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Assessing the Emergency Famine Relief Operation in the 2006 Drought Intervention in Kenya

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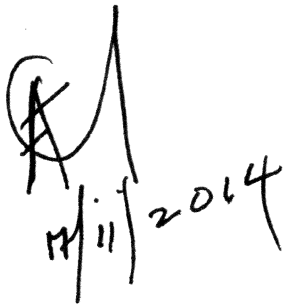
SUPERVISOR: DR.KRISNO NIMPUNO

A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand in partial fulfilment of the requirements for the degree of Masters of Public Health Johannesburg,

November 2014

Declaration

I, Farid Abdulkadir Mohammed, declare that this research report is my own work. It is being submitted for the degree of Masters of Public Health in the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.



ABSTRACT

In 2006, five consecutive years of drought in Eastern and Horn of Africa resulted in a critical water shortage and food insecurity situation. While the situation was extremely serious in Somalia, Djibouti, Eritrea and Ethiopia, Kenya's arid and semi-arid regions were particularly affected. Livelihoods were devastated and some 3.5 million people, about 10 percent of the country's population, faced the risk of starvation. The crisis was exacerbated by the failure of the 2005 October-December short rains in the north, and erratic and patchy rains in the east, a situation which spelled disaster for the Kenyan pastoralist community. Over 40 people and tens of thousands of livestock died from starvation and hunger-related ailments, while rates of child malnutrition reached alarming levels. At the beginning of 2006, the Government of Kenya declared the drought a national disaster and appealed for international support to save the lives of vulnerable people threatened by famine.

With financial and technical support from its partners, the Kenya Red Cross Society (KRCS) mounted a major relief operation for 12 months targeting 329,000 beneficiaries in ten of the most affected districts, namely, Mandera, Wajir, Garissa (North Eastern Province), Marsabit, Mwingi, Isiolo, Makueni (Eastern Province), Kajiado (Rift Valley Province), Tana River and Kwale (Coast Province). During the intervention period, the Kenya Red Cross Society initiated projects aimed at protecting and managing livestock assets of vulnerable communities, improving the nutritional status of the most vulnerable adults and children, improving access to safe drinking water and livestock water, hygiene and sanitation, and contributing towards minimizing mortality and morbidity amongst the communities.

This study set out to analyse the emergency famine relief operation during the 2006 drought intervention in Kenya, focusing on the Kenya Red Cross Society intervention.
The key areas of analysis included the following:

- Identify causal factor that leads to famine

- Kenya Red Cross. Famine Relief Operation in addressing the humanitarian needs of the vulnerable communities during the 2006 drought in Kenya
- Policy and institutional environment for food assistance programmes in Kenya
- Explore policy changes and new implementation strategies to mitigate effects of future droughts.

The desk review study drew extensively on available quantitative and qualitative data, combined with existing reviews and other qualitative studies. Secondary data was used to critically analyze the intervention methods, namely the 2006 Long rain assessment reports, Kenya Drought Emergency Appeals, Kenya Drought updates and Famine Early Warning System, the implementation reports and the Sphere Minimum International Humanitarian Standards. The dynamics of these processes were explored through individual agencies and collective responses.

The research confirmed that food security and insecurity, famine and malnutrition, were multidimensional and closely related to issues such as economic, socio-political, socio-cultural, land use management and production systems, ecological. The research demonstrated the strong link between poverty and people's ability to the access and utilization of food. Thus 'drought causes famine' is not a theory of famine causation; it rather identifies the trigger of certain famines. Inability to cope with drought at individual, household, community or national level, is the underlying cause of drought triggered famines.

The relief interventions were multi-sectorial with heavy focus on food aid. Despite the well-developed response mechanisms based on food relief - commodity logistics, targeting, monitoring and stockpiling by government targeting still remained a challenge.

The link between Disaster Response, Disaster Risk Reduction and sustainable development needs to be strengthened to address food security. A suggested method off livelihood security for vulnerable populations at different levels may be achieved through a three-pronged livelihood system. Relief, rehabilitation/mitigation and

development interventions must be a continuum of related activities and not separate and discrete initiatives.

In conclusion, most food aid programs, even though well designed and managed, often lead to an unintended adverse humanitarian impact on poor health and nutrition among vulnerable populations.

ACKNOWLEDGEMENTS

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CHAPTER ONE

1.1 INTRODUCTION

"Freedom is meaningless if people cannot put food in their stomachs, if they can have no shelter, if illiteracy and disease continue to dog them." (Nelson Mandela 1994)

"We live in a world where we know how to prevent extreme hunger, yet people still die from a lack of food. The greatest tragedy is that the world saw this disaster coming but did not prevent it. [...] 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 started to respond at scale." (Jan Egeland 2012)

The citations by Nelson Mandela and Jan Egeland show what problems today's real world faces. Why is it again and again possible that food security crises occur, although we would theoretically be able to prevent them?

Food security and insecurity are terms used to describe whether or not people have access to sufficient quality and quantity of food. They are affected by factors such as poverty, health, food production, political stability, infrastructure, access to markets, and natural hazards. Improved food security is important for global reduction of hunger and poverty, and for economic development (Parliament 2006). In 2000, world leaders committed themselves to the Millennium Development Goals (MDGs) and one aim of the Millennium Development Goals was to eradicate poverty and hunger, including "to reduce by half the proportion of people who suffer from hunger" between 1990 and 2015. Currently, 820 million people are affected by hunger in developing countries and the number of hungry people in the world is growing at a rate of four million a year; and the trend is not falling quickly enough to achieve the goal, particularly in Africa and Southern Asia (FAO 2006). It is predicted that many people will not reach their MDG targets, particularly in Sub-Saharan Africa, where a third of the population is food

insecure and there is an actual increase in the number of hungry people due to rapid population increase (SFSA 2004).

In 2004, the FAO estimated that about one third of Kenya's population was experiencing chronic food insecurity. The north-eastern regions of the country (Wajir, Garissa and Tana River counties) were mostly affected (FAO 2005). As the annually published report of the FAO "The State of Food Insecurity in the World" 2011 shows, this situation did not improve until 2008: 12.4 million people or 33% of the total population were undernourished in the period from 2006-2008. For the achievement of the MDG to halve, between 1990 and 2015, the proportion of people who suffer from hunger, this means, that if this trend continues, no progress or even deterioration of the situation of the hungry people in Kenya will be the output (FAO 2011).

In 2006, Kenya faced the worst drought in 50 years. Twenty seven out of 72 districts in arid and semiarid lands (ASAL) were severely affected resulting in significant humanitarian and livelihood threats (KFSSG 2006). In December 2005, WFP predicted up to 2.5 million people (ten percent of the Kenyan population) would be under serious stress with global acute child malnutrition ranging from 18 to 30 percent in the arid north and eastern areas of the country. On the other hand, the Government of Kenya (GoK) estimated the number of people requiring food aid to be 3.5 million, including 500,000 school children (GoK 2006). The food aid pipeline was severely stretched, and the GoK required support (WFP 2006). The situation prompted the President of the Republic of Kenya to make an appeal in December 2005 for both local and international support for people living in the drought affected districts. Nonetheless, an assessment of national commodity balance sheets for staple foods in Kenya demonstrated that food security problems largely resulted from problems in food access, as opposed to availability. In fact, the 2005 maize crop yield data presents an increase over previous years, indicating that the food insecurity problem that was experienced was one of access rather than availability.

Kenya has not gone below having 1 million people on food assistance in the last 12 years. The recurrent failure of seasonal rains, sustained high food prices, lack of migration options owing to the regional nature of the drought and insecurity in some areas, and limited recovery time from previous droughts, have strained coping mechanisms and exacerbated pre-existing chronic poverty, particularly in Kenya's arid and semi-arid lands (ASAL) regions (WFP, 2010).

Food insecurity brought about by crises and disasters is linked to governance issues including the lack of progress by the Government on key policy and institutional reforms related to disaster management. This includes the lack of a coordinated and accountable approach to disaster management, the need for greater accountability in food assistance policy, and measures to mitigate the impact of the drought on the vulnerable communities in Kenya.

Whilst the international community encourages the need for policy and institutional reforms, it also contributes to some of the structural weaknesses of the system in that it is relatively easy to mobilise resources for emergency response – most evident as food aid – and much more difficult to support long-term, sustainable and government-led interventions. While in-kind food aid remains dominant, the interest, capacity and funding for cash and voucher interventions in Kenya has increased in recent years, particularly in the ASALs and in urban areas. These three food assistance approaches (in-kind, cash and vouchers) involve different numbers and types of stakeholders, different types of policies and procedures in terms of programme implementation, and thus different risks in terms of misuse or diversion of aid. Managing these risks requires an effective institutional environment, appropriate policies, and governance and accountability mechanisms, at national level and the beneficiary level.

1.2 AIMS

This study aims to assess the Kenya Red Cross Society intervention, in addressing the humanitarian needs of the vulnerable communities during the 2006 drought in Kenya,

and explore policy changes and new implementation strategies to mitigate effects of future droughts.

1.3 OBJECTIVES

The study objectives include the following:

To assess the effectiveness of the Kenya Red Cross response operation based on desk review of the Implementation Progress Reports, against the planned activities as outlined in the Kenya Red Cross 2006 Drought Emergency Appeal and needs, as defined in the Kenya Food Security Committee joint assessment report

To discuss implications and identify policy to be changed to mitigating effects of future droughts, including recommendations for strengthening future drought response operation by Kenya Red Cross and other humanitarian organisations

1.4 JUSTIFICATION

There is little or no evidence that things are getting better despite many years of agricultural and other development aid and promises by different agencies related to increased food security and poverty eradication. Despite a harvest that was 15 percent above average, and a gross domestic product growth rate of 5 percent in 2005, a critical food deficit has emerged in areas of northern and eastern Kenya. This would not have occurred on the present scale without the underlying issues of inequity, marginalization, and inadequate development policies (Machuka 2001). This went down as one of the worst droughts in history of post-colonial Kenya (IFRC/KRCS, 2006). Over 100 people lost their lives and over 3.5 million people were put on the feeding program to avert eminent death due to lack of food (Machuka, 2001). The point of contention has always been over the real reasons behind the latest famine in Kenya and in the continent as a whole. The issue is very important because it could determine future action to prevent

further famines (Mekay 2002).[i] It is therefore crucial that Kenya addresses the problem of famine to realise its development potential.

CHAPTER TWO

2.0 LITERATURE REVIEW

The literature review is divided into two sections; the first part reviews the underlying causes of famine. The second part assesses the relief operation during the 2006 Drought Relief Operation.

2.1 THE DROUGHT

To understand food security and its impact on people, it is essential to begin by defining hunger and its relation to food insecurity, then the outcome of famine. Hunger results when households and individuals are food insecure for a certain period of time. Hunger affects the normal functioning and development of the human body and contributes to the global disease burden by drastically reducing the body's ability to resist infection (Maxwell 1992). In extreme cases, death results from starvation brought about by prolonged hunger or by succumbing to infectious diseases.

Hunger weakens people physically. A persistent chronic hunger limits the body's ability to use energy for daily activities. The undernourished have difficulties in their overall performances and employers and teachers may see hungry people as slow or lazy, when in fact they suffer from lethargy; the body's response to prolonged calorie and nutrient deprivation (Cook 2009). Hunger thus traps individuals and households in a vicious cycle of ill health and diminished capacity for learning and or work, therefore causing and contributing to widespread poverty and death (FAO 2002).

Famine cripples individuals causing deaths in adults and children alike. The weak and vulnerable in the society are also affected by the famine weakening people, draining

them of the energy that they need to work, thus rendering them prone to diseases. In cases where there is extreme malnutrition in children, there is a notable reduction in school performance, long-term brain damage, which eventually if left unchecked affects future livelihoods causing a reduction in economic growth (FAO 2004).

Drought conditions have arguably become the norm. The rapid rate of recurrence does not allow adequate recovery time before the next drought occurs (KRCS 2006). This results in loss of assets for the herding households and increases the burden on the kinship for support survival. Census statistics indicate that some 64 per cent of people living in the North Eastern province live below the poverty line as compared to a national average of 53 per cent (KFSSG 2006). While more recent studies indicate that pastoralist wealth in the area has declined by more than 50 per cent over the past 10 years. At the household level, food supplies from livestock have dramatically reduced (Feinstein International Centre, 2006). Drought usually affects Kenya on a four-to-five-year cycle, with 1973-74, 1984-85 and 1992-94 being periods of extreme drought.

The cyclic history of drought and the escalating human impact is illustrated in the following table:

Year of Drought	Number of People Affected
1975	16,000
1977	20,000
1980	40,000
1984	200,000
1992	1.5 million
1995-6	1.4 million
1999-2000	4.4 million
2004-06	5 million
Source: National Disaster Management Policy, Republic of Kenya, 2004	

Table 1

The table above highlights the period of onset and recovery. Each drought episode stretches over a three to four year period.

In 2005, sub-Saharan Africa experienced a new wave of food emergencies. The crisis that had been quietly and mercilessly unfolding in the Sahel became television news towards the middle of the year. Later in the same year, hunger began to threaten Southern Africa. In early 2006, a food crisis emerged in the Horn of Africa, affecting 11 million people. Three and a half million people were in need of emergency assistance in Kenya in the same year (FAO 2006).

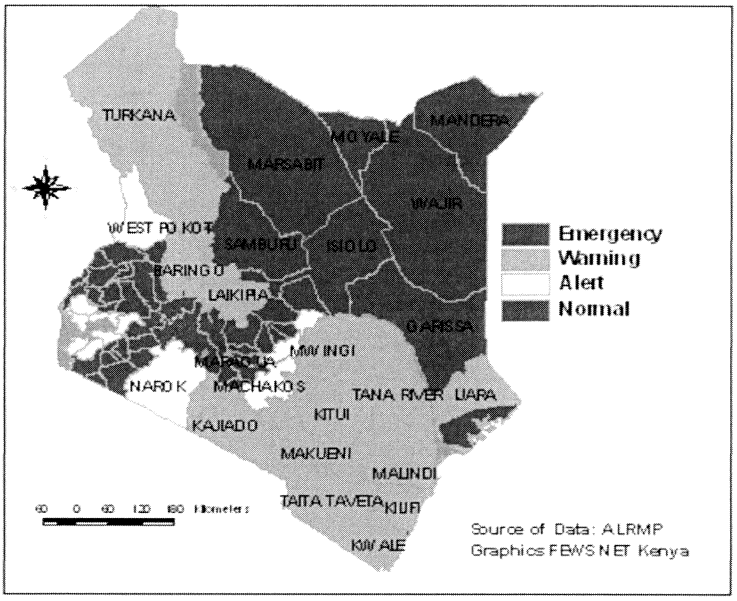


Fig 1 Food Security Status by January 2006

The demand for assistance in periods of drought has increased over time, thus exerting pressure on the Kenyan government, Red Cross and other organizations to increase supplies (USAID, 2006). Despite over 300 million USD mobilized in 2006 by the Government of Kenya, World Food Program, Red Cross and other organizations for the relief intervention, reports of starvation and deaths were still being recorded 3 months after the upscale of the relief intervention.

2.2 EARLY WARNING DATA

Early Warning System (EWS) has long been operating in Kenya through the Food Security Assessment Unit (FSAU) in Nairobi, and the Early Warning Department of the Arid Lands Resource Management Programme (ALRMP) in Kenya. These systems all currently assess food security through a broad livelihoods analysis providing good opportunities for information sharing and broader cross-border analysis. The systems also draw upon climatic through satellite generated information on rainfall and vegetation, agronomic (crop status), economic (market prices) and behavioural (movements of people and livestock) indicators, supplemented in the case of Kenya by sentinel site monitoring of the nutritional status of small numbers of children. The Early Warning System operates well, providing critical and timely data across sectors, collected with a high degree of sensitivity. There is a concern, however, that data based on historic projections or qualitative analysis may have a large margin of error, not always understood by users in the field. The nutritional data are difficult to link with livelihood-based food security indicators, a limitation acknowledged. The issue of most appropriate methodologies and standards for nutritional assessment of under-fives in pastoral societies has always been an issue. Questions about the use of standard Weight for Height measurements are currently the focus of further study. Given the reliance on all Early Warning System data, despite their relative 'lateness', this question has wider implications for drought response.

Early warning data, when available, was disseminated quickly to donors and NGOs. By late 2005 awareness of conditions was high in the region. The delays in response were not due to lack of early information, but to operational, policy and political constraints. These included earmarks (food aid), lack of viable partners able to respond immediately and the need to go for 'safe' options (food aid) rather than mitigation responses with less assured results.

Regional advisors to the major donor countries had nevertheless taken a strong interest in strengthening the early warning component, and in utilizing tools like the Integrated

Food Security & Humanitarian Phase Classification (IPC) system, to translate and communicate comparable analysis and information on all countries of the Horn. Monitoring of cross border movements poses a particular challenge, given the security conditions in the region. This is done effectively in disease surveillance with WHO assistance, and donors have invested in cross border trade monitoring in the region in the past. The political acceptability and the feasibility of a regional application of the system remains to be seen, in view of the position and roles of the different stakeholders in the development of Early Warning System in the region. The top heavy structure of information systems, in which information moved from the local level to Nairobi, with little feedback provided to the location where decisions were being made on the ground, was evident.

2.3 FOOD AID POLICY

Food has always been a source of power. As far back in time as 3500 B.C., Egyptian farmers produced wheat for their own consumption and surplus intended for trade. This gave them wealth and radically transformed their society (Roberts, 2008).

To try and understand famine, it is imperative to interrogate the food policies at both National and International level. The book “Food War” (Heasman 2008) provides an insight into the food policy crisis and its implication on health. Heasman argues that the heart of any new vision on food policy is linking it with ecological health. He states that food policy needs to address the burden of disease, ill health and food-related environmental damage with linkages between food markets and social welfare. Since the 19th century, governments have justified public health investments on the grounds that ill health erodes the social fabric. In the case of food however, policy has been dominated by production rather than health objectives despite widespread evidence of diet-related public health impacts. The authors reduce the complexity of the food system and its policies by identifying a dominant but declining "Productionist" paradigm and two potentially ascendant paradigms: the "Life Sciences Integrated" and "Ecologically Integrated" paradigms.

Kenya is in its quest for the sectored policy goals of income growth, productivity growth, food security and equity being the fourth. Kenya has among the highest gin- coefficient in the world, suggesting that most of the wealth is in a few hands. Most of the wealthy are undoubtedly in the urban areas, but income disparities also exist among the rural zones, and among households in a given zone. This pattern applies to household agricultural income, agricultural income per acre, the value of crop production and sales, crop and livestock income, receipt of credit, degree of commercialization, use of fertilizer, use of hybrid seed, livestock assets and sales, and total household assets (Argwings-Kodhek, et al., 1999). If equity is about who is providing resources to the communities with the highest needs, then Kenya's arid land zones represent a challenge for those pursuing the equity agenda.

As Argwings-Kodhek, et al., (1999) explain, agricultural policy does not seem to be following such an agenda. Policy, through import bans, and tariffs is enhancing net sellers depleting and net buyers. The majority of net sellers are in the relatively better off regions. The anti-import policy, even when the ban or tariffs are lifted, still has the effect of raising prices above what they otherwise would be. This is mainly due to the fact that private sector players cannot plan far ahead to import maize supplies. Reduced domestic supplies raise domestic prices. The policy is meant to offer protection for maize producers but actually harms 68% of rural households and only benefits 17% of all households. This is in the high potential maize zone that produces 90% of marketed maize. Even within this zone, 37% of households are negatively affected by import bans and tariffs on imports of the food of choice among a majority of Kenyans, urban as well as rural (Argwings-Kodhek, 1999). Food aid is considered as a means of addressing acute and chronic food insecurity in low income communities. The main food aid programs were not originally focused on humanitarian objectives, despite the fact that donor country agricultural surplus disposal, trade promotion and other motives still sharply constrain that which food aid can accomplish. In a world where nearly half the population survives on $2/day or less, more than 800 million people go to sleep hungry on any given night, and a child dies every five seconds due to hunger related causes,

there is an ever present and widespread need to respond to the poor. The primary intent of most food aid is to relieve unnecessary human suffering.

While there is an effectively universal agreement as to the desirability of the goal of reducing acute and chronic food insecurity, there remains considerable dispute as to how effective food aid is in achieving the goal. Part of the concern stems from the multiple objectives that underpin many food aid programs and even sometimes raising suspicion that the humanitarian face of food aid is merely a morally appealing cover for inherently objectionable corporate subsidies. Instead, much of the concern arises because the ultimate impacts of food aid programs, like any other policy interventions, are not always as intended.

Since independence, the Kenyan government has undergone a transition of policies under government control from 1963 till 1979, moving to liberalized markets from 1980 to date (Ministry of Planning and National Development, Kenya 2005). The control era was marked by government control and participation in agricultural production, marketing and investment activities. The government emphasized self-sufficiency in domestic production of the main food commodities, namely maize, wheat, rice and milk as a means of achieving food security. On the other hand, the era of liberalized economy has emphasized the role of market forces in guiding production and marketing of agricultural commodities, with increased private sector involvement and reduced government participation (Ongurinade 1999). The mounting debt crisis resulting from the control era triggered the World Bank and International Monetary Fund to push for new policies that limited the state's role (Visram 2006,) by creating enabling environments for individuals and associations to pursue their economic and social objectives (Ongurinade 1999).

This shift by Kenya from an era of control to a liberalized economy saw the country move from a food secure to a food insecure nation (Keino 2004). The focus of policy reforms in developing countries like Kenya has moved from getting prices right to getting appropriate institutions.

2.4 METEOROLOGICAL

Rainfalls are highly variable in Kenya; there are two rainy seasons and two intervening dry seasons. The long rain season lasts from March until June, and is followed by a long dry season from June to October. The second rainy season is shorter and lasts from October to December, followed by another dry period from December to March. All parts of the country are subject to periodic droughts at the beginning and at the end of the two rainy seasons, which has a profound effect on settlement patterns and on the Kenyan population affected by nutrition crises. The severity of the droughts has a deep influence on the ability of the affected population to recover from food insecurity, which drives the food aid needs for the following periods. The most vulnerable regions of Kenya are the arid and semi-arid regions in which agro-pastoralism and pastoralism are the dominant livelihood systems (Bourn and Blench, 1999).

Considering the frequency of drought in Kenya, and direct link to extreme dry weather condition, this could correlates to the theory of global warming and climate change which refer to an increase in average global temperatures. Natural events and human activities are believed to be contributing to an increase in average global temperatures. This is caused primarily by increases in “greenhouse” gases such as Carbon Dioxide (CO_2) (Wheeler 2013).

According to the United States Environmental Protection Agency (EPA), the earth's average temperature has risen by 1.4°F over the past century, and is projected to rise another 2 to 11.5°F over the next hundred years. The EPA states that small changes in the average temperature of the planet can translate to large and potentially dangerous shifts in climate and weather that influence changes in rainfall resulting in more floods, droughts, or intense rain, as well as more frequent and severe heat waves. Similarly, in his paper titled Global Food Security, Challenges and Policies, Rosegrante argues that Climate change could potentially interrupt progress toward a world without hunger.

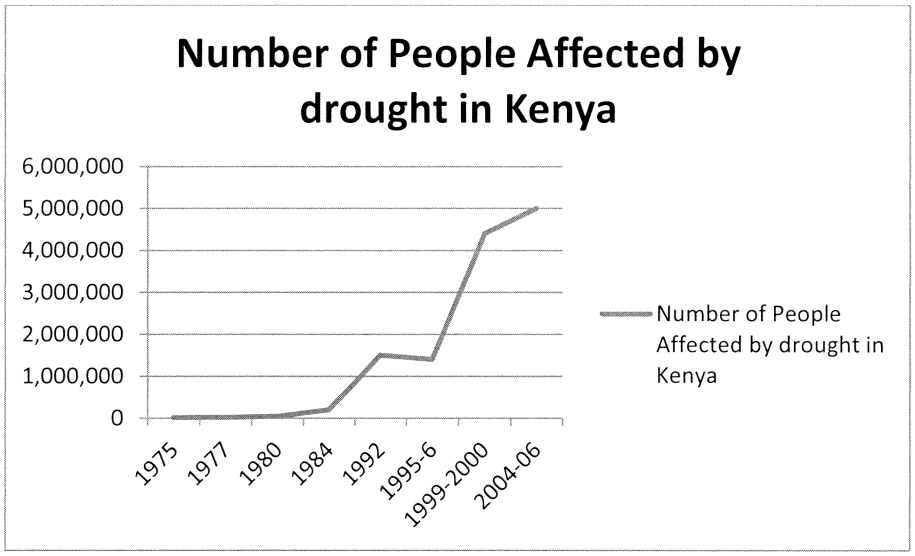


Fig 2 Source: National Disaster Management Policy, Republic of Kenya, 2004

This is evident when comparing the trends in the increase in the total number of people affected by drought in Kenya above, and the trend in the rise of the global temperature below.

Global Temperature anomalies from 1860-2000

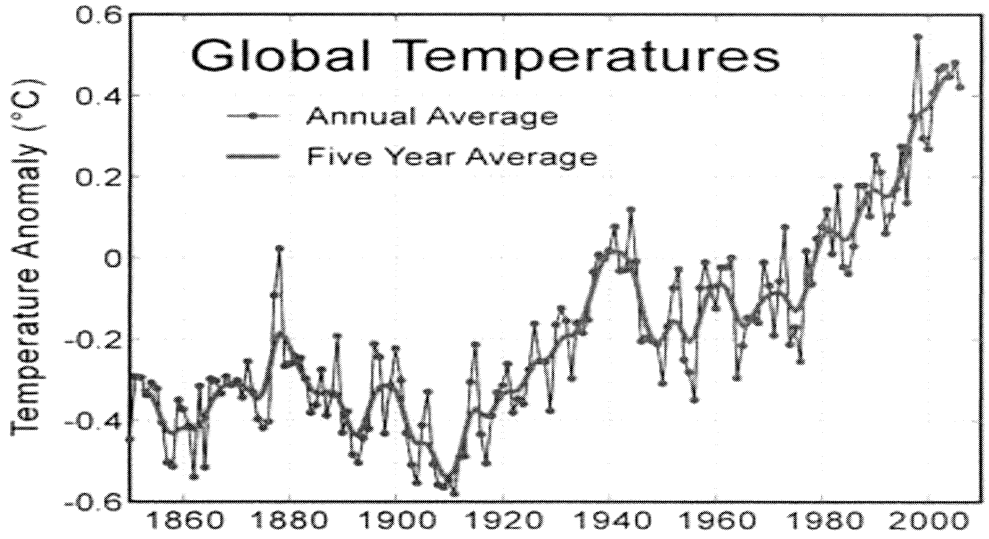


Fig 3 Sources: Does Carbon Dioxide Drive Global Warming? Larry Vardiman, Ph.D.

The impact of global temperature patterns is evident in the impacts of climate change on crop productivity that had consequences on food availability in Kenya. Likewise, food access and utilization was affected indirectly via collateral effects on household and individual incomes, and food utilization impaired by loss of access to drinking water and damage to health. The evidence supports the need for considerable investment in adaptation and mitigation actions toward a "climate-smart food system" that is more resilient to climate change influences on food security.

2.5 DEMOGRAPHIC

In an essay on the "Principle of Population" first published in 1798, Thomas Malthus stated that the geometric growth of population will eventually exceed the arithmetic growth of resources. The essence of Malthus' theory was that population growth must eventually outstrip the growth of resources, primarily food. According to Malthus, the power of population is indefinitely greater than the ability of the earth to produce subsistence for man. Others have called for international programs to slow or reverse population growth and for governmental controls on natural resource use. However, Malthus arguments, upon which some of these fears are based, are rarely scientifically analyzed (Deming 2004).

Contrary to Malthus theory, a research done by Jacinta K. Lemba, and further confirmed by Becker, Kremer and Lock, states that the determinant of aggregate income is positively influenced by the size of the household (Lemba, 2009, Becker 1990, Kremer and Lock, 1993). They observed that large houses make good use of their labour by engaging in wages, salaries, business and farm employment, thus significantly raising the average income level of a household.

According to Devereux (2001) the Malthusian argument can be criticized in several ways. From many twentieth century famines there is evidence of post-famine baby booms, because famine mortality tends to be concentrated on vulnerable groups within the population, like elderly and very young, while the reproductive adults are most likely

to survive. For example during the Great Leap Forward famine in China 1958-63, about 30 million people died – this population was entirely recovered after 15 years. Moreover, Malthus did not foresee the technical revolutions in agriculture, transport and communication which would occur during the industrial revolution in the nineteenth century. Agricultural productivity could be increased, and the improved transport and communications infrastructure facilitated flows of food from surplus to deficit countries and regions. Devereux (2001) also criticizes that Malthusian theories cannot explain the rapid onset of food crises because population growth is a slow process. Food crises rather occur due to a sudden shock in a vulnerable food system than due to a steady decline in productivity of land leading to a shortfall in food availability for the whole population. Consequently, the most useful application of Malthusian theory is to see population pressure as an underlying factor that increases the vulnerability of a society to suddenly occurring events such as drought. On its own, the Malthusian theory is insufficient to explain why food insecurity and famine occur (Devereux 2001).

2.6 HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNODEFICIENCY SYNDROME

In Kenya, another factor that further compounds food security is adult deaths at prime-age as a result of AIDS (World Bank, 1997). The spread of AIDS is making diseases such as tuberculosis more common and at a rate that puts a heavy burden on health systems in most sub-Sahara Africa Countries (World Bank, 1997). HIV/AIDS has had an impact globally; however, third world countries record the highest prevalence rate. According to the United Nations, Food and Agricultural Organization (FAO 2003), as of 2000, about 83% of AIDS related deaths occurred in Africa which is home to one tenth of the world population (FAO, 2000). AIDS's impact on food security on the household is becoming more apparent as medical expenses of ill members increase, education of other members is foregone in order to continue agricultural activities and provide home based care for the sick.

The impact is even greater when the death is that of the head of the household, as technical, management capacity, resources and land endowment could permanently be altered (Bollinger and Stover, 1999). A study conducted in Tanzania's Kangabiro village, confirms that it was compulsory for members of the community to attend the funeral, and more importantly is the moratorium on all farming activities for 2-3 days, and on planting anything for the 7 days of mourning (Tibaijuka, 1997). The research indicates the time dedicated to mourning deaths in the community can amount to 4-8% of the yearly labour time. A shrinking labour base may lead to abandoning cultivation of more fields thus further compromising food security.

2.7 THE RELIEF INTERVENTION

To account for the effects of the rain seasons, the Kenya Food Security Steering Group (KFSSG) conducts a need assessment for food aid twice a year, after each rainy season. The KFSSG is a joint group of specialists from the Government of Kenya (GoK), the United Nations (UN), nongovernmental organizations (NGOs), and district level teams (see Government of Kenya, 2012a).

The assessments consist of determining the number of beneficiaries and the ratio entitlements at the district and division levels across the country. The ratio entitlement corresponds to the percentage of a standard food ration that the beneficiaries are entitled to receive, and is calculated on the basis of their nutritional requirements. This ratio depends on the severity of the seasonal food scarcity. A full ratio entitlement, commonly called a food basket, is made up of 400g of cereal, 60g of pulses, 25g of oil (fortified with vitamins A and D), 50g of fortified blended food (corn soya blend), 15g of sugar, and 15g of iodized salt. To determine the number of beneficiaries and the ratio entitlement, the KFSSG analyzes the available information on the food security situation and other relevant indicators, such as price data, field assessment and livelihood economic contexts.

The results of the assessment are valid for a six-month period, i.e. until the following assessment plan is implemented.

2.8 QUALITY: WAS THE INTERVENTION APPROPRIATE

Famine has had a drastic effect on the population in drought prone areas. This has further been affected by frequencies of the occurrences that do not give room for the communities to recover well from other natural disasters, like excessive rains that cause floods and further destroy the little remaining livelihood activities that survived the drought. The food security challenges facing households in Kenya's arid land pertain to adverse weather conditions and institutional ineffectiveness to adequately facilitate mitigation (Nuwagaba 2006).

Food availability is limited by inadequate resources for production while access is undermined by limited non-farm employment (Nyariki et al., 2002; Muyanga, 2004). The rationale for intervention is integration strategies that enhance farm productivity and non-farm income. For sustainability, intervention processes should focus on building the capacity of rural households to overcome bureaucratic barriers and forge linkages with public service and private market institutions.

The challenge therefore for governments, Red Cross, UN agencies, donor governments and NGO's is to ensure a response to food crises that are tailored to each particular situation and used to support livelihoods as well as meeting immediate needs.

Food consumption determines the future survival of any person, but the precise relationship is uncertain. As Ravallion explains, one may be confident that a person cannot survive if food consumption falls below an amount x0 (say) and that, barring accidents, the same person is very likely to live if at least some larger amount x1 is consumed. He explains that between (x and $x1$,) the outcome will generally depend on attributes of individual health which are difficult for the individual (or anyone else for that matter) to know with certainty. One can conveniently place these attributes under the

rubric of 'personal constitution'. He further explains that the health (h) of each individual is assumed to depend on current food consumption (x) and personal constitution (y) (which may be influenced by past food consumption). For concreteness, (h) can be thought of as the individual's future life span. One can imagine assigning a unique value of (h) to each possible combination of (x) and (y); let this be represented by the health production function 4(x, y) which is strictly increasing in (x) and (y). The function 4 is taken to subsume any indirect effects of (x) and (y) on health operating through vulnerability to disease

The importance of personal constitution from the point of view of allocating food lies in the existence of possibilities for substitution between (x) and (y) in attaining a given level of health. It is plausible that such possibilities exist; a physically strong person can usually get by with a lower calorie intake than a weak person; similarly, a lower metabolic rate permits a lower calorie intake, other things being equal.

In an ideal situation, food aid allocation should be need based; however, the technical and logistics requirement for the Government, Kenya Red Cross and other organizations to be able to do an individual assessment would totally overstretch the capacity and available resources. Thus a standard ratio of 13.8kgs of maize, 2.4kgs of beans and 0.75lts of vegetable oil per person per month was the set standard that is said would provide an individual 2200Kcal per day. This translates to 460g (1587Kcal) maize, 13g (41Kcal) beans and oil 0.025lts (22.3Kcal) per day. This would be able to provide 1628Kcal. 527 kilocalories less than the minimum standard kilocalories intake agreed upon in the sphere guidelines.

Allocation of aid by many donor countries is marked by stark inequalities and can also be identified as a problem. Distribution is determined more by the media or political profile of the crises than by need. A case in point is the massive media coverage in 2005 of the tsunami appeal. It was rated as the most rapid and generously funded response in history. A whopping US$13.5 billion was pledged or donated internationally for emergency relief and reconstruction, including more than US$5.5 billion from the

general public in developed countries. Private donations broke many records and various governments were quite rapid in their funding. Reporting of pledges and commitments and the timeliness of official donations was better than in other crises. In some cases, funds were reallocated due to the wealth of tsunami response resources. Audits and evaluations were often commissioned exceptionally early by implementing agencies. NGO's and the Red Cross Movement often had more funding than donor administrations or multilateral organizations. This was equal to roughly half of the funds for all emergencies worldwide in 2003.

While there is considerable variation between countries, it is generally the case that the majority of resources provided in response to food insecurity are provided by bilateral donors on a government-to-government basis or channeled through NGOs. For instance, World Food Programme is responsible for providing only 20% of total emergency food aid and bilateral donors provide the rest. Increasingly NGOs are used by bilateral donors as channels for their assistance. Approximately 40% of emergency food aid to Africa is now channeled through NGOs such as Red Cross, CARE, Oxfam, Save the Children Fund and the Catholic Relief Services. These trends have important implications. They increase the potential role of foreign policy considerations in the provision of relief and thereby influence the effectiveness of the response. Potentially, they limit the role of local authorities, though much depends on local circumstances and the level of collaboration at the country level between the government and bilateral donor personnel. This increases the need for effective coordination mechanisms between the government, bilateral donor organizations, United Nations agencies, Red Cross and Non-Governmental Organizations (Borton 1991).

Full funding of the International Federation of the Red Cross Disaster Relief Fund has been instrumental in ensuring timely and equitable assistance. The funds are requested and approved within 24 hours. However, this is not sufficient if response arrives late because of inadequate Early Warning Systems (EWS). The Early Warning Systems for Sahelian countries in 2005, for example, were excessively focused on food production, failing to take into account issues of access to food such as rising prices and the

growing vulnerability of nomadic pastoralists. While NGOs and community based organizations often have reliable early warning information, their evidence may be ignored because it lacks the authority of official assessments (Brokensha 1977).

2.9 QUANTITY: WAS THE INTERVENTION ADEQUATE

To understand how positive or negative effects can arise from food aid, it helps to have a conceptual framework in mind. One approach to begin with is the idea that households control a bundle of assets or endowments. These include physical capital (agricultural tools, livestock), natural capital (owned land, access to common property resources), human capital (in the form of knowledge, skills and health), financial capital (cash-in-hand, bank accounts, net loans outstanding), and social capital (networks, norms and social trust that facilitates coordination and cooperation).

In addition, households have labour power – the physical ability of household members to generate income. Households allocate these endowments across a number of activities including agricultural production, wage employment (both locally or elsewhere via migration and remittances), and non-farm, own-business activities. These allocations are based on perceptions regarding current and future returns to these activities, their variability and the extent to which returns move together (co-vary) or diverge. All these activities generate income. In addition, households may obtain income via transfers from other households, NGOs or from the government.

In a research conducted by Lentz (Lentz et al. 2005), on the possible impacts of food aid, it shows that food aid flows can have two broad classes of effects: an insurance effect before the flow, and a transfer effect after the flow. Both effects can alter behaviors (e.g. by changing incentives) and can generate positive dependency or can trigger negative dependency. The former are typically intended effects, while the latter, undesirable consequences are invariably unintended. However, they can often be anticipated through thoughtful analysis.

The provision of food or cash is effectively an income transfer. This local increase in demand for food makes the increase in food consumption greatest when the transfer is provided in kind. When food aid is provided in kind, it also increases the supply of food. Food aid in kind typically leads to greater growth in supply than in demand, following the basic logic of Engel's Law: demand for food increases more slowly than income. In the case of food aid, the income is provided in the form of commodities, thus food supply expands faster than demand.

There is an economic theory that the proportion of income spent on food decreases as income increases and other factors remain constant. This theory does not suggest that money spent on food falls with increase in income, but instead that the percentage of income spent on food rises slower than the percentage increase in income, as proposed by the German statistician Ernst Engel (Lentz et al. 2005). This has two potential effects. First, it will exert some downward pressure on local food prices if the local market is not extremely well integrated into broader national and global markets. Second, food aid will typically displace some commercial purchases, whether from domestic or foreign suppliers.

Neither price reduction nor market displacement effects are intended, but it is effectively impossible to avoid at least one, if not both effects. Food aid affects markets even when one does not bring commodities in from abroad. Instead, when assistance is provided in the form of cash for the local purchase of food or as cash transfers, it expands local food demand. This boosts commercial purchases, whether from domestic or foreign suppliers, and can increase local prices if the local market is not well integrated into broader national and global markets. This effect is sometimes intended, as local and regional purchases are often justified on the basis of helping to establish commercial marketing channels. The effects can also be unintended, especially when local purchases drive food prices up thereby harming poor net buyers who do not benefit from the food aid distribution.

Changes in prices or in the volume of food traded locally may have both positive and intended effects. For example, freeing up scarce cash for recipients who are small farmers to invest in productivity enhancing inputs during the growing season – and adverse unintended effects, as when higher food prices fuelled by local purchases or cash transfers force poor consumers to liquidate precious productive assets (e.g., land or livestock) in order to meet immediate consumption needs, thereby compromising future well-being. Indeed, it is typically impossible to have only intended positive effects from a food aid program. There are almost always unintended adverse effects on some subpopulation.

2.10 TIMELY: WAS THE INTERVENTION TIMELY

When acute famine strikes, most communities are extraordinarily resourceful and draw on a wide range of strategies to survive. But when these survival strategies are exhausted, and when national governments fail to help, external humanitarian assistance is vital to help save lives and prevent acute malnutrition. Effective, efficient and timely intervention can help stop external shocks, such as drought, from creating full-blown crises and therefore reducing the need for subsequent costly interventions. Internationally agreed criteria to monitor and compare food insecurity indicators both during and between crises, would do much to improve Early Warning Systems and help to ensure more timely and equitable aid. For example, monitoring the increased sales of household assets in a vulnerable area could provide an early indication of the need to intervene, rather than waiting for acute malnutrition rates to soar, by which time it is too late (USAID 2000).

Obtaining the right response to food crises also requires a sound assessment of needs, including consultation with the people affected. Greater efforts are also needed to provide vulnerable people with complementary livelihood support, backed by long-term development programmes. Early interventions to help communities build food, seed, or fodder banks can help mitigate the impact of future droughts. They may prevent people from damaging future prospects by selling their tools or land in an effort to cope.

The images of dead and starving children prompt public and government reaction that results in public generosity and the commitment of some donor governments. Humanitarian assistance to Africa has grown from $946 million in 1997 to just over $3 billion in 2003 (UNOCHA 2006), but the inadequacy of a reliable system to address impending food crises condemns many to unnecessary suffering and death.

CHAPTER THREE

3.1 Study Design

Method

The study was desk review and drew extensively on available quantitative and qualitative data combined with existing reviews and other qualitative studies. Rigorous analysis of data was employed to ensure that findings are triangulated and adequate examination of causality particularly where SPHERE standards were being considered. The analysis looked into enablers and barriers both internally and externally. The literature review included review of relevant literature and documented experience of Kenya Red Cross and relevant partners in the response to the 2006 drought emergency situation.

To determine the appropriateness of the intervention, the study used FAO food security framework of Availability, Assess, Utilisation, and Stability. The study measured data from the Ministry of Agriculture on food produce in 2006 against the demand, and determined the availability/shortfall of food during 2006 harvest.

The study reviewed assessment reports and data collected during the Long Rain Food security assessment and measured it against minimum threshold of food insecurity.

To determine the intervention effectiveness, the study conducted a desk review of project report, formal evaluate, and measured them against Sphere International Minimum Standards Indicators.

To determine if the intervention was timely, the study reviewed weather forecast reports from the onset of the short rains in October 2005 to the end of the long rain in April-July 2006, from Kenya Meteorological department and Famine Early Warning Systems (FEWSNet), and from when the government declared drought a National Disaster, to the commencement of the relief operation, from reports of World Food programme and Kenya Red Cross.

3.2 Study Population

The study focuses on the Kenya Red Cross Society, UN and other humanitarian organization's operations during the Kenya Droughts in 2006.

3.3 Measurements and Data Sources

This research report critically analyzed the 2006 long rain assessment reports, Kenya Drought Emergency Appeals, Kenya Drought updates, and Famine Early Warning System, the implementation reports and the Sphere Minimum International Humanitarian Standards. The dynamics of these processes were explored through individual agencies and collective responses.

Kenya has been the focus of many humanitarian aid operations and there is a committed group of national officials and local and international agencies with a wealth of experience in the region. This has been particularly important in shaping the response during the period under review.

In Kenya the national response was relatively rapid but scarce and limited in scale due to the weakness of contingency funding, and dependent on existing resources and infrastructure.

Emergency water interventions and de-stocking programmes began as early as December 2005 in some locations, on a small scale. The response to the drought affecting the Horn of Africa in 2005-2006 was most significant in relation to food aid. The establishment of the National Emergency Relief Operation Kenya and it's scaling up was rapid. The food component of the response was greater than non-food activities, both in absolute terms and in the proportional response to funding appeals.

The Red Cross as the national level 'first responder' and in its international role through the International Federation of Red Cross is a key actor in the country. The activities of Kenya Red Cross Society provide very important disaster preparedness and response measures in various sectors.

3.4 Results

The result of the study recorded during the literature review of the response to the 2006 drought was classified into the following study questions:

- What was the main cause of the 2006 drought in Kenya
- Was the intervention timely
- Was the intervention appropriate
- Was the intervention effective

3.4.1 Main Cause: The Food Security Drivers

The literature review showed that food security and insecurity was the main cause for the 2006 drought in Kenya. This coupled with famine and malnutrition are multidimensional and closely related to issues such as economic, socio-political, socio-

cultural, land use management production systems and ecological. As these issues are different in every context and at every level from global to individual, it should be considered that food security or insecurity drivers have to be analyzed differently in each specific context.

Food Insecurity Drivers

Category	Category Driver
Economic	Income
	Employment
	Cost of living
	Food prices
	Prices of agricultural inputs
	Prices of agricultural products
	Marketing
Socio-political	Infrastructure
	Government policies
	Extension services
	Education
	Health
Socio-cultural	Dependency syndrome
	Unrest and violent conflicts
	Attitudes and perceptions
	Tradition
	Overpopulation
Land use management and production systems	Agricultural practices
	Post-harvest management
	Overdependence on one (cash) crop

	Land degradation
	Water management
	Human-wildlife conflicts
	Livestock pests and diseases
	Crop pests and diseases
Ecological	Rainfall variability and water shortage
	Soil and/or terrain

Fig 4

The above table provides a summary of the category and category drivers that contributed to the drought in 2006

A total of 27 major food insecurity drivers were recorded and divided into 5 categories (economic, socio-political, socio-cultural, ecological, and related to land use management issues and production systems). Among these, 9 drivers were found to be most critical: infrastructure, agricultural practices, income, rainfall variability and water shortage, marketing, prices of agricultural inputs, government policies, water management and the dependency syndrome.

The variety of food insecurity drivers constituting the catalogue show that food insecurity causation in Kenya is multidimensional. The spatial distribution of levels and drivers of food insecurity shows that the north and the south-east of the country are the most food insecure areas, mainly affected by rainfall variability and water-shortage as well as by a lack of infrastructure and adverse government policies. The most food secure areas in the country are the central and western highlands. Factors driving food insecurity there include high prices of agricultural inputs, poor marketing structures and agricultural practices. Along the coast levels of food insecurity range from mild to severe and are mainly caused by inadequate agricultural practices, poor water management and adverse government policies.

3.4.2 Timing: Was the Intervention Timely

The report reviewed the timing of the changes in alarm stage in the Kenyan drought Early Warning Bulletins (EWB), against the onset of the drought as described by the time series of remotely sensed vegetation index data.

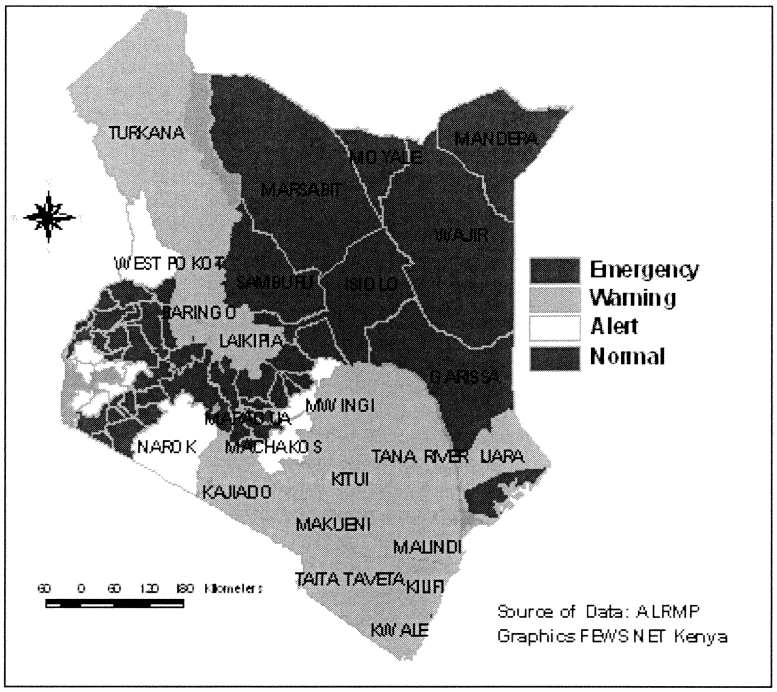


Fig 5 Food Security Status by January 2006

The early warning bulletins provided a warning for the period to come. The research assessed two aspects of timelines of this warning. The first was whether the Early Warning Bulletins warning stage progressed from alarm to emergency in synchrony with the remote sensing data and whether the early warning bulletins that were delivered in time were reviewed.

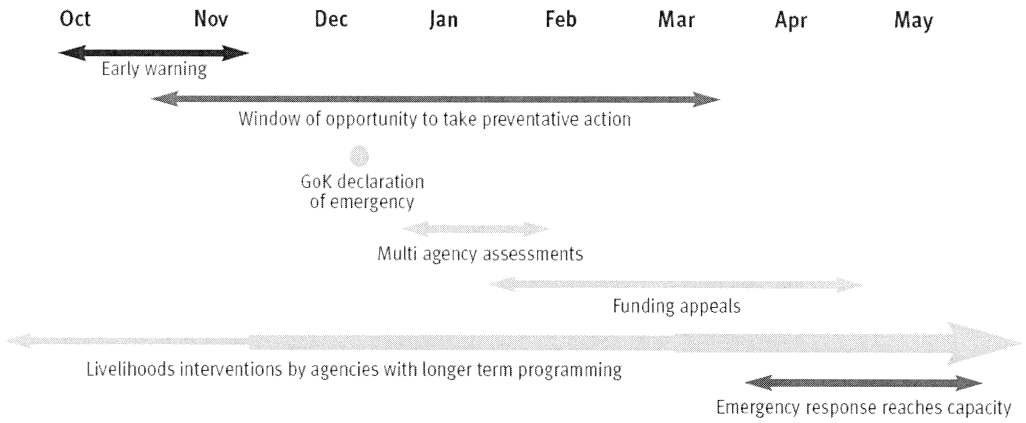


Fig 6 Paper Presented to the Food Security Forum Rome, Reproduced from Daniel Maxwell, et al Rethinking Food Security in Humanitarian Response April 16–18, 2008 Tufts University

Early Warning Data

Early Warning System (EWS) has long been operating in Kenya through the Food Security Assessment Unit (FSAU) in Nairobi and the Early Warning Department of the Arid Lands Resource Management Programme (ALRMP) in Kenya. These systems all currently assess food security through a broad livelihoods analysis providing good opportunities for information sharing and broader cross-border analysis. The systems also draw upon climatic through satellite generated information on rainfall and vegetation, agronomic, (crop status), economic (market prices) and behavioural (movements of people and livestock) indicators, supplemented in the case of Kenya by sentinel site monitoring of the nutritional status of small numbers of children.

Early warning data, when available, was disseminated quickly to donors and NGOs. By late 2005 awareness of conditions was high in the region. The delays in response were not due to lack of early information, but to operational, policy and political constraints. These included earmarks (food aid), lack of viable partners able to respond immediately and the need to go for 'safe' options (food aid) rather than mitigation responses with less assured results.

Regional advisors to the major donor countries had nevertheless taken a strong interest in strengthening the early warning component, and in utilizing tools like the Integrated Food Security & Humanitarian Phase Classification (IPC) system, to translate and communicate comparable analysis and information on all countries of the Horn. Monitoring of cross border movements poses a particular challenge, given the security conditions in the region. This is done effectively in disease surveillance with WHO assistance, and donors have invested in cross border trade monitoring in the region in the past. The political acceptability and the feasibility of a regional application of the system remains to be seen, in view of the position and roles of the different stakeholders in the development of Early Warning System in the region. The top heavy structure of information systems, in which information moved from the local level to Nairobi, with little feedback provided to the location where decisions were being made on the ground, was evident.

3.4.3 Quality: Was the Intervention Appropriate

3.4.3.1 Food Aid

The KRCS assisted the Government of Kenya in transporting 7,179 tonnes of beans, maize, oil, rice, milk and unimix to Migori, Garissa, Machakos, Mandera, Lamu, Mpeketoni and Marsabit, thus enabling beneficiaries of those food items to meet their immediate food requirements.

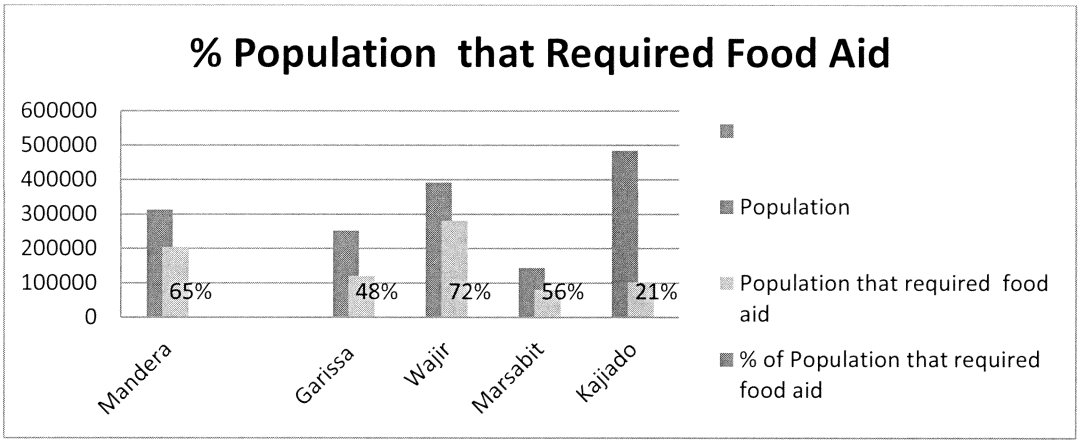


Fig 7

These quantities, as shown in Fig 6, table 2 below, surpassed the planned distribution of maize (4.071 tonnes), beans (708 tonnes) and oil (221,000 litres).

District	Maize (tonnes)	Beans (tonnes)	Oil (,000 litres)	Rice (tonnes)	Unimix (tonnes)	Milk (,000 litres)	Total
Migori	810	67.5	22.41	30	0	0	929.91
Garissa	155.25	27	9	0	0	0	191.25
Machakos	2,250	0	0	0	0	0	2,250
Mandera	1,498	133.43	86	0	0	15	1,732
Lamu	180	67.5	88.56	30	0	0	366.06
Mpeketoni	653.76	33.66	9.558	0	0	0	696.978
Marsabit	458.37	390.6	47.124	18.35	18.125	20.238	952.807
Total	**6,005.38**	**719.69**	**262.652**	**78.35**	**18.125**	**35.238**	

Table 2 Relief items distributed per district

Based on the Sphere minimum standards of 13.8kgs of cereals, 2.8kgs of proteins and 0.75 litres of vegetable oil per person per month, the total amount of maize distributed 6,005,380kgs feed 435,172 people for one month or 145,057.49 people for 3 months.

The total amount of beans distributed amounts to 719,690kgs, this provided 257,032 people with proteins for 1 month or 85,677 people for 3 months. The vegetable oil distributed was 262,652 litres that provided 350,202.67 people with minimum ration size based on the Sphere standards for one month or 116,734.22 people for 3 months.

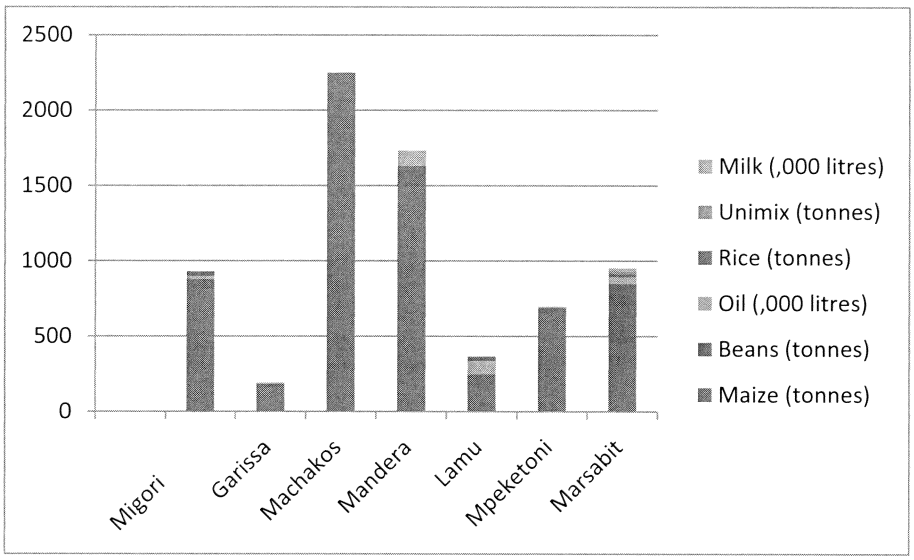


Fig 8 Total relief items distributed per district

The district that received the highest amount of food aid was Machakos with a total of 2250 metric tons, followed by Mandera district that received a total of 1732 metric tons. The district that received the least amount of food aid was Garissa with 191.25 metric tons, followed by Lamu that received a total of 366.06 metric tons. Despite being the highest amount of food aid, the total consignment was only composed of maize.

The only districts that received rice were Mandera and Lamu, 30 metric tons and Marsabit with 18.125.

Marsabit was the only district that received 18.125 tons of unimix, which is a high energy porridge targetting vunerable children under 5-years old. While milk was only distributed in Marsabit, 20.238 Metric tons, and Mandera 15 metric tons.

3.4.3.2. Water Trucking

An activity described as the delivery of water by wheeled transport to communities or institutions. While this activity largely supported humanitarian activities and provided water for human beings primarily, the water occasionally also benefited livestock. A few water trucking interventions have been reported to be solely for livestock support. In the inventory we cannot distinguish whether the main purpose was for humans or for livestock.

The immediate priority was to ensure that people had safe drinking water. During the early days of the operation, the KRCS hired private firms to truck water to areas where access to water sources was direly minimal. A total of 6,467,000 litres of water was transported to the most vulnerable districts as follows: Mandera (3,808,000 litres); Marsabit (1,200,000 litres); Mwingi (940,000 litres); and Moyale (519,000 litres). As water became readily available after the onset of rains, water trucking was stopped. Focus then shifted to finding a more durable solution to ensure communities have sustainable access to water, both for human and animal consumption.

District	Quantity of Water
Mandera	3,808,000 litres;
Marsabit	1,200,000 litres
Mwingi	940,000 litres
Moyale	519,000 litres
Total	6,467,000 litres

Table 3 demonstrates the total amount of water distributed per district

The district that received the highest amount of water through trucking was Mandera with a total of 3.808 million litres of water, followed by Marsabit with 1,2 million litres. The district that received the least amount of water was Moyale with 519,000 litres followed by Mwingi with 940,000 litres.

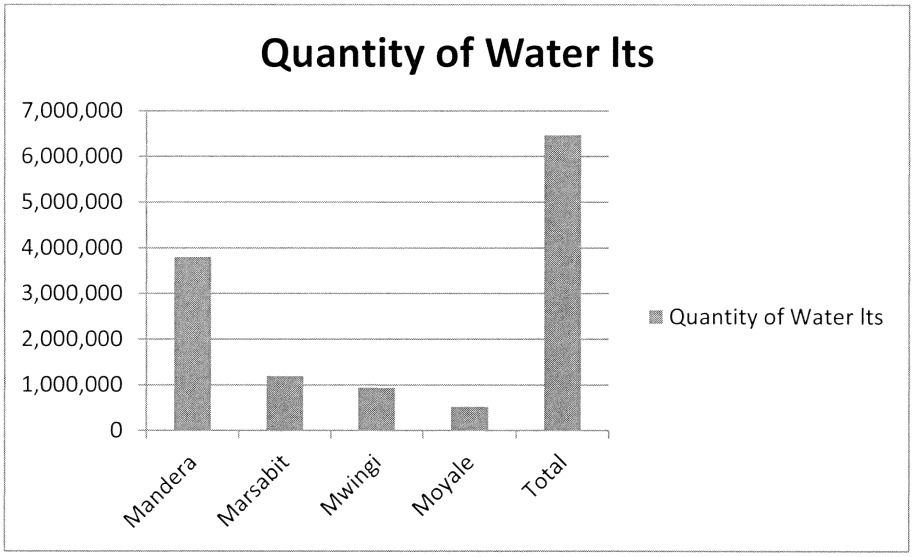


Fig 9

The total amount of water distributed in the 4 districts was 6,469,000, divided by the Sphere minimum standards of 15lts per person per day, it provided for a total of 431133.33 people of water for one day or 143,711.11 for 3 months.

Alternate water-related interventions: This category included distribution of tanks, maintenance and/or construction of shallow wells and pan construction/de-silting, and watershed management interventions.

Ten districts were prioritized; Mandera, Wajir, Garissa, Marsabit, Turkana, Kajiado, Samburu, Isiolo, Kitui and Mwingi. The KRCS purchased 30 bladder tanks for use in the ten districts. The districts were also supplied with 25 water storage tanks, which were mainly installed in schools and health centres.

Twenty water pans and earth dams were also de-silted or constructed in each of the targeted districts. Twenty five shallow wells were constructed or rehabilitated in Turkana, Wajir, Kajiado, Isiolo and Mwingi and were equipped with hand pumps. Eighteen water distribution systems and cattle troughs were constructed in Mandera,

Mwingi, Garissa, Wajir, Samburu and Kajiado, and spare parts and fuel provided for water and sanitation projects in the same districts.

Water committees drawn from Samburu, Mandera, and Garissa and Mwingi districts were trained on improved water management techniques by Red Cross staff. Other completed water and sanitation projects in Mandera and Wajir districts included the construction of an additional eight communal water points, the relocation of six livestock watering points and the construction of a 50 cubic metre ground masonry storage tank for livestock water. Ongoing water and sanitation projects in Mandera and Wajir districts included the construction of water pans, each with a capacity of 18,000 cubic metres.

To improve sanitation conditions and to increase awareness on good general sanitation behaviour, the Red Cross constructed 100 hand washing and bathing facilities as well as 100 model latrines in the ten targeted districts. Refresher Participatory Hygiene and Sanitation Transformation (PHAST) trainings were conducted in Kitui, Makueni, Kajiado, Mandera and Wajir districts, while basic PHAST trainings were conducted in Isiolo and Marsabit districts. The Red Cross also distributed hygiene education materials.

A significant improvement in water supply was achieved by improving the existing water distribution systems. Beneficiaries had access to safe drinking water, thus minimizing incidences of water borne disease outbreaks. Women in particular had easier access to water since water sources are within the proximity of their households

3.4.3.3 Health Intervention

Sixteen district hospitals were supplied with 20 World Health Organization (WHO) emergency health kits. In addition, 20 emergency health kits were donated to 12 districts while four other districts received two kits each. The distribution criterion was the severity of drought, vulnerability of the areas, and an increased demand for health services.

To improve maternal and child health, the Red Cross also supported the rehabilitation of maternity halls and antenatal clinics at the Kutullo and El-wak health facilities. Other activities undertaken by the National Society included health education, hygiene, behavioural change, communication and social mobilization campaigns. These were mainly conducted to stimulate demand for the available health services in the affected areas. In July 2006, a surgical camp benefited over 91 people in Kitui and Marsabit districts. More than 2,000 people also benefited from free medication over a two-day camp at El-wak area.

The National Society also conducted malaria prevention and control campaigns in Kwale, Makueni, Kitui and Tana River districts. Twenty-one districts were reached during measles vaccination campaigns and insecticide-treated mosquito nets (ITNs) distribution campaigns; in addition to de-worming medicines and Vitamin A supplements, 1.7 million ITNs were distributed.

An outbreak of Kala-azar exacerbated the vulnerability of the drought-affected communities. Six children died in Wajir district and six others were hospitalized. To contain the outbreak, Red Cross volunteers launched a massive education campaign to raise community awareness on the Kala-azar threat. Medical personnel were mobilized from Wajir and Isiolo to spray houses in a bid to kill sand flies.

3.4.3.4 Destocking: Animal Off-take

This activity was first piloted in Kenya in Samburu district during the 1984 drought. For some time it was used as a last-resort. Introduction of livestock, mainly sheep or goats which were already in poor condition, are bought by agencies and then slaughtered and in most cases the resultant fresh meat is distributed to needy families. An earlier variant was that meat was dried and subsequently stored and distributed. The Kenya Red Cross Society established purchase and slaughter point in Mandera, Wajir, Marsabit, Kajiado and Garissa districts. Mandera district had the highest number of destocking activities procuring and slaughtering 7900 animals, followed by Wajir district with 3643

animals, and Marsabit district had 3120 animals, Kajiado district had 1276, while Garissa procured and slaughtered 838 animals. A total 16589 animals were slaughtered at a cost of 364,407 CHF in 5 districts and was incomplete.

Prices for the de-stocking were set by the District Steering Group, an inter-agency technical committee. KRCS and government veterinary staff selected wasted (but not sick) animals and took them to slaughter houses; the meat was then distributed to pre-selected beneficiaries. The original target was to off-take 50,000 animals (10,000 heads of cattle and 40,000 goats) in ten most affected districts. Further implementation of this activity, however, was stopped due to the onset of the rainy season, which allowed regeneration of pasture. The animals purchased and slaughtered by the Red Cross had little chance of surviving the drought and their market prices had drastically depreciated. Additionally, the KRCS supported 600 households (out of 1,000 targeted) in six districts – Marsabit, Mandera, Wajir, Garissa, Kajiado and Turkana – to restock. Each household was provided with 20 goats and one donkey. The Red Cross intervention contributed to strengthening household income levels and subsequently, their purchase power.

Animal Off-take

District	Cattle	Goat/Sheep	Camel	Amount (CHF)
Mandera	1200	6400	300	101,695
Wajir	748	2519	188	101,695
Marsabit	353	2767	0	76,271
Kajiado	6	1270	0	42,373
Garissa	18	820	0	42,373
Total	2,325	13,776	488	364,407

Table 4 A brief summary of the Animal Take-Off within the different districts

Mandera and Wajir districts received 101,695 CHF each; however, Mandera was able to utilize the funds more efficiently by procuring and slaughtering 7900 animals while Wajir slaughtered and distributed 3643 animals with similar amounts. No justification

was given for the variance and liitle justification can be given as the two districts are neighbours and had experienced similar impact due to georgrapical and cultural similarity.

Kajiado and Garissa district received 42,372 CHF each. Kajiado procured and slaughtered 1276, while Garissa procured and slaughtered 838 animals. Garissa slaughtered 12 cows more than Kajiado, while Kajiado procured and slaughtered 450 more goats than Garissa. Marsabit procured and slaughtered 3120 animals at a cost of CHF 76,271.

3.4.3.5 Sources of Funding

The contributions of individual citizens and the private sector to early response are becoming extremely important in Kenya. The responses of the business community and the mobilisation of domestic resources by Kenya Red Cross show the potential for mobilizing significant resources quickly in response to an emergency. The press, too, played a critical role in sounding the alarm on conditions in the drought affected areas to 'jump start' the political process as well as partnering with Kenya Red Cross in resources mobilization.

National Appeals

Initiative		Amount Collected Swiss Francs (CHF)
Save-A-Life	Nation Media Group Standard Bank Kenya Breweries	500,0000
Famine Relief Fund	Standard Newspaper Kenya Television Network	30,000
United Against Hunger	Kenya Broadcasting Commission	25,000

	Kenya Commercial Bank	
Kenya Government and Kenya Red Cross National Drought appeal	Barclays Bank Business Community Political Parties Educational Institutions General Public	4,000,000
Total		**4,555,000**

Table 5. Highlights the different appeals made within the drought period by the Kenyan Government

The total amount collected locally was CHF 4,555,000. The Kenya Government and Kenya Red Cross National Drought Appeal received 4 million Swiss Francs (CHF), the highest local donation ever received in Kenya. The lowest amount received was through the United Against Hunger Initiative by Kenya Commercial Bank and Kenya Broadcasting Cooperation.

International Cash Contributions

Donor	Amount in Swiss Francs
American Red Cross	194,850
Australia - Private Donors	223
British Red Cross	79,310
Finnish Red Cross	155,650
French Red Cross	8,958
IFRC	1,639
Irish Government	77,723
Irish Red Cross	156,853
Japanese Red Cross	332,142
Libyan Red Crescent	1,000

Monaco Red Cross	31,300
Netherlands Red Cross	1,929,134
Norwegian Red Cross	825,473
On Line donations	15,038
Swedish Red Cross	1,033,700
Switzerland - Private Donors	200
Other	505
Cash contributions	**CHF 4,843,697**

Table 6. Summary of international contributions

The total cash donations received from the international appeal was CHF 4,843, 697. The highest donor from the international appeal was Netherlands Red Cross with CHF 1,929,134 million, followed by the Swedish Red Cross with CHF 1,033,700; the lowest amount was CHF 200 from a private donor from Switzerland followed by CHF 233 from a private donor from Australia.

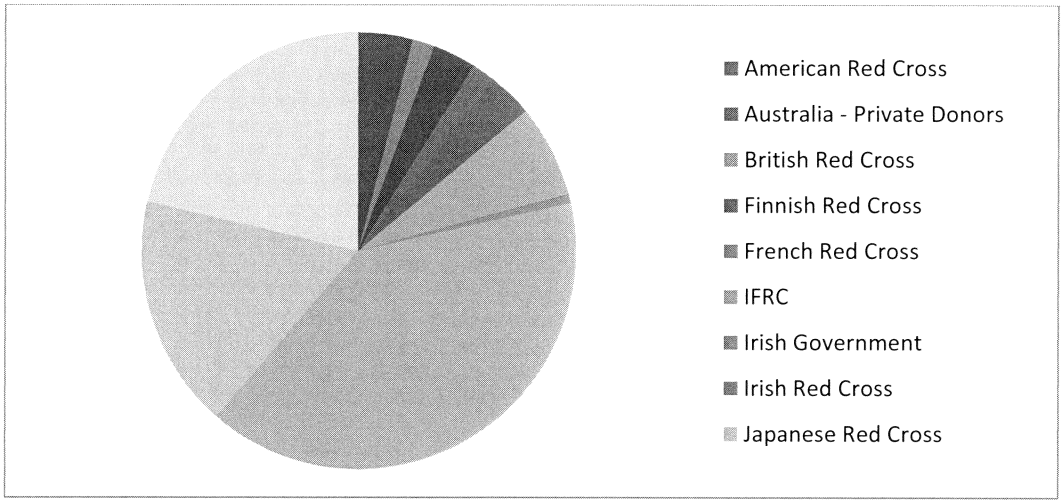


Fig 10

3.4.3.6 Gender Mainstreaming

Decentralised structures proved essential to ensure field based action oriented needs, driven coordination. In general; however, the links between different levels (national/district) remain weak. The literature review noted that women's representation in coordination mechanisms was limited, particularly in the field, where patriarchal structures in local communities may make it difficult even for women representing international agencies to participate fully. As would be expected, women were more present in health and nutrition activities. Gender mainstreaming is important but requires considerable sensitivity in these male-dominated societies. At the same time, there is a risk that it remains political rhetoric rather than a programmatic and operational approach. Communities are rarely involved in the coordination mechanisms. While understandable, given the logistical constraints, this limited their long term effectiveness since they depend on local implementation. These limitations on participation represented 'missed opportunities' to build local capacities for community-based response, involving women and local authority structures.

3.4.4 Quantity: Was the Intervention Effective

Was the Intervention appropriate			
Standard	Level of achievement	Rating	
1. Timeliness	Partially met	2/4	
2. Coverage	Met	4/4	All the affected districts where covered equitably
3. Technical aspects of programme measured against Sphere and Red Cross quality standards	Partially met	2/4	Food ration was based on the 2200Kcal per, however this was not always met due to shortage of supplies
4. Indicators (both process and impact) in place and being measured	Met	1/2	The indicators mainly capture quantities distributed rather than improvement in nutritional status
5. Feedback/complaints system in place and functioning and documented evidence of	Partially met	1/2	Food aid is a highly politicized exercise and most feedback was from politicians, for political gains.

consultation and participation			The Food committee set a complain desk in all distributions
6. Partners fully engaged in all aspects of the project cycle	Met	2/2	The KRCS, effectively mobilized local and international resources Formation of local food committees All KRCS Branch Officials are from the community
7. Programme reflects measures to address dignity and protection issues	Met	0/2	
8. Programme delivery addresses gender and specific needs of vulnerable groups	Partially met	2/2	Women were registration as recipient Pastoralist community targeted in Animal-off
9. Exit strategy/recovery plan in place	Met	2/2	Seed distribution, Water projects, re-stocking was done as part of the exit strategy
10. Evidenced utilisation of contingency plan in last humanitarian response	Met	0/2	No evidence to show contingency plan was utilized
11. Programme addresses advocacy issues	Met	2/2	The advocacy was one of the most effective component due to the partnership with all media houses
12. Programme is linked to/will be linked to DRR interventions in area	Met	1/2	Partially met as part of the exit strategy, due to the complexity of food insecurity
Final rating		20/30	

Table7: Quantitative ratings for the Kenya Drought and Food Insecurity Response, using the Global Humanitarian Indicator Tool.

CHAPTER FOUR

4.1 DISCUSSION

The relief intervention was multi-sector; however, the focus was heavily on food aid, reflecting the levels of resources available for different sectors. The results on food insecurity causation in Kenya provided a good base to be further developed and analyzed in order to plan interventions or for further research. Food was used to meet a range of needs, from large scale loosely targeted distribution and supplementary feeding programmes, to more targeted support for food for work programmes, school feeding schemes and support to Internally Displaced Persons.

The spatial distribution of food insecurity drivers across Kenya shows that food insecurity causation is not only multidimensional, but also context-specific. This has important consequences for the planning of interventions to mitigate food insecurity. Multidimensionality and context-specificity demand a careful analysis of local economic, environmental, societal, cultural and political circumstances in view of finding adapted food insecurity mitigation measures.

However, before planning interventions, it is important to do more in depth analyses of the regions where interventions are planned, also considering local level or even household level issues such as attitudes, social networks, wealth status of the people and other livelihood aspects.

Emergency provision of water, setting up or support of nutritional and health services, destocking programmes, animal health interventions, seed distribution operations etc., were extremely beneficial, even if implemented late. The flow of food aid to the most affected regions was reliable throughout the period under study.

The Early Warning System operates well, providing critical and timely data across sectors, collected with a high degree of sensitivity. There is a concern, however, that

data based on historic projections or qualitative analysis may have a large margin of error, not always understood by users in the field. The nutritional data are difficult to link with livelihood-based food security indicators, a limitation acknowledged. The issue of most appropriate methodologies and standards for nutritional assessment of under-fives in pastoral societies has always been an issue. Questions about the use of standard Weight for Height measurements are currently the focus of further study. Given the reliance of all Early Warning System data, despite their relative 'lateness' this question has wider implications for drought response.

The warning stage of the early warning bulletin for pastoral areas did not reflect the condition of rangelands, which was relevant for livestock based interventions. The reason for this is that the Early Warning System is a compound index which mixes early warning indicators such as rainfall with agricultural and social monitoring indicators which have no forecasting capability for agricultural and social systems.

In the 5 districts, an estimated 15,873 animals were purchased as part of emergency off- take. Some types of interventions are generally considered to be more effective than others; however, without information on the size of the benefits delivered to individuals and households, we cannot say anything about their relative impact. Across all types of interventions, the significant relationship between the effectiveness of an intervention and its cost per individual reached is non-existent. This suggests that being effective is not simply a process of spending more money, instead significant gains should be made by improving the way current resources are spent.

The boreholes have also brought the community together. They have learnt to use it as a community resource, charging 2KSh per 20litre jerry can of water for domestic usage. For animals, they charge using thresholds, for example if one has 50 heads of cattle or less, it would cost 300KSh per month. They use the money to buy diesel fuel to pump the generator. It has also brought new life to the community. Those who lost all their animals during the drought have been able to develop alternative livelihoods by practicing farming. Neighbouring communities came to buy clean borehole water.

Health services and preventive activities were important features of the response, although limited, both in coverage and in the range of activities, with a certain emphasis on on-going vertical programmes, important but not always the highest priority during an emergency. It is clear that provision of water and food at schools encouraged retention and increased enrolments. New temporary or permanent facilities, part of the response in some areas, attracted children out of school. While this was not envisaged as a gender-related response, it had the effect of opening up access to schooling for large numbers of girls.

The relative lateness of the major part of the international response implies that many possibilities for disaster mitigation, especially reduction of asset depletion, were missed or not optimally done. Livelihood interventions and emergency support to the water sector took place, but the size of the response in these sectors was far from sufficient. The well-developed response mechanisms based on food relief - commodity logistics, targeting, monitoring, stockpiling by government - were impressive in their capacity to move food over great distances to large numbers of people throughout the region. But targeting remains problematic: large segments of the population were mobile, Internally Displaced Persons were not always authentic and the pull/push factor, the tendency of food aid to encourage settlement, is well established; sharing practices, strongly established in the whole area, (between communities, within communities and within households) lowered the potential impact of food aid. Historical concerns about large food aid programmes: diversion and sales of commodities, risk of dependency and poor targeting proved to be a challenge. The complex relationship between family food supply and child nutritional status continues to be a serious challenge to donors, scholars and humanitarian actors.

Nutritional programming was sparse, depending heavily on the presence of an implementing organisation in a severely affected area, and not always coordinated with the other interventions in health and water in the same communities. The logistical challenges of managing adequate supervision structures for caretakers of children

under treatment were evident. Methodological debates on how to assess vulnerability and malnutrition levels in the specific pastoral environments of the Kenya offer great opportunities for improvement in programming food aid and nutrition interventions.

The current challenges require that the Red Cross re-evaluate and have a paradigm shift in its approach to food security. After strengthening the systems and creating a frame work for change, and positive attitude towards change and a system that can deliver quality service, comes the main task of implementing the change.

The Red Cross needs to view food security beyond food aid and seeds hand-outs. There is a need to adopt a household livelihood security as its organizing conceptual framework and appreciate the contribution that this framework could make towards improved programming.

In order to address the issue of Food Security, the Red Cross needs to adopt a Disaster Risk reduction approach and recognise the strong linkage between risk reduction and sustainable development, in particular the Hyogo 2005-2015 Declaration and Framework of action of Africa Regional Strategy for Disaster Risk Reduction (ARSDRR).

In addition, the KRCS adopting the Millennium Development Goals (MDGs) would guide the Red Cross to a broader vision of development that sees achieving human development as an essential component of sustainable social and economic progress. The MDGs set eight priority objectives, each of which is related directly or indirectly to Food Security and Disaster Risk Reduction in General.

With a view to achieving this goal, the Hyogo Framework of Action sets three priority objectives

- The more effective integration of disaster risk consideration into sustainable development policies, planning and programming at all levels, with a special

emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

- The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards;
- The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities

The implementation of the Millennium Development Goals and the Hyogo Framework for Action by the Red Cross would aim at promoting sustainable development and eradicating poverty by pursuing better identification and evaluation of root causes of food security and integrating long term food security strategies in emergency response management.

Household livelihood security is defined as adequate and sustainable access to income and resources to meet basic needs (including adequate access to food, potable water, health facilities, educational opportunities, housing, time for community participation and social integration). Livelihoods can be made up of a range of on-farm and off-farm activities which together provide a variety of procurement strategies for food and cash. Thus, each household can have several possible sources of income which constitute its livelihood. These entitlements are based on the household's endowments and its position in the legal, political and social fabric of society (Drinkwater and McEwen, 1992). The risk of livelihood failure determines the level of vulnerability of a household to income, food, health and nutritional insecurity. Therefore livelihoods are secure when households have secure ownership of, or access to, resources and income earning activities, including reserves and assets, to offset risks, ease shocks and meet contingencies (Chambers, 1989).

A livelihood is sustainable, according to Chambers and Conway (1992), when it "can cope with and recover from the stress and shocks, maintain its capability and assets,

and provide sustainable livelihood opportunities for the next generation..." Unfortunately, not all households are equal in their ability to cope with stress and repeated shocks. Poor people balance competing needs for asset preservation, income generation and present and future food supplies in complex ways (Maxwell and Smith, 1992). Some people may go hungry up to a point to meet another objective while others will tolerate the hunger to a considerable degree to preserve seeds for planting, to cultivate their own fields or to avoid selling animals. (Corbett 1988), in exploring the sequential ordering of behavioural responses employed in periods of stress, found that in a number of African and Asian countries, preservation of assets takes priority over meeting immediate food needs until the point of destitution.

Thus, food and nutritional security are subsets of livelihood security; food needs are not necessarily more important than other basic needs or aspects of subsistence and survival within households. Food-insecure households juggle among a range of requirements, including immediate consumption and future capacity to produce.

CHAPTER FIVE

5.1 RECOMMENDATIONS

Red Cross recognizes that the ability of poor households to make a living is not static. A range of intervention options needs to be made available to poor populations facing various circumstances. To enhance the livelihood security of vulnerable populations at different levels, a three-pronged livelihood systems approach has been conceived based on the relief-development continuum: the notion that relief, rehabilitation/mitigation and development interventions are a continuum of related activities, not separate and discrete initiatives. Household food, nutrition and income security can be enhanced by one or a combination of the three intervention strategies described below.

5.1.1 Livelihood Promotion (Development Oriented Programming)

Livelihood promotion involves improving the resilience of household livelihoods so that food and other basic needs can be met on a sustainable basis (i.e. development). Interventions of this type often aim to reduce the structural vulnerability of livelihood systems by focusing on:

- Improving production to stabilize yields through diversification into agro-ecologically appropriate crops and natural resource management measures (e.g. soil and water conservation);

- Creating alternative income-generating activities (e.g. activities to develop small enterprise);

- Reinforcing coping strategies that are economically and environmentally sustainable (e.g. seasonally appropriate off-farm employment);

- Improving on-farm storage capacity to increase the availability of buffer stocks;

- Improving common property management through community participation. Promotion-type interventions could also deal with meso-level development, where the linkages between food surplus areas and food deficit areas could be strengthened through investment in regional infrastructure and market organization.

Such interventions could help improve the terms of trade for the poor by improving local access to income, enhancing food availability and lowering food prices. In addition, livelihood promotion activities could focus on preventive measures that improve health and sanitation conditions and the population/resource balance to ensure that any income and production gains are not lost to disease and unchecked population growth.

5.2 CONCLUSION

The intended micro-level effects of food aid are reasonably straightforward: to provide insurance to avoid catastrophic losses and to provide income transfers (often in the form of food) so as to guarantee at least minimal access to the food necessary to meet the internationally recognized human right to food. The aim is to save lives, protect assets and when possible, sustainably improve beneficiaries' lives through enabling investment in improved human nutrition and health, or in productivity-enhancements to household livelihoods.

In many kinds of humanitarian emergencies, food aid is intended for the protection of livelihood assets, protection of human nutritional status as well as human life.

The most common applications of food aid for protecting human life and nutritional status in acute humanitarian emergencies are:

(i) General nutrition support that is primarily through direct distribution of a basic food ration to vulnerable groups (based on some assessment of need);

(ii) Correcting malnutrition via supplementary or therapeutic feeding especially acutely affected sub-groups; and

(iii) Food For Work (FFW) if the emergency intervention is mounted rapidly enough to begin before people have been so badly affected by the crisis that they cannot undertake sustained physical labour. It is very difficult to get good figures on the impact of emergency food aid operations, given the context in which they take place. Nonetheless, emergency food aid is widely acknowledged to have protected the lives and health of hundreds of millions of emergency-affected people over the past fifty-plus years. Hence there is growing focus on emergency assistance within the food aid community. World Food Programme reported having devoted 90% of its resources to emergencies in 2003 and notes that number of deaths resulting from causes other than

direct violence in emergencies dropped 40% during the decade between 1993 and 2003. Outside of humanitarian emergencies, food aid's intended consequences become less clearly distinguishable from those of development interventions underpinned by non-food resources. Firm evidence on the broader nutritional impacts of non-emergency food aid sourced from abroad is strikingly scarce, although there is ample good evidence of favourable nutritional and healthy effects of food assistance programs more generally – food stamps, food subsidies, public employment schemes, school feeding programs, supplementary feeding programs, on community food consumption, health or nutritional status.

Similarly, while interventions such as public works projects underpinned by food aid, such as food for work, maternal and child health centres, school feeding programs, justifiably receive widespread support as instruments of development policy, there remain legitimate questions as to whether this justifies food aid, rather than cash, as the means to support such interventions. The literature clearly suggests that food aid can effectively achieve its primary intended effects: to ensure adequate food for vulnerable peoples in humanitarian emergencies; in social protection and safety nets, as insurance against difficult-to-reverse loss of crucial productive assets, especially human health; and sometimes in support of more general development efforts.

In spite of their best intentions, most food aid programs, even though well designed and managed, have faults primarily due to the inherent difficulty of only feeding those who are in need. Faults in exclusion/omission (inadvertently missing intended recipients) often lead to unintended, adverse humanitarian impacts associated with poor health and nutrition among vulnerable subpopulations. Meanwhile, errors of inclusion, inadvertently providing food aid to unintended beneficiaries and food aid delivered at the wrong time or in an inappropriate form, can often create unintended disincentives to desired behaviours.

Perhaps the most pervasive and maybe misguided claim is that food aid eventually makes people lazy and it unintentionally discourages people from working. It was also

discovered that microeconomic theory suggests that because transfers increase recipient's welfare, they generate income effects that will tend to reduce labour supply simply because even hard-working people prefer more leisure to less work. The economic reality that any transfer, be it in the form of food or not, discourages recipients from working, undermines much popular support for transfers, as heated debates over the past decade about domestic welfare programs in the West have vividly demonstrated. The implication is that targeting errors of inclusion magnify the labour market disincentive effects inherent to food aid by providing benefits to those who are most able and willing to turn transfers into leisure instead of increased food consumption.

The distorted effects of food aid on labour supply appear minimal when food aid is appropriately targeted to intended recipients. Put differently, when one encounters an apparent labour disincentive problem, this typically signals poor targeting as the root problem, not a poor work ethic among intended recipients.

The combination of high resilience of these populations, the significant responses from national governments and the mobilisation of the international community allowed for some of the challenges to be addressed. Yet, the climatic evolutions and progressively eroded resilience in a region, where socio-economic indicators (health, nutrition, access to education) are often at the lower side of the international spectrum, are still rife. Government mechanisms for response and coordination are now well established and utilized at all levels. Many lessons learnt from previous droughts have been implemented in the development of these systems.

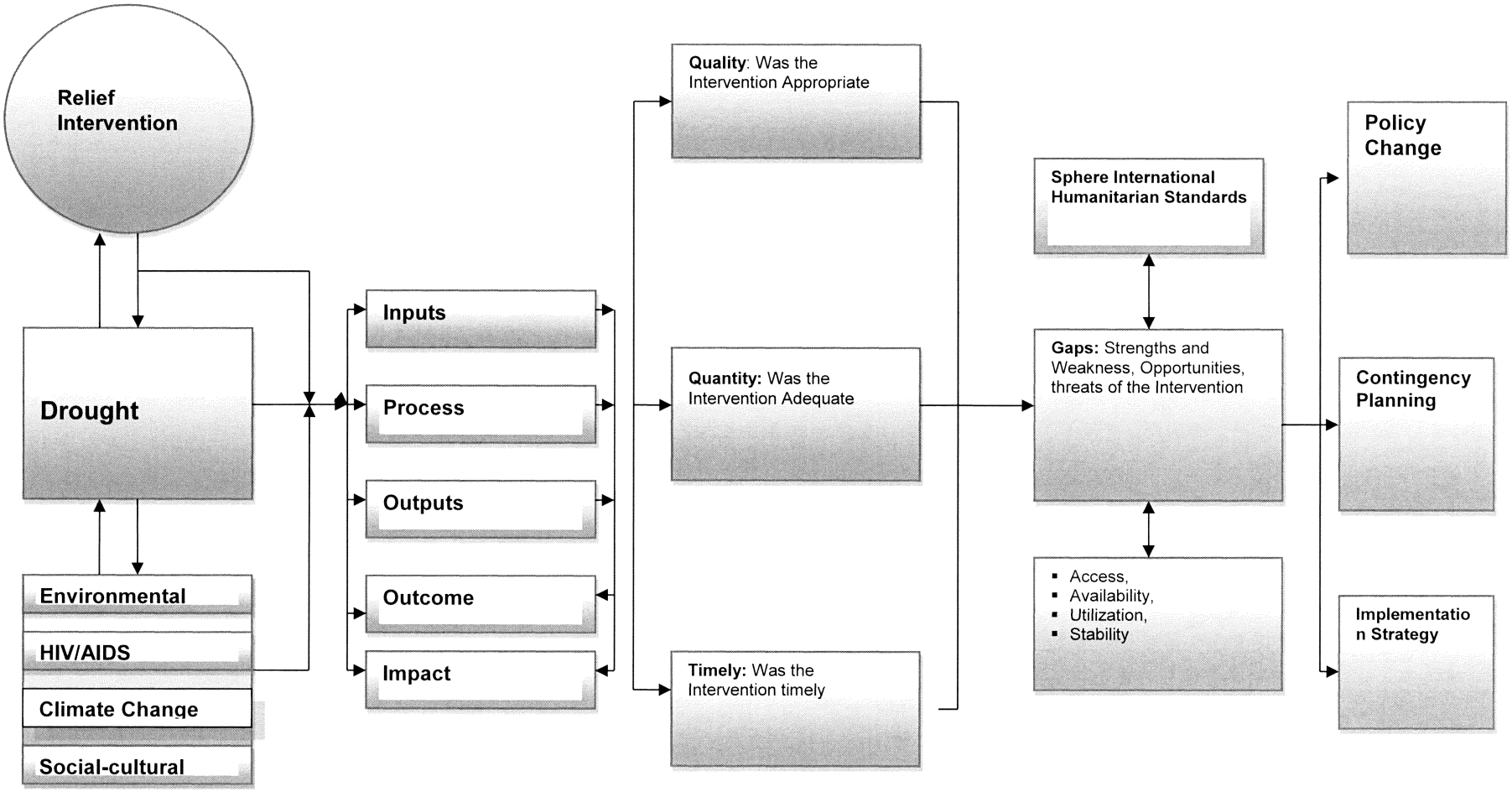
Effective early warning alone does not ensure a timely or adequate response in slow-onset disasters such as drought. The response is still too often too little too late, largely due to unsatisfactory and often too late resource mobilization. The key to this may be reforms to a donor-based response system, as was proposed in one country, where linked contingency plans and funding were advocated.

Most importantly is the link between emergency response and reduction of vulnerability. National policies have made much progress in the direction of defining longer term solutions to chronic food insecurity and very low quality of the social services but implementation will be a costly and protracted process. The regional perspective is also essential, as both natural disasters and resource-based conflicts are more and more cross-border and have regional repercussions.

In addition, Red Cross from governance, senior managers, programme staff, project staff, volunteers and beneficiaries needs to have clear vision with clear indicators of the intended outcome. This will guide the inputs, be it in human, material or financial resources. This would require an improvement in communication systems and equipment, developing minimum standards of operation. The process is equally important as the inputs as this is one of the main determinants of our outcome. This is where the fusion of the various inputs converges and synergy between the beneficiaries, the implementer, and the donor is created to achieve a common goal.

THE RESEARCH PROCESS

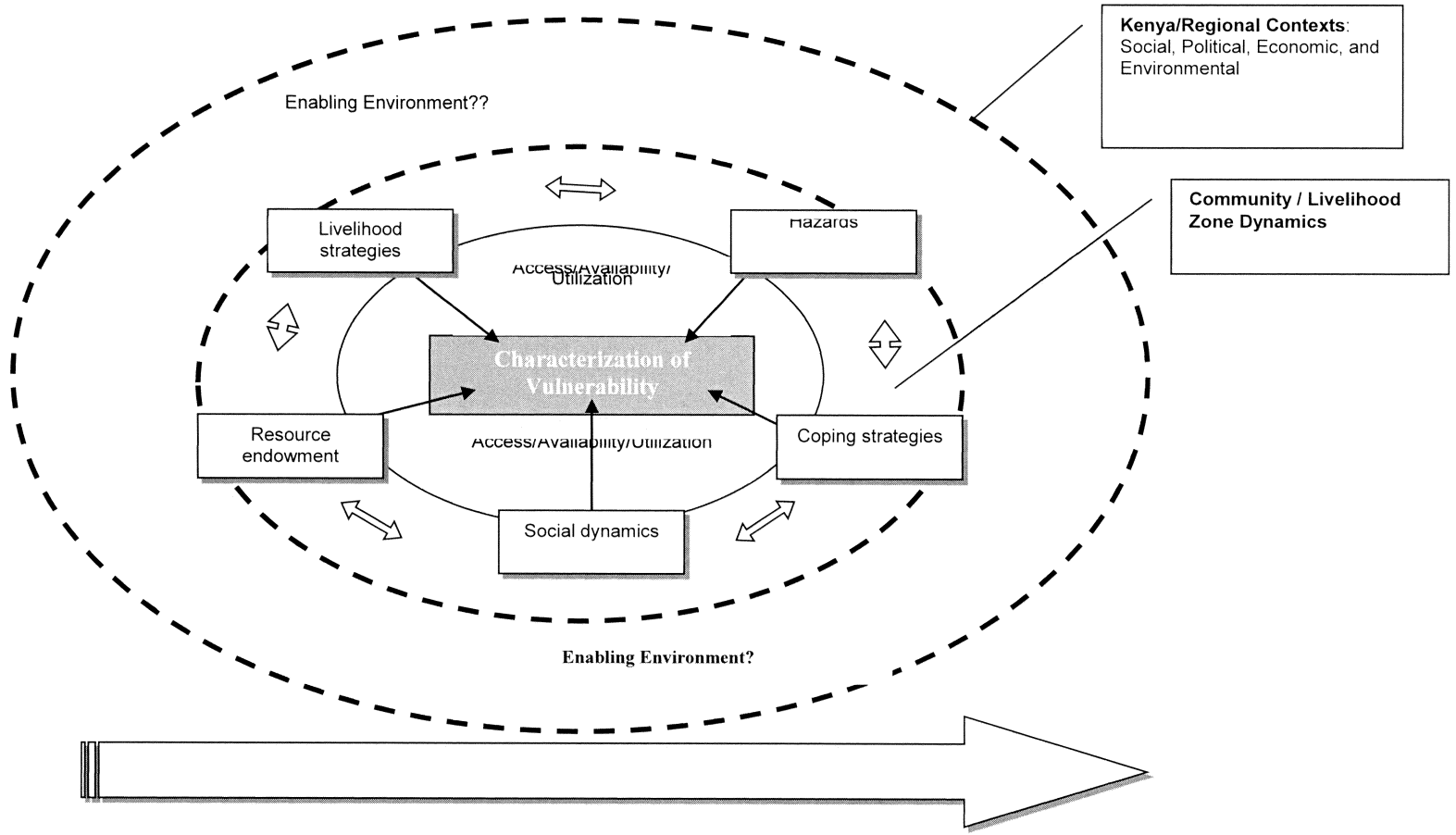
Annex 1



Farid Abdukadir: Original Model

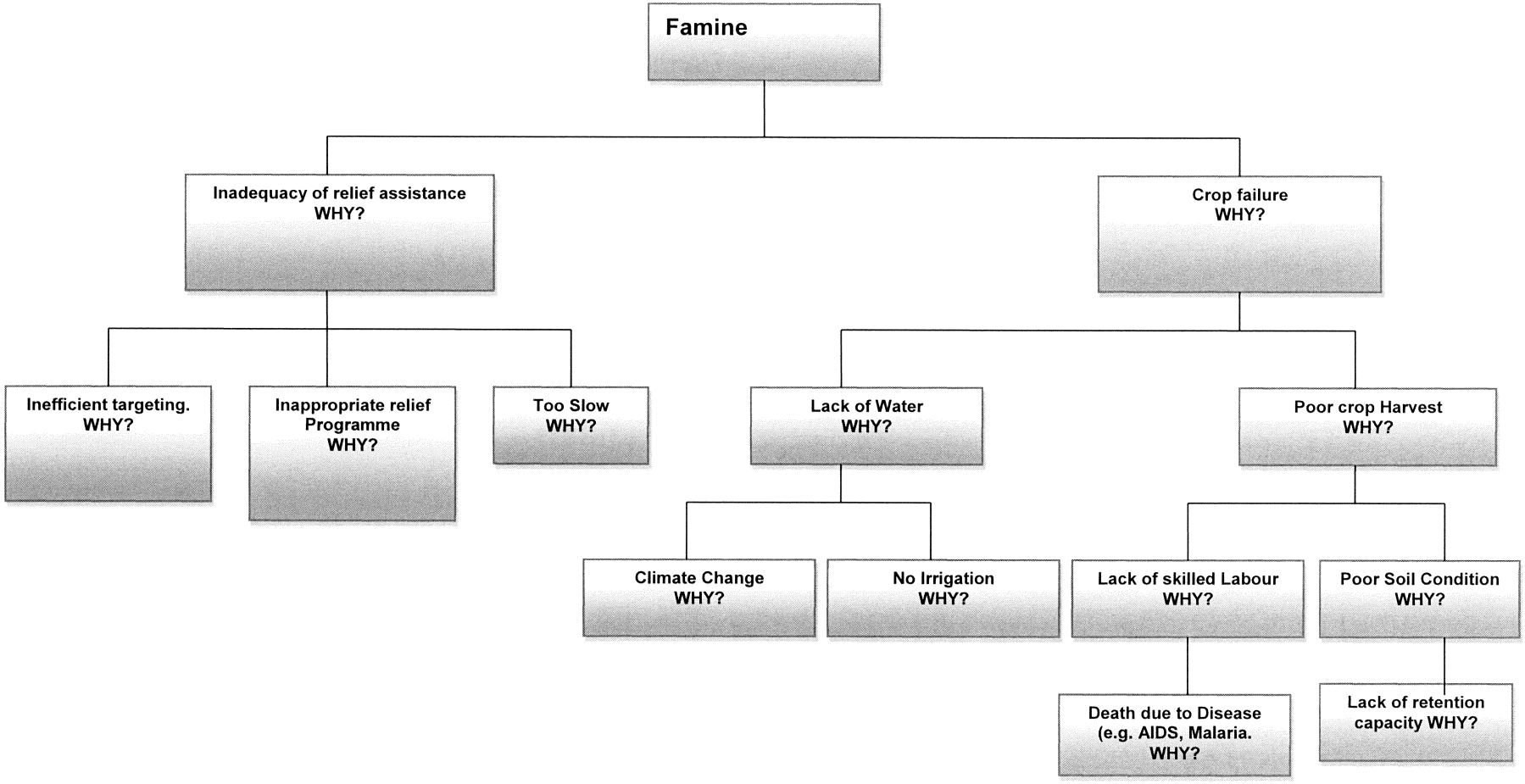
Annex 2

Conceptual Framework for Characterizing Vulnerability to Food Insecurity

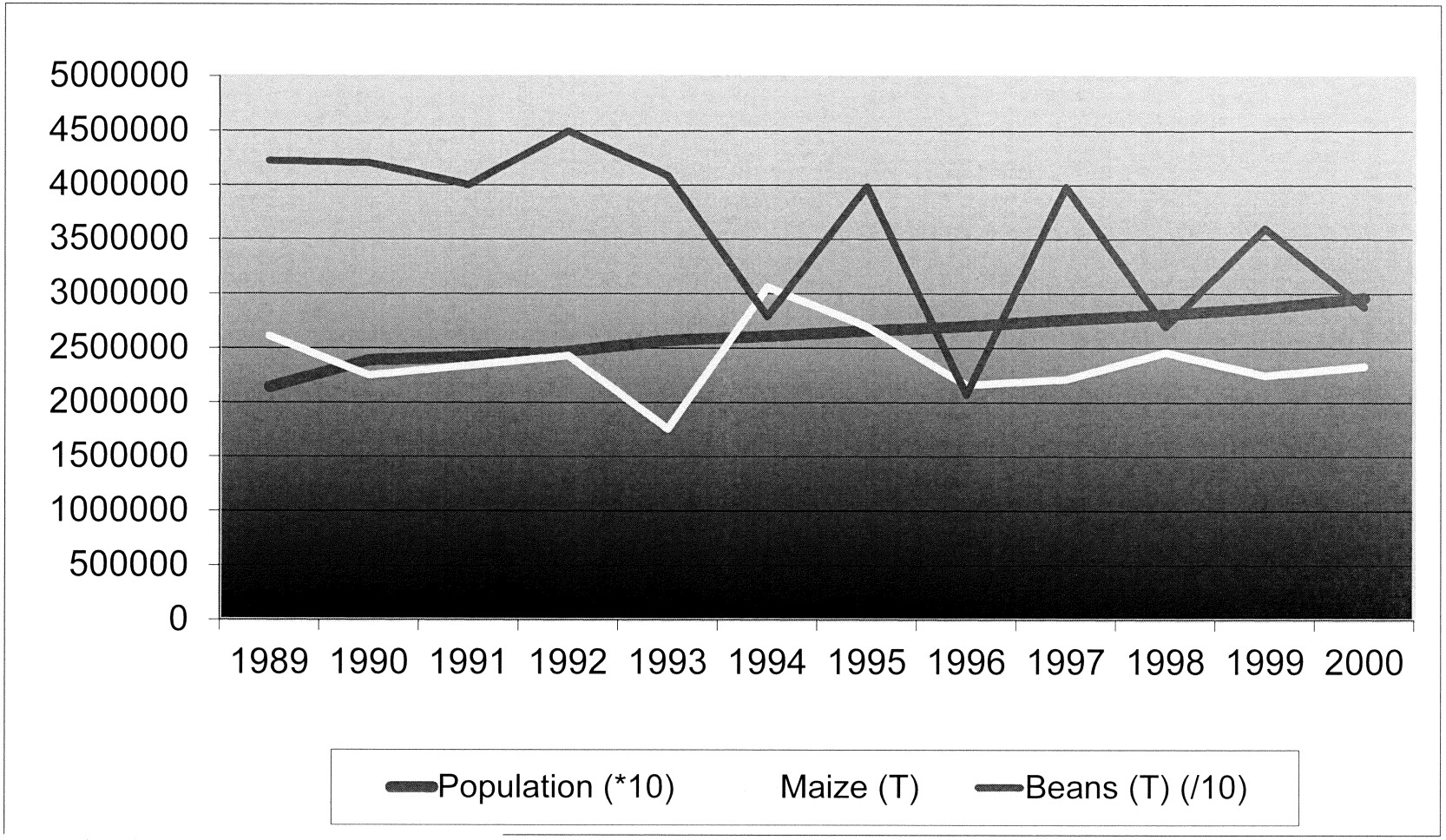


Adopted from World Food Program, **VAM/Kenya:**

Annex 3


Famine
Inadequacy of relief assistance WHY?
Crop failure WHY?
Inefficient targeting. WHY?
Inappropriate relief Programme WHY?
Too Slow WHY?
Lack of Water WHY?
Poor crop Harvest WHY?
Climate Change WHY?
No Irrigation WHY?
Lack of skilled Labour WHY?
Poor Soil Condition WHY?
Death due to Disease (e.g. AIDS, Malaria. WHY?
Lack of retention capacity WHY?

Trends in Population and National Food Production **Annex 4**



Note: values adjusted to be same scale
Source: CBS, Economic Survey, WFP VAM

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UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Mr Farid Abdulkadir Mohamed

CLEARANCE CERTIFICATE	M110972
PROJECT	Assessing the Emergency Famine Relief Operation in the 2006 Drought Intervention in Kenya
INVESTIGATORS	Mr Farid Abdulkadir Mohamed.
DEPARTMENT	School of Public Health
DATE CONSIDERED	30/09/2011
M110972DECISION OF THE COMMITTEE*	Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE 30/09/2011 **CHAIRPERSON** .....
(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Dr Krisno Nimpuno

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...