sub-Category	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	Inadequate funding	35	35	100
2	“CNN Effect” and poor consensus building (lack of a critical mass to push for action)	35	14	40
3	Delayed government declaration of crisis	35	28	80
4	Inadequate agency technical capacity to apply EW to early response	35	16	46
5	Lack of harmonized civil society voice and approach to EW/Response	35	33	94
6	Poor link between relief and development programming	35	32	91
7	Inadequate/ lack of clearly defined response triggers	35	34	97
8	Internal bureaucracies that delay decision making and response action	35	35	100
9	Mistrust and competition among agencies	35	31	89
10	Poor learning tendencies – “repeat offender occurrences”	35	34	97
11	Obsession with “band-aid” and “first aid” interventions	35	24	69
12	Weak legislation or regulatory environment	35	25	71
13	Poor coordination among agencies using EW information to respond	35	29	83
	<b>Average</b>	<b>35</b>	<b>28</b>	<b>81</b>

#### Presentation and Discussion of Findings:

As indicated on the table above, this study has revealed a number of barriers that have prevented humanitarian agencies to apply EWS to drought response planning and execution. 100% of the respondents indicated that inadequate funding and internal bureaucracies that prevent quick decision-making and early response action were the two



topmost institutional barriers to the application of the EWS to drought response within their organizations. Both key informant interviews and questionnaires administered showed that all organizations were struggling to raise sufficient funding to run their operations and especially for drought responses hence experiencing one of the most outstanding difficulty in use of EW information to trigger early response action. On the other hand, one agency with drought operations in Samburu, Isiolo and other parts of northern Kenya revealed that it takes a lot of time to mobilize its board of directors to either approve drought response plans or make decisions regarding EW information due to internal bureaucracies and competing priorities within the organization.

These two leading barriers were followed closely by inadequate or lack of clearly defined response triggers and poor learning tendencies within the sampled organizations with both barriers carrying a percentage score of 97 each. According to the field work done, it emerged that whereas EWS had a long list of indicators with clear markers of possible impact, there were no well defined and mutually agreed triggers for early action accompanying these indicators hence leaving it to each agency to interpret the warnings and act the best way they know. The absence of early triggers for actions was seen as one of the prevailing missing links with the current application of EWS to drought responses. One of the overriding statements across key informant interviews was that “EW information will not be effective for as long as there are no clear and universally agreed upon triggers for action.” One respondent actually saw this as a symptom of lack of a coordinated approach among civil society organizations (including humanitarian agencies) to maximize the potential benefits of an effective EWS. He said that these organizations “lacked a consolidated approach to early warning information and action that would facilitate easier engagement between stakeholders” for a quicker drought response. Other respondents

attributed this to poor coordination among these agencies and hence one of the reasons for malfunction of the EW- Response continuum at critical stages.

On the other hand, 97% of the respondents attributed this malfunction to poor learning within organizations and in particular failure of their organizations to use lessons picked over the years to improve practice. This led to what one respondent described as “repeat offender occurrences” where his organization (and similar others) repeatedly committed the same mistakes of failing to learn when to use EW information to trigger early response action. This factor was also closely linked to the idea of “first aid” interventions that were to be found especially among these organizations. In this later case reported as a barrier by 71% of the total respondents interviewed, the humanitarian agencies are often caught off-guard and hence only rush to act by providing emergency aid that is often not well planned and unable to meet the escalated needs. In the study by Buchanan-Smith and Davies (1995) this was also the case among donors hence affirming that almost two decades later this particular barrier still continued to plague drought operations in the country despite huge advancements in the accuracy and predictive capacity of drought EWS.

Other key institutional barriers revealed by the study included poor linkage between relief and development programming, mistrust and competition among agencies and poor coordination among agencies using EW information to respond. These three factors had a respondent agreement of 91%, 89% and 83% respectively hence emerging as some of the other leading institutional barriers that prevent effective and efficient use of EWS to help the country response to perennial drought and hunger episodes. In many of the drought episodes, the respondents sighted that these barriers compromised their organizations’ ability to mobilize the required resources (financial, human and material) to help mount an effective early response to drought. This led to a situation where there were massive delays

to respond even when EW information was available on time, contributing to another situation where corrective action would only be kicked in once the media picked the EW signal and highlighted it prominently. While the media hype about the crisis would then lead to a stronger call to action the research actually found that this was counterproductive in the long run since it bred another barrier christened the “CNN Effect” by some of the respondents. This study revealed that the “CNN Effect” and poor consensus building (seen in terms of lack of a critical mass to push for action) contributed to a barrier that 40% of the respondent found as contributing to failure of EWS to trigger appropriate early action for drought responses in the country.

This failure was fatally critical especially among humanitarian agencies that did not have clear institutional structures for EW-Response action. 20% of key informant interviewees admitted that no one in particular had the responsibility to monitor and act on EW systems within their organizations. This task was, instead, delegated on an ad hoc basis whenever signs of a simmering crisis were detected. This severely compromised their being able to influence early action by such agencies. In one case, the research even revealed that one organization has never used EW information to redesign its programmes or change the course of its programming despite having access to such information and knowing the importance of it. This was absolutely stunning since the organization is one of the leading responders to drought-induced emergency situations in the country. The big question here would then be: how does this organization respond to drought if it completely disregards EW information and data?

Evidence from the field also shows that most humanitarian agencies, just like donors in the research done by Buchanan-Smith and Davies (1995), would wait for the “CNN effect” before acting on EW information to release funding for early response action. This means

that in addition to the lead time needed to respond a lot of time is spent on meetings and lobbying to obtain buy-in and therefore more lives are either lost or dramatically slide into deeper crisis. In exploring this finding more, it was found that this behavior was partly attributable to inadequate agency technical capacity to apply EW to early response as well as other factors ranging from inadequate or lack of clearly defined response triggers to internal agency bureaucracies that delay decision making and response action. In some of the cases reviewed during fieldwork it was also attributable to a culture of poor learning tendencies where humanitarian agencies do not learn from past failures and would therefore fall in the same trap and become what some respondents termed “repeat offenders.” This then means that agencies would be on standby as the situation spirals into destitution seen among the most vulnerable members of society who would then lose their lives and livelihoods before any interventions reach them. It is this conceptual spiral to famine that Buchanan Smith and Davies see as an illustration to the sorry state of affairs in the application of EWS to early action as reviewed in Chapter II of this research.

These findings contravene the expectation regarding the institutional role of humanitarian agencies of which most of the respondents clearly articulated. According to the research findings, almost 100% of the respondents completely understood the role of various actors in the EW- Response continuum. For instance, over 80% of the respondents said that the role of humanitarian agencies cuts across various functions. Most respondents defined the roles of humanitarian agencies as being in the forefront of using EW information to design and implement responses, coordinate at both field and headquarter (Nairobi) levels as well as collecting lessons and applying them to subsequent crises. These agencies are also expected to have requisite staff capacity – people with know-how to source and apply EW information and to be able to establish the structure to respond to drought (staff, systems, funding among other structures) apart from playing a high level advocacy role with the

government and donors to invest in vulnerable communities that have had low investments and marginalization over time (such as investments in infrastructure and telecommunication).

Other roles for humanitarian agencies were found to include taking measures to preventing “band-aid” effect and avoiding “first aid interventions” in addition to encouraging and supporting development and the application of EW policies as required. But not all agencies play these roles effectively as seen in the table of findings above. In fact, this research found a great contradiction that even despite knowing these roles at least 46% of the agencies had no immediate plans and technical capacity to address the barriers that make it difficult for them to play the roles effectively as per their mandates. In fact, one of the respondents whose organization deals with pastoralist governance and development issues said that these roles apply irrespective of whichever EWS is being referred (whether drought EWS or even conflict EWS or livestock disease surveillance system). This finding was seen in the question where 46% of the respondents reported having inadequate agency technical capacity to apply EW to early response.

The study also found that data collection and dissemination was another major institutional barrier to application of EW to drought response. According to several respondents, sometimes EW assessments come too late and the reports take two to three weeks to be distributed, and response takes months and sometimes help even comes after the hazard has come and gone. The other institutional challenge is the lack of contingency resources among many humanitarian agencies. According to field findings, in most scenarios the response plans are there but without financial resources, the agencies are unable to act on EW data as early as required. One particular humanitarian agency implemented a project on participatory disease surveillance in Samburu under a consortium of INGOs and in

partnership with the director of veterinary services. The activity was monitoring diseases through tracking EW data on livestock diseases but once the EW information about a possible outbreak came to the fore the agency applied for contingency funds which never came. In general, it was difficult to access the funds, and pastoralists continued to be frustrated by disease outbreaks. According to the respondent, the system of accessing contingency funds did not enhance rapid response and actually became a barrier by itself. With attendant frustration, the respondent said that “it seemed that the EWS and the internal institutional bureaucratic system were designed to serve the INGOs/donor interest rather than save lives or properties of those facing destitution”. Another respondent also lamented that “sometimes EW assessments are conducted to the convenience of staff/donors along the highways and not within the most affected villages hence not representing the actual situation therefore not serving the purpose.”

## 4.5 POLITICAL AND LOGISTICAL BARRIERS

The following political and logistical barriers emerged from the analysis of respondent answers to questions during the course of research:

### 4.5.1 Political Barriers:

**Table 9: Findings on political barriers:**

S/No	Barrier Sub-Category	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	Politically-motivated delays in declaring crisis	35	30	86
2	Competition for resources and skewed resource allocation	35	35	100
3	Absent or inadequate political will to legislate on EW/Response Continuum	35	32	91
4	Lack of critical mass that would attract political action in drought-prone counties	35	28	80
5	Imbalanced power relations between the duty bearers and right holders	35	26	74
6	Poor advocacy by humanitarian agencies	35	32	91
7	Corruption and aid diversion	35	34	97
8	Inadequate policies and legislation	35	15	43
	<b>Average</b>	<b>35</b>	<b>29</b>	<b>83</b>

### Presentation and Discussion of Findings:

Data collected from the field has shown quite interesting patterns regarding political factors and how they affect utilization of EWS by humanitarian agencies to respond to drought in Kenya. This study found that an overwhelming majority approximating 83% agreed with the notion that political barriers had the highest influence in hindering proper use of EWS to respond early to drought in Kenya. These factors were rated by the respondents as only falling behind sustainability of EWS and logistical barriers that both posted an average

score of 87% in terms of significance. The sub-category on competition for resources and skewed resource allocation was seen as the most significant barrier with 100% of the respondents agreeing to the fact that it almost exclusively determines both the possibility and extent of whether or not a decision will be taken to use EW information to develop early response action. The desire by many political entities, both at national and county level, to act on EW signals is determined by the perceived share of resources likely to be acquired and hence the ensuing competition that determines the political good-will to act.

In cases where the need to act on EW signals is seen to bring a good amount of resources, action is often instituted immediately even if the warnings are not that serious. Some of the respondents believed that this kind of action would then create an avenue where funds are lost through corruption and misuse if not checked. A significant number of respondents (97%) answered affirmatively to the question that if political will to act is motivated by the gains in resources as opposed to the need on the ground chances are that possible aid diversion or misuse could occur. However, when probed further, most of these respondents told the researcher that sufficient measures have been put in place especially to prevent this kind of diversion through the Community-Based Targeting and Distribution framework developed from early 2000.

Of great importance were the other two sub-categories namely absent or inadequate political will to legislate on EW/Response continuum and poor advocacy by humanitarian agencies that both posted a score of 91%. In the first sub-category (political will to legislate), the study found that the country has not harmonized the laws that govern disaster response and several attempts to streamline these have yet to be fully successful. This was a significant risk because to be able to respond adequately to disaster occurrences the country needs clear legislation that undoubtedly defines the mechanisms,



means, roles and other aspects of disaster response not just by the humanitarian agencies operating in the country but by government entities such as county governments and ministries as well. This legislative framework should also define the expected standards in disaster response as well as roles of various stakeholders and actors. From the key informant interviews, good attempts were made through the 2010 Constitutional framework but there was consensus that more pieces of legislation were required to operationalize some of the aspirations of this constitution in defining roles of the national and county governments in disaster response. Many respondents expressed that this will remove the ad hoc political will that has been used in the past to respond to or disregard EW signals hence precipitating crisis. In particular, this was seen to remove bias in decision making in the utilization of EWS in drought response.

Related to the above factors is the sub-category on politically-motivated delays in declaring crisis. 86% of the respondents interviewed expressed that this was one of the leading political barriers to utilization of EW information to respond to drought on time. One respondent said that “often the government would want to downplay the EW information to safeguard its political image and credibility hence delaying any form of early response” to drought. Many of these respondents believed that political factors such as lack of internal and external good-will as well as delayed declaration of emergency by the government further prevented humanitarian agencies from being able to proactively respond on time. Like the case of research done on government and donors by Buchanan-Smith and Davies and later on by Abdinoor et al, it was affirmed that these barriers gain even more prominence in cases where there are poor donor relations and a lack of pre-emptive dialogue between the humanitarian agencies and donors. This research found these barriers even in the case of humanitarian agencies that were the focus of this study hence leading to the notion that it is not just limited to governments and donors.

Other sub-categories of some significance include lack of a critical mass that would attract political action in drought-prone counties and imbalanced power relations between the duty bearers and right holders which posted scores of 80% and 74% respectively. In the first sub-category, the fact that drought affects northern patterns of the country with relatively low population numbers and hence low voter demand power made it difficult for these areas to push for a stronger political will for the government and other actors to take action on worsening EW signals during drought spells. The same push to have the government and other agencies take action as duty bearers applies to the second sub-category. This study found that the parts affected by drought have often not had sufficient numbers to raise the critical mass of right holders that demand immediate and lasting action when EWS show that the situation was critically spiraling to destitution and loss of lives and livelihoods.

Finally, the sub-category on inadequate policies and legislation posted the lowest score (43%) in this category of barriers. Further probing of respondents revealed that many of the respondents thought Kenya had quite many policies to address some of these barriers but their implementation was lacking. Therefore the problem was not inadequate policies or legislation but implementation of the existing ones that was a key barrier. For instance, some respondents sighted that the NDMA did not have the required resources to address drought-induced crises in the country and did not also have the reach to many humanitarian agencies to provide the required leadership to make actioning EW information to trigger response a best practice.

#### 4.5.2 Logistical Barriers:

The research revealed the following barriers and their proportionate effect on the application of EWS to drought response:

**Table 10: Findings on logistical barriers:**

S/No	Barrier Sub-Category	Total Respondents for Sub-Category	Number of Respondents that agreed it was a current barrier	% Agreement with Sub-Category
1	Poor infrastructure	35	35	100
2	Funding availability	35	35	100
3	Inadequate technology and intermittent communication	35	24	69
4	Ineffective prepositioning policies and practices	35	26	74
5	Internal agency bureaucracies	35	33	94
	<b>Average</b>	<b>35</b>	<b>31</b>	<b>87</b>

#### Presentation and Discussion of Findings:

This was the last category of barriers investigated by this study. In this category, research findings have revealed quite interesting results. The most interesting factor here is that over two decades since Buchanan-Smith and Davies (1995) conducted their studies in the early 1990s very little has changed. The same logistical barriers then continue to plague the lives of many destitute families bringing closer home the urgency for this situation to be resolved without any further delay. According to the findings of this research, poor infrastructure and funding availability emerged as the topmost barriers that literally continue to ensure that hundreds of thousands of people still spiral into destitution as discussed in the theoretical and conceptual framework of this research. With scores of 100% agreement by respondents in each case, this study reveals a situation that needs urgent redress to prevent further suffering in most counties in northern Kenya.

Senior humanitarian agency staff that responded to this study agreed that even though a lot of efforts were ongoing to address the situation a lot more needs to be done to increase the logistical reach, effectiveness and efficiency to address the sagging needs. While most of the blame on things like infrastructure would be apportioned to the government (national and county), at a score of 94% significance it also emerged that humanitarian agencies had their own share of blame as regards the huge internal bureaucratic barriers that make their responses to EW signals late, ineffective and below scale. As key actors within the international relief system and particularly in drought responses in Kenya, the research revealed that it is both urgent and necessary for humanitarian agencies to address the intensive bureaucratic systems internally to increase efficiency and cut the lead time for response to EW information. Further, many of those interviewed expressed the opinion that time has come for these agencies to address gaps in resources, expertise and the logistical capacity for response without fail.

When probed further, some respondents made suggestions to address these barriers. To address the resource constraints a number of respondents talked of the need for humanitarian organizations to preposition not just supplies and materials but also unrestricted funding easily available and with less controls to address an upsurge of emergency responses. On the other hand, a couple of humanitarian agencies revealed that they had started stockpiling and building an emergency reserve fund to help their respective organizations to respond early enough to EW signals in their areas of operation. However, the research found that this was not standard practice and that there were significant variances in the understanding of the need for this positioning from one organization to the other.

This study also found that all the other sub-categories posted huge scores that together averaged to make logistical barriers as one of the leading category of barriers that affect utilization of EWS and EW information to institute early response action. These individual sub-category scores led to the net average score of 87% for this category. The sub-category on inadequate technology and intermittent communication scored 69% while those of ineffective prepositioning policies and practices and internal agency bureaucracies scored 74 and 94% respectively.

Of great significance, the researcher found that there was need for these barriers to be addressed early enough to guarantee survival of the most vulnerable people affected by drought. This finding was based on the success of the early action that saved the livelihoods of the pastoral communities in Isiolo in 2013 when EW information was used to mount a successful response. Often, the international relief system responds to famine once it is underway but is ill-equipped to respond to genuinely early warning, to intervene in time to prevent it. This finding was reinforced by respondents who nuanced that addressing these logistical barriers will positively influence the application of EW information to early response by humanitarian agencies in Kenya and hence save lives and livelihoods of those most at risk.

## CHAPTER V: SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 SUMMARY OF FINDINGS AND CONCLUSIONS

#### 5.1.1. Summary of Findings:

This study has shown that indeed the application of EWS to drought response by humanitarian agencies in Kenya has significant barriers that severely constrain both the effectiveness and efficiency of these disaster management principles and practice. The following table gives the summary and ranking of each of the barriers on the basis of the individual sub-category barrier average scores:

**Table 11: Summary of barriers and their ranking:**

S/No	Main Category	Key Sub-Category	Average Category Score	Category Ranking
1	System related barriers	Indicator, timeliness and predictive capability barriers	43	6
2	System related barriers	Interpretation, presentation and communication barriers	82	4
3	Sustainability barriers	Sustainability barriers	87	1
4	Institutional barriers	Institutional barriers	81	5
5	Political barriers	Political barriers	83	3
6	Logistical barriers	Logistical barriers	87	1
	<b>Average Score</b>		<b>77</b>	

From the table above, this study has revealed that the most outstanding barriers preventing effective and efficient utilization of EWS to trigger timely early response action are those barriers to do with the sustainability of the EWS themselves as well as logistical barriers that prevent immediate response. These two barriers both rank top with an average score

of 87% each. This means that whereas the initial literature review showed that all of these barriers had great significance, field research has shown that the distribution of significance varies to a great extent within the main categories analyzed. Nonetheless, one attempt to explain this variance is that the initial studies largely focused on governments and donors as opposed to humanitarian agencies which were the focus of this particular research. It will be recalled that this was actually the missing link in earlier studies that this current study is predicated on hence this finding not being a major surprise. However, given the scope of this study and its specific focus on humanitarian agencies as opposed to governments and donors it was not possible for this research to analyze deeper how these barriers now play with regard to these two important players (government and donors) in the EWS- Response continuum. This means that follow-up research will need to be conducted to determine how these barriers play out in light of government and donor operations in the EWS- Response framework.

Apart from the key findings above, it was also interesting to note that systems-related barriers posted very varied results. In this regard, indicator, timeliness and predictive capability barriers of the EWS posted the lowest average score at 43% while interpretation, presentation and communication barriers had an average score of 82% holding ranks 6 and 4 respectively. From distilling the findings and the various responses given by the respondents, this finding shows that there seems to be a significant amount of confidence held by the respondents on the actual technical design aspects of the system (EWS), and therefore these aspects not being key barriers. However, the research found that the main problem lay in interpretation, presentation and communication of EW information. Many of the respondents indicated that the EW information was presented in a highly technical and complex manner which was difficult to understand and hence posing a key barrier to its utilization. Nonetheless, both sub-categories still had relatively lower rankings in terms of

how they actually presented barriers to use of EWS to trigger early response action. From the literature and theoretical review, this finding reinforces the assumption that a lot of investments have been put into the EWS since the 1990s hence the systems being able to provide relatively good information required for early action. However, these findings also affirm the existence of a major problem is translating this EW information and signals to early response.

At average scores of 83 and 81% for political and institutional barriers respectively, these two set of barriers prominently prevent effective utilization of EWS to trigger early response. They are therefore barriers that need urgent redress to enhance the effectiveness of EWS for drought response and mitigation. Of particular interest is the fact that the institutional barriers are largely internal to humanitarian agencies hence showing that there is actually a lot that these agencies can and need to do even internally to remove unnecessary barriers that slow down use of EWS to effectuate Early Action.

### **5.1.2 Conclusion:**

On the basis of the above summary findings and those discussed in Chapter IV in detail, this research has revealed that at a total average score of 77% of all these barriers still effectively hamper the effectiveness of use of EWS in triggering early action to drought in Kenya. It also means that humanitarian agencies still face many barriers in their quest to use available EW information to make decisions for early response action. Given the significance of this score and finding, it can therefore be concluded that it is highly important and urgently necessary for solutions to be found to address these barriers to prevent further loss of lives and livelihoods when the country faces recurrent drought episodes.



In the last two decades both the frequency and magnitude of droughts have increased tremendously hence underscoring the urgent need for action. In some cases drought has continued to precipitate a protracted crisis that defies the scale of interventions available presently. This research has brought forth important findings that need action. It has also made attempts to recommend specific actions in the section below. It is therefore the researcher's sincere hope that this exploratory qualitative study has shed more light on how these barriers affect use of EWS in responses by the humanitarian agencies in Kenya and hence play the important role of sociological research plugging knowledge gaps as well as creating impetus and an intellectual basis for urgent action.

## 5.2 RECOMMENDATIONS

Following the above findings, this study therefore makes the following recommendations for action:

1. **Simplification of EW information:** this research has found that interpretation, presentation and communication of EW information are major barriers. Thus there is need for the agencies collecting, collecting and disseminating EW information to simplify it so that it is easy to understand and use to trigger early action.
2. **Translation of EW information:** during the course of this study it emerged that EW information was not actually being fed back to the source communities where data was collected. There is therefore the need to have this information translated in key local languages in affected areas to increase uptake as well as to provide the basis for the communities as right holders to demand action from the duty bearers. This addresses both system-related barriers as well as political barriers.

3. **Universal trigger thresholds:** one of the systems-related barrier found to cause the malfunction of the EWS is lack of a universally agreed upon threshold for trigger of early response. Therefore, this study recommends that humanitarian agencies invest resources and work with the government, donors, universities and other stakeholders to develop a crisis modifier system that clearly has trigger thresholds for early action.
4. **Unrestricted funding reserve:** to be able to address the sustainability of EWS as well as increase the logistical capacity of humanitarian agencies to respond to EW signals on time, there is need for humanitarian agencies to consistently develop a pool of unrestricted funds or reserve funding to be used for the purposes of maintaining a minimum response capacity upon receipt of EW information. This funding could also be used to run EWS and disseminate EW information in formats that are easy to understand.
5. **Operational audits:** given the numerous barriers arising from institutional factors within humanitarian agencies, this study recommends that each agency considers undertaking an internal operational audit of its systems to establish areas that cause unwarranted delays in response action to emergency situations signaled by the EWS.
6. **Improved coordination, policy and legislative frameworks:** the NDMA needs to explore ways of ensuring that all stakeholders involved in the EW-Response continuum for drought including humanitarian agencies are able to effectively coordinate in terms of approaches and strategies to maximize the benefits derived from the advanced EWS that exist in the country. More effort should also be placed to address the policy and legislative frameworks that govern humanitarian operations to enhance accountability, transparency and impact of these operations on the lives of Kenyans living in arid and semi arid lands. This framework should

also address the political division of power and responsibility between the national and county governments and address ways in which both governments work with humanitarian agencies.

7. **Prepositioning:** there is need for prepositioning of materials, supplies and other essential response resources in areas that are prone to drought in order to address logistical barriers that slow down the response lead time.

### **5.3 FURTHER RESEARCH**

Given the scope of this study and its specific focus on humanitarian agencies as opposed to governments and donors it was not possible for this research to analyze deeper how these barriers now play with regard to these two important players (government and donors) in the EWS- Response continuum. This means that follow-up research will need to be conducted to determine how these barriers currently influence use of EWS in drought responses in the country especially with a focus on government and donor operations in the EWS- Response framework. This will also update the study done by Buchanan-Smith and Davies (1995) and refresh the practice of EWS in early drought response action.

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# APPENDIX I: KEY INFORMANT INTERVIEW GUIDE

## KII FOR AGENCY COUNTRY DIRECTORS OR SENIOR HUMANITARIAN DIRECTORS

### INTRODUCTION:

My name is Imeje Zacharia Elung'at. I am a student pursuing a degree course leading to the award of Master of Arts in Sociology (Advanced Disaster Management) at the University of Nairobi. I am currently conducting research on barriers to the application of famine early warning systems to drought crisis response by selected humanitarian agencies in Kenya. This interview is meant to aid in data collection as per the study topic. Your confidentiality in the entire process is guaranteed. Thank you for availing time for this interview.

**Your Name:** \_\_\_\_\_ (Optional)

**Organization:** \_\_\_\_\_

**Type of organization (NGO, UN, Donor, Governmental):** \_\_\_\_\_

### Questions:

1. What is your understanding of EWS and their role in drought response?
2. Do you receive EW bulletins or public releases? What do you use the info for?
3. Do you have your own EWS in your organization? What kind of information do you generate from the system and what do you use the information for?
4. Do you use EW information in deciding and planning your organization's response to drought crises in Kenya? Any examples of success or failure?
5. What institutional barriers do you think prevent the use of EW information for decision making especially with regard to drought responses in Kenya?
6. In your view, what is the role of humanitarian agencies, donors and government in the set up and use of EWS to drought response?
7. What political barriers do you think prevent the use of EW information for decision making especially with regard to drought responses in Kenya?
8. How do these political factors contribute to response delays?
9. How do logistical barriers influence use of EW information to drought response?
10. Any other barrier(s) that prevents use of EWS in early drought response?

## APPENDIX II: EMAIL QUESTIONNAIRE

### QUESTIONNAIRE FOR SENIOR MANAGEMENT REPRESENTATIVES OF AGENCIES

#### INTRODUCTION:

My name is Imeje Zacharia Elung'at. I am a student pursuing a degree course leading to the award of Master of Arts in Sociology (Advanced Disaster Management) at the University of Nairobi. I am currently conducting research on barriers to the application of famine early warning systems to drought crisis response by selected humanitarian agencies in Kenya. This questionnaire is meant to aid in data collection as per the study topic. I kindly request you to spend some moments to answer the questions below. Your confidentiality in the entire process is guaranteed. Thank you for your cooperation and support.

Your Name: \_\_\_\_\_ (Optional)

Organization: \_\_\_\_\_

Type of organization (NGO, UN, Donor, Governmental): \_\_\_\_\_

#### SECTION A: EARLY WARNING SYSTEM (EWS) DESIGN AND IMPLEMENTATION

1. Do you have an understanding of Early Warning Systems (EWS) and their role in aiding decision-making?

a. Yes { }      No { }

b. If yes, what do you think is their purpose and which EWS have you interacted with?

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.....

2. Do you receive Early Warning (EW) bulletins or public releases?

a. Yes { }      No { }

b. If yes, what do you use the information for?

.....



3. Do you use EW information in deciding and planning your organization's response to drought crises in Kenya?                      Yes {  }                      No {  }

If yes how? If no, why don't you use the information? Any improvements needed?

.....  
.....

4. Do you as a decision-maker in your organization find EW information useful to help you make timely decisions to respond to the recommendations?

Yes {  }    No {  }

If yes, what is most useful and if not, what needs to be improved to make the information more useful to decision-making?

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5. In your view, what system related barriers (such as timeliness, accuracy of information, bulletin presentation and interpretation challenges) hinder use of EW information in drought response in Kenya? How can these barriers be removed?

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6. Are there examples of cases where you have used EW data or information to re-design your programmes – such as scale up, scale down, gradually phase out or completely close the programme? If yes, would you please share the case in less than 100 words below?

.....  
.....

**SECTION B: INSTITUTIONAL BARRIERS TO USE OF EW INFORMATION FOR DROUGHT RESPONSE**

7. What institutional barriers do you think prevent the use of EW information for decision making especially with regard to drought responses in Kenya?

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8. In your view, what is the role of humanitarian agencies (NGOs), donors and government in the set up and use of EWS to respond to drought?

a) Role of NGOs?

.....  
.....

b) Role of donors?

.....  
.....

c) Role of government ministries and agencies?

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.....

d) Role of affected communities?

.....  
.....

**SECTION C: POLITICAL BARRIERS TO USE OF EW INFORMATION FOR DROUGHT RESPONSE**

9. What political barriers do you think prevent the use of EW information for decision making especially with regard to drought responses in Kenya? How do they contribute to response delays and how can these barriers be removed?

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 .....

10. Which examples of drought responses would you cite as cases where political barriers led to a delay to respond to drought? What were the reasons for this delay?

<b>Response</b>	<b>Estimate Delay (Days)</b>	<b>Reasons for Delay</b>
i)		
ii)		
iii)		

**SECTION D: LOGISTICAL AND OTHER BARRIERS TO USE OF EW INFORMATION FOR DROUGHT RESPONSE**

11. What logistical barriers hinder use of EW information to respond to drought by humanitarian agencies in Kenya? How can these barriers be removed?

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 .....

12. Any other barrier(s) that prevents use of EWS in early drought response?

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