

Global Food Crisis: Study of Arid and Semi-Arid Land Regions in Kenya¹⁾

Shibutse Sarah Idieva 이화여자대학교 국제대학원/KOICA 장기연수 석사과정

목차

- I . INTRODUCTION
- II . CRITICAL LITERATURE REVIEW
- III. ANALYTICAL FRAMEWORK
- IV. RESEARCH DESIGN
- V . RESEARCH TOOL
- VI. PRESENTATION AND ANALYSIS OF FINDINGS
- VII. CONCLUSION

I . INTRODUCTION

The phenomenon of food crisis in the world seems to be a problem that rears its head every so often. Recently the world experienced a food crisis in 2007/2008 which repercussions have been felt far and wide and especially by the poor. According to the United Nations Conference on Trade and Development “The current global food crisis emerges from the recent unprecedented increases in the price of food, especially of staples, coupled with shortages and diminishing food stocks, have reduced access to food for many people (particularly the poor) in a large number of developing countries” (2008:3).

According to one study the term food crisis is used to show that events are not restricted to a particular period of time but that the problem is on-going (Marei 1978:18). Another paper

1) A THESIS Submitted to the faculty of the Graduate School of International Studies of Ewha Womans University In partial fulfilment of the requirements for the degree of Master of International Studies August 2009

elaborates that “food insecurity does not only result from an insufficient quantity of food. It is also the result of inadequate distribution of resources” (Action Aid n.d:3).

In Kenya the issue of food crisis leading to food insecurity has been a chronic one and as one paper states “Kenyans are confronting chronic problems of hunger and poverty that have only increased in recent years”. It goes further to state that this problem is exacerbated by high poverty levels as more than 75 percent of Kenyans live on less than one dollar per day (Action Aid n.d:4).

In all this women are important factors in helping to solve the food crisis as they produce half of the world’s food. According to a paper on gender and food security “women are crucial in the translation of the products of a vibrant agriculture sector into food and nutritional security for their households” (Brown, Deshpande, Hill, Lambrou, Laudazi and Ragasa n.d:12). Yet at the same time, as they are the majority of working poor, women are the hardest hit in the food crisis as they have already been living without secure food access. In a paper by IFPRI they find that after more than 15 years of research, suggestions are that “men and women will be affected differently by the global food crisis, [and] that, as both producers and consumers, they will have different stocks of resources to draw upon to respond to rising prices” (2008:1).

This paper is therefore aimed at finding out what the major causes of food crisis are, but most importantly whether these are long term factors and whether they are independent from each other or interlinked. The food crisis is usually felt everywhere but more so in developing countries (and especially by the women) where the poor conditions aggravate the crisis to a greater dimension than is felt in the developed countries. Those who are hungry in the first place will then move into a level of extreme hunger and extreme poverty. In the paper, reference will be made to the Arid and Semi-Arid land (ASAL) regions of Kenya. This is to find out whether the causes that are mentioned cut across all regions of the globe or whether there are some unique causes in some regions. The paper will also look at the relation between women and the food crisis in the ASAL regions.

The study objectives are:

- To identify what are the exact causes of the food crisis.
- To identify whether the causes are interlinked or whether there is one that is dominant over others.
- To identify the relation between women and the food crisis.

- The study questions are:
- What are the major causes of food crisis?
- Are the causes of food crisis interlinked or are they factors independent from one another?
- What is the relation between women and the food crisis?

One issue here is that these causes seem to be insurmountable problems for the world at large and that what is being done to solve it may need more effort in terms of collaboration for the problem to be put to an end. Another issue is that as much as women are said to produce half the world's food, they still seem to be more negatively affected during food crisis. It may be that it is high time more investment was made towards women development as a big part of the solution to the problem of food crisis. This paper will test the existing studies that have been done and check whether they can be fully supported or whether any gaps will be found. The study is intended to emphasize the gravity of the situation in the world and also in Kenya, to enable the policy makers at national and international level to be extra keen so as to ensure that whatever mitigations being put in place will be able to ensure long-term food security at every level of the global arena and especially in the developing countries.

The paper is structured as follows: Section II which is the literature review presents the meaning of food crisis and security, and critically reviews the causes of food crisis or food insecurity. It also reviews the relation between women and food crisis. Section III develops an analytical framework that will help in analysis of data. Section IV highlights the research design while Section V highlights the research tool that is used in the collection of data for the study. Section VI gives a brief introduction of the study case and an in-depth analysis of study findings on the causes of food insecurity in the Arid and Semi-Arid Land (ASAL) regions of Kenya. It also gives an analysis of the relation between women and food crisis in the ASAL region of Kenya. The conclusion is set in section VII which also provides some policy recommendations to address the problem of food insecurity.

II. CRITICAL LITERATURE REVIEW

This chapter focuses on the different studies done on food crisis. Section A briefly presents the meaning of food crisis and security. Section B will analyse the causes of food crisis or food insecurity, section C will set out the relation of the food crisis and women while section D will give a brief conclusion.

A. Meaning of Food Crisis and Food Security

In the early 1970s the world experienced a food crisis and it is now going through the same experience once more. According to Marei (1978:18) the term food crisis is used to show that events are not restricted to a particular period of time but that the problem is an on-going one. The Rome Declaration on World Food Security states that “food security exists when all people at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (World Food Summit 1996:3). This means that even when people are not able to grow crops or have livestock for their own consumption, they should be able to have the financial capability to get access to the available food that is being sold in the markets.

According to IFPRI (1995) the three pillars of food security are “food availability or adequate food production; economic access to available food; and nutritional security” (p. 1). There are many reasons that have been given as the causes of food crisis. In one paper it is stated that “food insecurity can also be as a result of inadequate distribution of resources” (Action Aid n.d:3). For some people one factor supersedes the others but for many people it is really a combination of many things over a long period of time that leads to this crisis. With there being a food crisis, it means that there is food insecurity in many countries and something urgently needs to be done to address this situation. The causes that are discussed vary from one region to another but the major ones cut across all countries.

B. Causes

Due to the recent food crisis, the 2008 framework for action report states that “The dramatic rise in global food prices is not the result of any specific climatic shock or other emergency but

rather the cumulative effects of long-term trends and more recent factors ...” (High Level Task Force 2008:8). This section will therefore critically look at what different studies have found on what causes food crisis or insecurity.

1. Climate Change

Farmers have always depended on the weather to know when to plant their crops and also when to harvest. In one book it is written that “many unusual weather patterns of recent years, such as persistent droughts, heavy flooding ... signalled grave concern about the long-term effects on world food production” (Caliendo 1979:107). When the climate does not conform to people’s expectations it means that the crop production will be affected and will almost always lead to low harvest.

One study found that the main reasons of food insecurity in the Southern African Development Community (SADC) region were intense drought and massive floods which damaged the people’s assets, domestic animals and food crops (Abdulla 2007:61). Rains are an important factor for crop production but when it is too much thus leading to floods or when it does not rain bringing about drought, then it seriously affects production of crops.

In Kenya, a study done of Semi-Arid Makueni District found that “Due to drought and lack of alternatives to water plants, vegetation in form of pastures for livestock, and crops wilt. This can lead to crop loss, reduced harvest and feeds for livestock, emaciated livestock, hunger and in severe cases livestock and human death” (Speranza, Kiteme and Wiesmann 2007:220).

The Food and Agriculture Organization of the United Nations in their food security programme work-plan for Kenya noted that “...the [ASAL] area is subject to frequent and devastating droughts, contributing to further vulnerability to food insecurity” (FAO 2007:2). It has been found in the various studies that droughts and floods affect both crops and livestock leading to food insecurity. For instance one study in the ASAL region also finds that “Ecological factors such as drought and floods not only hinder food and livestock production but also hamper access to food (Shanguhya 2008:94).

The above studies clearly show that weather is an important factor in crop production and also livestock upkeep.

2. Population

Increase of population in a region can be a big problem in terms of food. In line with this, one paper states that “population growth increases the demand for food. With most productive land already in use, there is pressure for this land or virgin lands to become more productive and available” (International Union of Food Science and Technology 2008:2). To support this in his book, Marei (1978) points out that “the population problem is at the centre of the world’s food problem”. He continues further to say that this will affect both demand and supply because population growth pushes food production to marginal lands (p. 22). The increase in population has outpaced the food production and this therefore brings about a food shortage.

As found in one study “of numerous structural issues that lead to food insecurity in Kenya, population growth is one that is certain to put increasing pressure on food availability (Haan, Farmer and Wheeler 2001:8). The increase in population in an area that is already grappling with issues of drought, floods and poverty is putting tremendous strain on the capabilities of the people to continue surviving each day.

The above studies show that increase in population growth in a region can seriously affect the availability of food for the people leading to food insecurity.

3. Poverty

Scholars have found that poverty is a factor that makes people lack the access to the available food. In a study done in Cameroon it was seen that “Poverty is a major impediment to agriculture production... The income level of a household is a major indicator and guarantee to food procurement during periods of lack” (Abeh 2003:32). Another study reports that “The root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty” (Mwaniki n.d:1). Other studies on the same issue have elaborated further by mentioning that in place of growing food many people instead buy it. For instance in her study, Clover (2003) finds that, “Food insecurity and hunger are closely related to poverty and an inability to purchase food”. She goes on to state that because people usually buy food more than engage in production of the same, famine can even occur when there is plenty of food (p. 9). A study done in Kenya finds that poverty is the central problem in the ASAL areas and that “people in [these] areas never had much of a cushion ... [and] weather has eroded not only their resources but their adaptability” (Ambrose 2006:2). This brings to the fore one of the aspects in the definition of food security that talks of having economic access to food.

4. Fertilizers

These are a key element in increasing agricultural production. In relation to the 1972/3 food crisis, the prices of fertilizers by 1973 had risen almost threefold over the 1970 level according to one study. It goes on to report that in addition to high prices, a scarcity of fertilizer added another burden to the capacity of developing countries to increase food production (Marei 1978:21). For crops to reach their full potential there is need to use fertilizers depending on the types of crops. When this is not done because of the high prices or lack of fertilizers then the crop harvest is definitely affected and the yield might not be as expected.

5. Speculation

A new dimension as a cause of food crisis is the concept of speculation. This is especially being mentioned in the recent 2008 global food crisis. For instance one study into this finds that “Amidst the food price crisis, speculation is a major contributor to extreme price volatility, which is skewing agriculture commodity markets to such a degree that both farmers and consumers are losing out” (IATP 2008:3). The same report goes on to write that “There is currently no multilateral framework to respond to global speculation in food prices” (p. 9), and that “if deregulated speculation continues to induce artificial volatility in agricultural markets, it will be very difficult to finance innovative investments in rebuilding ... agricultural production” (p. 10).

However, in their study, Tyner, Abbott and Hurt (2008) report that even though one of the potential causes for agricultural commodity prices has been mentioned as futures speculators, but they also write that “Based on existing research, it is impossible to say whether prices levels have been influenced by speculative activity” (p. 6). This is because “Research has previously found little link between the degree of speculation and the level of commodity prices” (p. 27). Regardless of this, some countries reacted to the issue of speculation by considering imposition of bans on food futures.

C. Food Crisis and Women

Even though women are the driving force of agriculture especially in Africa, they are also the ones greatly affected during periods of food insecurity. For instance one paper finds that even though women are responsible for almost 75 percent of Sub-Saharan Africa household food

production; 65 percent in Asia; and 45 percent in Latin America, when the food is scarce, the women and girls will eat last and least because of gender discrimination (Days of Climate Action 2008:2). A discussion paper on women and food crises states that “Over the last few decades, food crises have become distressingly common phenomena [and] women are often at the center of these emergencies, though the disproportionate impact of hunger on women is too often hidden within the dire aggregate statistics” (Action Aid n.d:1).

Another paper states that “Even before the [current] food crisis hit, an estimated 7 out of 10 of the world’s hungry were women and girls”. It goes further to report that “women who have already been living without secure food access and without social protections are among the hardest hit in the food crisis” (Women Thrive Worldwide 2008:1).

Taking into consideration one of the pillars of food security which is the economic access to available food, one study finds that “in rural Ghana and Bangladesh ... there are significantly more persons in female-headed households below the poverty line” (IFPRI 1995:11). This highlights the issue that the women are not able to afford the food that is available for sale. To add onto this another paper finds that when weather, crops or prices fail, it is easier for men due to cultural traditions to leave their farms in search of other employment, leaving the women to struggle feeding their families. Eventually such “women have diminished assets and resources to help them plan for and potentially avert the next crisis” (Action Aid n.d:2).

D. Conclusion

The above section has pointed out the various causes of food crisis which include population increase, climate change, poverty, and lack of fertilizers among others. These factors all seem to be interlinked to each other in relation to food shortages. The section also looked at how the food crisis impacts on women and has found that women seem to be more negatively affected and suffer most when there is a crisis. The next section will discuss the analytical framework which will be used to analyse the causes of food crisis in the Kenyan context in detail.

III. ANALYTICAL FRAMEWORK

It can be seen from the literature review that out of the many causes of food insecurity, the most insistent and major ones are climate change, poverty and population increase. Linking this to Kenya, food shortage in the Arid and Semi-Arid Land (ASAL) regions in Kenya can also be attributed mainly to these three factors. Taking the study done in the SADC by Abdulla (2007:61) who finds that intense drought and massive floods were the main reasons of food insecurity, this paper will analyse the situation in the ASAL areas which are prone to drought.

The poverty factor has also been found by scholars to be keeping people from accessing food that is available. In the literature review a study by Mwaniki (n.d:1) finds that people lack access to food due to poverty. This shows that to be in poverty means that, when there is no crop to harvest or livestock to rely on for food, then the people have no means to get food for the family to eat.

Population increase is another major cause of food shortage in that it mainly exacerbates an already fragile situation making it worse. Based on a study done by Marei (1978:22) who finds that an increase in population is at the centre of the world's food problem, this paper will analyse this in relation to the ASAL regions in Kenya.

When there is a food crisis women are the ones who suffer most even though in most parts of the world they are the farmers and producers of the food. Using the study done by Women Thrive Worldwide (2008:1) which finds that, out of every 10 hungry people 7 are women, and that they are also the ones who are hardest hit during a food crisis, this paper will therefore analyse how the women in the ASAL regions of Kenya are impacted by the food crisis.

The above factors are analysed in detail in the following sections to show exactly how they all lead to food insecurity in the ASAL regions of Kenya. The study will also bring out the fact that there is no single factor that is more intense than the other as a cause of food shortage. Rather they are all interlinked in a vicious cycle making a fragile situation even worse. It will also bring out the issue of women and how they are impacted by the food crisis especially taking into consideration that the food crisis is a chronic problem in the ASAL regions of Kenya.

IV. RESEARCH DESIGN

For the research design this paper uses the comparative-historical research design focusing mainly on the historical method. Different case studies and reports have been done on what causes food insecurity in the ASAL regions of Kenya and this study looks at the findings and comes up with results and conclusions for the paper.

In relation to the research questions asked and the analytical framework drawn up, this paper supports the hypothesis that:

- Climate change, poverty and population increase are all interlinked to be the outstanding causes of food insecurity each adding stress to the other in a vicious cycle.
- Women are most affected by food insecurity due to their traditional roles as the people who provide food for the family.

V. RESEARCH TOOL

This paper makes use of secondary sources from case studies and reports that have been done previously on the same topic to get data for analysis. These are: 1) United Nations Development Program (UNDP) – Kenya Natural Disaster Profile; 2) United Nations Environment Program (UNEP) – Drought Document on Kenya; 3) Central Bureau of Statistics (CBS) Kenya – 1999 Population and Housing Census; 4) CBS – 2006 Facts and Figures; 5) ASAL Gender Policy Guidelines; and 6) UNHCR Reports 2005 and 2007. A major constraint in this study was the fact that data on women was not easy to find as many scholars did not focus on how women in particular are affected by food insecurity. They instead they generalized the effect.

VI. PRESENTATION AND ANALYSIS OF FINDINGS

A. Background of the Case

Kenya is a developing country that is in Sub-Saharan Africa and many of the people live in very poor conditions. For a long time now, the country has been experiencing frequent weather changes which have dramatically affected its food production and especially more so in the Arid

and Semi-Arid Land (ASAL) regions that cover a large part of the country. In one report it is written that “the ASALs occupy more than 80 percent of the country’s land area and are home to over 10 million people” (Natural Resource Management 2005:7).

Table 1 below shows the districts that are in the ASAL region and the grouping according to aridity. This gives a hint of the number of people in the country who live in the arid and semi-arid regions and who are also affected by disasters like food insecurity that occur in this region.

〈Table 1〉 ASAL Districts classified by degree of aridity

CATEGORY	DISTRICTS	% TOTAL ASAL AREA
A. 100% ASAL	Isiolo, Marsabit, Garissa, Wajir, Mandera, Turkana, Moyale, Ijara.	62
B. 85-100% ASAL	Kitui, Tana-River, Makueni, Taita-Taveta, Samburu.	25
C. 50-85% ASAL	Mbeere, Meru North, Machakos, Tharaka, Laikipia, West-Pokot, Kilifi, Kwale, Baringo.	8
D. 30-50% ASAL	Lamu, Narok, Malindi, Marakwet, Keiyo	3
E. 10-25% ASAL	Nyeri (Kieni), Rachuonyo, Suba, Kuria, Thika, Koibatek.	2

Source: Republic of Kenya, National Policy for the Sustainable development of ASALs of Kenya. 4th Draft, p 19, Nairobi Kenya. As cited in: United Nations Development Programme, Kenya Natural disaster Profile. N.D. P.8. Accessed 11/10/2008 <http://www.ke.undp.org/KenyaDisasterProfile.pdf>

Majority of the people in the arid areas are pastoralists who depend on livestock for their livelihood. Those who live in the semi-arid areas are agro-pastoralists who practice both livestock farming and crop farming. According to Omiti and Irungu since the ASAL districts get low and sporadic rainfall that is rarely enough to support production of crops, the economy in this region is therefore “dominated by pastoral and ranch-based livestock production [and] small-scale crop production is practised along the rivers ... where the weather permits” (2002:7).

The ASAL regions have been greatly affected by the severe weather changes as most of the times there is drought. One study reports that “The Arid and Semi-arid lands (ASALs) are prone to harsh weather conditions rendering the communities within this region vulnerable to natural hazards mainly droughts” (UNDP n.d:4). In extreme cases people and especially the children have been known to die of starvation. Many of the people living in the ASAL areas are also quite poor

and are not even able to afford to buy enough food for the family and at times they do not have the resources to buy any food at all.

This brings to fore the fact that women are the ones who will be more affected by food shortages because traditionally they are the ones who have the role of providing food for the family. According to the Kenya Vision 2030 women play a critical role in the socio-economic development of the nation and yet they are the ones who are also particularly exposed to the vulnerabilities from economic shocks and environmental hazards among others (2007:111). This is mainly the case because the roles of women and men in Kenya have been traditionally or culturally defined. For instance the ASAL Gender Policy Guidelines state that “the roles, responsibilities and activities of women and men are largely separate yet intricately interdependent [and] are determined by society and influenced by culture, economics, religion, politics and the environment” (2005:v).

The women in the ASAL regions as in other parts of the country are the same people who will many times eat last and often the least food so that the other members of the family can eat their fill. Therefore, it follows that when there is food insecurity they will be most affected as they want to make sure that the men have eaten first then the children next. It is found in one report that “The groups that are most affected by food insecurity are women, lactating mothers, and children under five” (ASAL GPG 2005:2).

The next section is going to analyse findings of studies and reports on the causes of food insecurity in the ASAL regions of Kenya and how women relate to or are impacted by this food shortage.

B. Analysis of Findings

This paper hypothesizes that climate change, poverty and population increase are interlinked to be the outstanding causes of food insecurity with each adding stress to the other in a vicious cycle. It also hypothesizes that women are the most affected by food insecurity due to their traditional roles as the people who provide food for the family

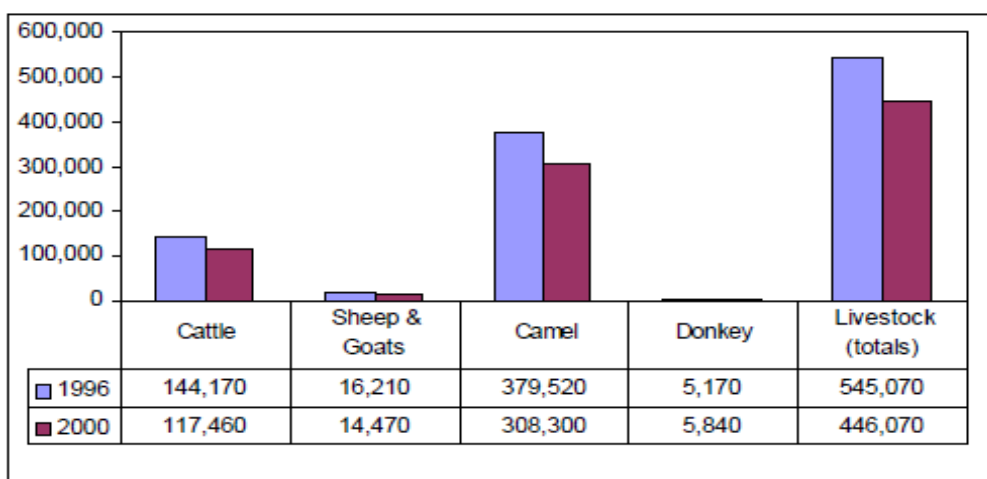
In line with this the following section gives an analysis of how these causes increase food insecurity in the ASAL regions of Kenya, and also how food shortages impact on women.

1. Climate Change

The issue of weather change is a major concern in Kenya and especially in the ASAL regions.

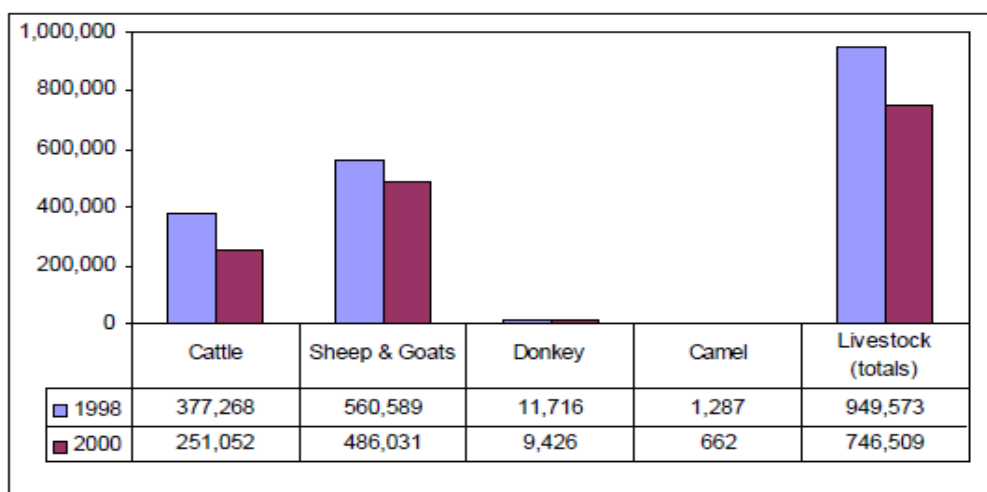
In the year 1999/2000 there was a severe drought that affected the whole country and that means that the ASAL areas were included as they are a drought prone region. Due to this drought, food insecurity went up because as shown in Figure 1 and 2 below, the number of livestock reduced drastically during the period between 1996 and 2000 in Samburu by 99,000 animals (almost 18.2%) and between 1998 and 2000 in Kajiado District by 203,064 animals (almost 21.4%).

〈Figure 1〉 Livestock numbers in Samburu District between 1996 and 2000



Source: United Nations Environment Program. 2000. Table of Contents. P. 15
http://www.unep.org/PDF/2000_drought_full_document.pdf Accessed 11/12/2008

〈Figure 2〉 Livestock numbers in Kajiado district between 1998 and 2000



Source: United Nations Environment Program. 2000. Table of Contents. P. 21
http://www.unep.org/PDF/2000_drought_full_document.pdf Accessed 11/12/2008

These districts are in the ASAL regions of Kenya and as earlier mentioned the people in these areas are mainly pastoralists and they therefore depend on their animals as a source of livelihood. Drought also affects availability of water because the rivers and wells that are a source of water for the people and animals will be dry as depicted in figure 3 below.

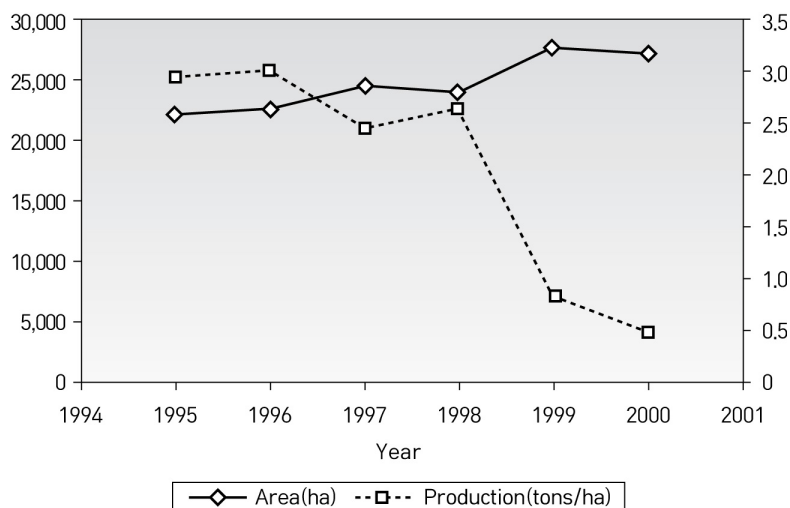
〈Figure 3〉 A dry riverbed in semi-arid Kajiado



Source: United Nations Environment Program. 2000. Table of Contents. P. 67
http://www.unep.org/PDF/2000_drought_full_document.pdf Accessed 11/12/2008

With no water, there is no way that the crops can be watered for them to grow, so this clearly shows that the drought affects crop production (as seen in figure 4 below) and pasture for the livestock resulting in the drastic reduction of the numbers. This in turn affects food security for the people living in these areas leading to a food crisis not only in the ASAL regions but in the whole country.

〈Figure 4〉 Maize production in Narok District, 1995 - 2000



Source: United Nations Environment Program. 2000. Table of Contents. P. 59

http://www.unep.org/PDF/2000_drought_full_document.pdf Accessed 11/12/2008

In the recent 2008 food crisis there have been many reports on how people in various parts of the country and especially the ASAL regions are suffering due to food shortages. There was a report in one daily newspaper of a Mr. Lesingo who in December 2008 was the owner of more than 300 head of cattle but due to the drought he has lost more than 150 cattle. His cattle now face the twin problem of lack of both pasture and water due to the failure of the rains which has spelt doom for them and many times the farmers are faced with the dilemma of deciding whether to feed themselves or their cattle (Opiyo 2009:14).

With there being no water because of the drought the people who are affected most are the women as it now becomes an added burden of walking very far distances in search of water for the family and for the livestock. The ASAL GPG found that for the family to get any water to use or for the livestock to get any water to drink, women and children especially the girls had to walk long distances to the watering points (2005:29). This is clearly emphasized in a story given recently in one daily newspaper.

Its early morning in the sun baked field of Nginyang in East Pokot District and Chemket Momwale is preparing to traverse the bushes in search of water. By the time the 60-year-old mother of five arrives at the nearest borehole at Chemeril it will be past mid-day. 'I have to walk for more than 20km daily to look for water', Momwale says. Chief Robert Kanyakera says some of the residents have travelled from more than 40km

away. On this day, 70-year-old Chepowana Loram is ailing and cannot fetch the water after walking in the hot sun and having not eaten for three days (Njoroge 2009:10)

Also since for many people their livestock is usually wiped out because of lack of pasture and water, many of the mothers take to boiling wild fruits for the families and especially the children to have something to eat. As one mother said recently “The fruits can take up to 12 hours to boil, but we have to cook them as the children wait” (Njoroge 2009:12). This shows how dire the situation is such that they have no option but to turn to wild fruits for survival. Also the long distances to the water points usually expose the women and girls to risks such as rape (ASAL GPG 2005:32).

Another factor that comes in with drought is that when it is extremely severe it not only depletes the water resources but many times it also brings about instances of forest fires which endanger the environment even further. This is most common in the ASAL areas that because of the high temperatures they experience during the drought season. This means no crops can be planted in this area for some time which in turn increases the food shortages.

Another problem that comes about with climate change is the issue of floods. Floods are known to sweep away crops and animals leading to a lack of food not only for the livestock but also for the people. The Kenya Natural Disaster Profile (n.d:30,37) states that Garissa, Wajir and Ijara (which are part of the ASAL areas) are almost annually affected by floods and that some of the effects of floods are loss of food reserves and loss of livelihoods including destruction of crops and death of farm animals. This clearly shows why there are cases of chronic food shortage in the ASAL regions as the people do not get the chance to recover in terms of resources and food security.

2. Population

Another factor that causes food insecurity is increase in population and this is especially the case when the area is already fragile due to other factors. “Migration from more densely populated high-potential areas puts extra pressure on existing limited resources in the ASAL. According to the 1999 human population census report, an estimated 12 million people now live in the ASAL districts compared to 8 million a decade earlier” (UNEP 2000:48). Looking at Table 2 below it shows that the provinces that are in the ASAL regions N/Eastern and Eastern had a high increase in population in the year 1999.

〈Table 2〉 Distribution of Population by Province (1969–1999)

Province	1969	1979	1989	1999
Nairobi	509,286	827,775	1,324,570	2,143,254
Central	1,675,647	2,345,833	3,111,255	3,724,159
Coast	944,082	1,342,794	1,825,761	2,487,264
Eastern	1,907,301	2,719,851	3,768,689	4,631,779
N/Eastern	245,757	373,787	371,391	962,143
Nyanza	2,122,045	2,643,956	3,507,160	4,392,196
Rift-Valley	2,210,289	3,240,402	4,917,551	6,987,036
Western	1,328,298	1,832,663	2,622,397	3,358,776
Kenya	10,942,705	15,327,061	21,448,774	28,686,607

Source: Central Bureau of Statistics- Kenya. 2001. The 1999 Population and Housing Census: Counting our People for Development. P. xxvii. Minnesota Population Center.

https://international.ipums.org/international/world_census_forms/kenya_1999.pdf Accessed 11/12/2008

1999 was the same year that there was a drought and with the high increase in population in the ASAL areas the issue of food shortages was felt more deeply. The high increase in population is also due to the influx of refugees who come into the country, as all the refugee camps are situated in the ASAL region making the concern over the food crisis even more serious.

These people add onto the population that lives in this area and with all of them trying to get food from the same ground that is already weak due to other factors, it deteriorates the environment even further. This enhances the food insecurity that is already on the ground. The number of refugees has been increasing and many of them are usually women as shown in Table 3 below. Even in these camps it is the women who have to get a way to feed their families with the little that is available and this is an added burden to them as they are in a foreign country.

〈Table 3〉 Percentage of female Refugees in Kenya 2007

Type of Population	Origin	Total	% Female
Refugees	Somalia	192,400	48
	Sudan	45,300	42
	Ethiopia	18,100	34
	Uganda	2,800	41
	DRC	2,700	43
	Rwanda	2,500	58
	Burundi	1,300	51
	Eritrea	700	35
	Various	10	-
Asylum seekers	Ethiopia	3,500	41
	Sudan	1,000	39
	Somalia	700	46
	Uganda	200	39
	DRC	100	45
	Various	320	-
Statelessness	Nubians	100,000	-
TOTAL		371,630	

Source: United Nations High Commissioner for Refugees. 2007. Global Report - Kenya. P. 223

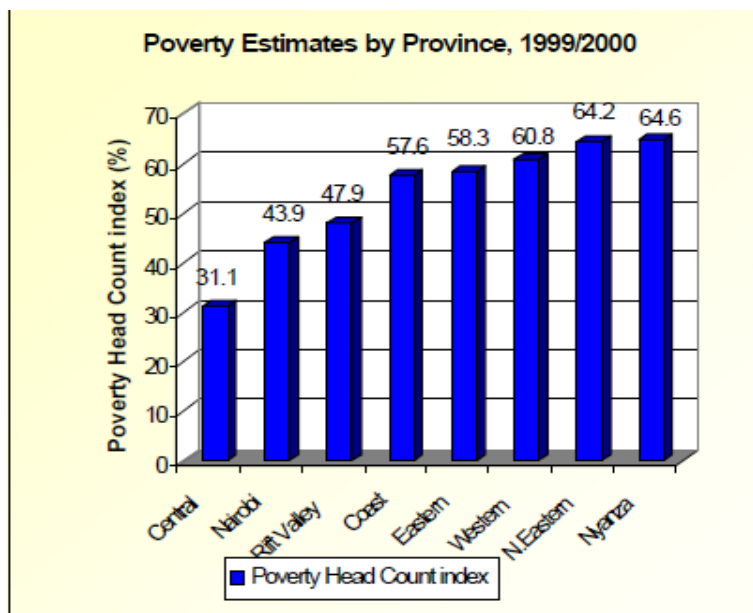
<http://www.unhcr.org/home/PUBL/484d45542.pdf> Accessed 11/01/2008

Another factor that adds onto the population increase is the practice of one man marrying many wives, as this brings about many offspring. As clearly stated in the ASAL GPG “The practice of polygamy tends to create large families with many dependants and worsens the food security situation” (2005:13). With the traditional role of the woman being to provide food for the family, the rapid increase in population adds the burden of feeding the family heavily onto the women. With the food being extremely scarce, many times the women will go hungry so that the other members of the family can get something to eat no matter how little it is.

3. Poverty

When crop and livestock production fail due to climate change, the people who have money are able to buy available food from the market to feed the family. According to the ASAL GPG “The proportion of people living in poverty [in Kenya,] rose from 49% in 1990 to 55% in 2001 and 56% in 2004” (2005:31). The ASAL region is said to be one of the poorest areas in the country.

〈Figure 5〉



Source: Central Bureau of Statistics – Kenya, 2006. Facts and Figures. P. 13

<http://www.cbs.go.ke/downloads/pdf/kenyafacts2006.pdf?SOMSESSID=101561fb04e4511cde553e35a3da421e> Accessed 11/12/2008

According to figure 5 above the ASAL regions (Eastern and N. Eastern) have high rates of poverty and more so in N. Eastern (a predominantly pastoral province) where it is at 64.2%. This means that people in this region are not able to really help themselves when their livestock die due to drought as this is what they live on. For those who have a few animals remaining, they opt to sell them but the prices of the animals are usually much lower than their original worth. This was noted in Kajiado District where the prices of cattle were one tenth of the normal price during a certain drought in the year 2000 leaving the pastoralists poorer (UNEP 2000:51).

Following the recent 2008 food crisis in Kenya it was reported in the Daily Nation that “A cow that normally goes for Sh30, 000 is currently being sold at as low as Sh300. And even with this low price, the businessmen still don’t attract buyers” (Opiyo 2009:15). This greatly compounds the level of poverty in the area and affects the food security. The Eastern region that is agro-pastoralist is also affected by poverty especially when prices of farm inputs increase and the farmers are then not able to afford essential inputs like fertilizers that they need for crop production.

This poverty impacts negatively on the women because even though women and girls own

livestock as gifts and inheritance, because of tradition it is still the men who have control over the same (ASAL GPG 2005:14). This has a great impact on food security because the woman will not have the leeway to either sell or slaughter the animals for food since she would first have to consult with the man. To most men of this region owning livestock and especially cattle is a sign of wealth; the more one owns the richer one is considered to be. They would therefore not readily think of selling their animals or having them slaughtered. The men have control not only over livestock but also over water sources and land. This clearly widens the poverty gap between the men and the women and hence the phrase that women are the poorest of the poor in most societies.

VII. CONCLUSION

One of the key findings in light of the above analysis is that climate change leads to food crisis and this has been seen by the fact that this region has been experiencing frequent weather phenomena like drought and floods since 1991. This supports the studies cited in the literature review and the analytical framework that climate change is one of the reasons of food insecurity in the world and more especially in Kenya. Abdulla (2007:61) found that intense droughts and floods damaged domestic animals and food crops. At the same time, Speranza et al. (2007:220) found in Kenya that droughts can lead to crops and livestock dying and even eventually lead to human deaths.

Another finding is that due to poverty, food insecurity rises. The people in the ASAL areas are also among the poorest in the country and therefore will rarely have enough to be able to buy food from the available sources to feed themselves. This supports the study in the literature review and analytical framework which reports that “The root cause of food insecurity in developing countries is the inability of people to gain access to food due to poverty” Mwaniki (n.d:1).

The other key finding relates with increase in population which further exacerbates the situation as the resources cannot cater further for more people. This supports studies cited in the literature review and analytical framework by Marei (1978) who finds that population growth pushes food production to marginal lands and also Haan et al. (2001) who found that in Kenya population growth puts increasing pressure on food availability.

One key issue that has been brought to light in the above analysis is how women are the ones

who are more negatively impacted on by food insecurity especially taking into consideration their traditional role as the providers of food for the family and as the people who take care of the family welfare as a whole. In addition, in most societies women are said to be the poorest of the poor because they do not own anything and when they do, it is controlled by the men. This supports the studies cited in the literature review and analytical framework which report that, when food is scarce, the women and girls will eat last and least because of gender discrimination (Days of Climate Action 2008:2) and also the one that finds that out of every 10 hungry people 7 are women (Women Thrive Worldwide 2008:1).

In light of the above analysis the findings have proved the hypothesis that climate change, poverty and population are interlinked in being causes of food insecurity in a vicious cycle in the ASAL regions. The findings have also supported the hypothesis that women are the ones most affected by food insecurity due to their traditional role as the providers of food for the family.

A. Policy Recommendations

The following recommendations are made to help address the above concerns:

The Government of Kenya should invest in drought resistant crops so that people in the ASAL regions can be able to grow crops especially for their consumption without relying heavily on rains. Since most people in this area are heavily reliant on relief food, this will make them self reliant and able to feed themselves.

The Government should also invest in dams for water in the ASAL regions as this will give people the ability to practice irrigation farming and grow crops at any time without waiting for the rainy season. It will also ensure that there is adequate pasture for the livestock and drastically reduce on their deaths. This will increase food security in this region.

There should also be an increase and consistent education for the people in this area on why the practice of polygamy should not be encouraged and also on the issue of family planning to help reduce on the population increase. This should be through community mobilisation and should target both men and women, since these societies are patriarchal and women need permission from the men to do most things.

Further intense community awareness should also be raised to both men and women on the importance of formal education especially for the girl child. This will help them tremendously to be aware of their rights on things like inheritance, land, and property ownership. Education will

also slowly but surely lift the women out of their poorest of the poor status, and once a woman is educated it not only benefits her but also benefits the society and the nation as a whole.

The above recommendations will help to address food insecurity in the ASAL regions of Kenya but further research still needs to be done on other causes of food insecurity like how fairly the food is being distributed in the country as a whole. This is in relation to hoarding food and/or speculation on food prices and how it affects scarcity of food not only in the ASAL region but in the country. Further research also needs to be done on exactly how women and men are impacted differently by food insecurity. This will help in the formulation of the right policies to address the ways to make the ASAL region, the country and thus the global community food secure.

REFERENCES

- Abdalla, Yousif Ismael. 2007. *Causes of Food Insecurity in Southern Africa: An Assessment*. Retrieved November 5, 2008.
(<http://etd.sun.ac.za/jspui/bitstream/10019/615/1/Abdulla%2c%20Y.I.pdf>)
- Abeh, Lilian. 2003. *Combating Food Insecurity in Northern Cameroon: Challenges and Opportunities*. Retrieved November 6, 2008.
(http://www.lumes.lu.se/database/Alumni/02.03/theses/abeh_Lilian.pdf)
- Action Aid. N.d. *Women and Food Crises: How US food Aid Policies can Better Support Their Struggles*. Retrieved December 17, 2008.
(http://www.actionaidusa.org/assets/pdfs/Report-Women_and_Food_Crisis_Paper300.pdf)
- Ambrose, Soren. 2006. *Kenya's Chronic Food Crisis: Natural Disasters or Logical Consequences? [I]*. Retrieved October 4, 2008.
(<http://www.doublestandards.org/text/ambrose1.html>)
- Brown, Lynn, Chitra Deshpande, Catherine L.M. Hill, Yianna Lambrou, Marina laudazi, Catherine Ragasa. N.d. *Module I: Gender and Food Security*. Retrieved December 17, 2008.
(<http://siteresources.worldbank.org/INTGENAGRLIVSOUBOOK/REsources/Module1.pdf>)
- Caliendo, Mary Alice. 1979. *Nutrition and the World Food Crisis*. New York: Macmillan Publishing Co., Inc.
- Clover, Jenny. 2003. *Food Security in Sub-Saharan Africa*. Retrieved October 4, 2008.
(<http://www.iss.co.za/pubs/ASR/12No1/Clover.pdf>)
- Government of Kenya. Ministry of Planning and National Development. 2007. *Kenya Vision 2030: A Globally Competitive and Prosperous Kenya*. Nairobi
- Government of Kenya. Office of The President. 2005. *ASAL Gender Policy Guidelines*. Retrieved November 20, 2008.
(http://www.aridland.go.ke/sld/final_gender_report.pdf)
- Haan, Nicholas, Graham Farmer, Robin Wheeler. 2001. *Chronic Vulnerability to Food Insecurity in Kenya – 2001*. Retrieved October 9, 2008.
(<http://www.wfp.org/vam/vaproducts/kenya/kenyavip.pdf>)

- High Level Task Force (HLTF). 2008. *Comprehensive Framework for Action*. Retrieved October 9, 2008. (<http://www.un.org/ga/president/62/letters/cfa160708.pdf>)
- Institute for Agriculture and Trade Policy. 2008. *Commodities Market Speculation: The Risk to Food Security and Agriculture*. Retrieved December 15, 2008. (<http://www.iatp.org/iatp/publications.cfm?accountID=451&refID=104414>)
- International Food Policy Research Institute. 1995. *Women: The Key to Food Security*. Retrieved December 29, 2008. (<http://www.ifpri.org/pubs/fpr/fpr21.pdf>)
- International Food Policy Research Institute. 2008. *Helping Women Respond to the Global Food Crisis: What We Know and What We Still Need to Know*. Retrieved September 11, 2008. (<http://www.ifpri.org/events/seminars/2008/20080617women.asp>)
- Marei, Sayed Ahmed. 1978. *The World Food Crisis*. 2nd Edition. Great Britain: Butler & Tanner Ltd, Frome and London
- Mwaniki, Angela. N.d. *Achieving Food Security in Africa: Challenges and Issues*. Retrieved November 5, 2008. (<http://www.un.org/africa/osaa/reports/Achieving%20Food%20Security%20in%20Africa-Challenges%20and%20Issues.pdf>)
- Njoroge, Karanja. The Standard – Kenya. March 30, 2009. *Whole Day Journey in Search of Water*. Nairobi
- Njoroge, Karanja. The Standard – Kenya. March 31, 2009. *Families Turning to Carcasses to Keep off Hunger*. Nairobi
- Omiti, John and Irungu Patrick. 2002. *Institutional and Policy Issues Relevant to Pastoral Development in Kenya*. Retrieved February 25, 2009. (<http://www.ipar.or.ke/DP31-full.pdf>)
- Opiyo, Dave. Daily Nation - Kenya. April 1, 2009. *Famine: Tales of Suffering Abound as Prolonged Drought Continues to Scorch Livelihood*. Nairobi
- Republic of Kenya. 2005. *National Vision and Strategy: Natural Resource Management*. Retrieved October 11, 2008. (http://www.aridland.go.ke/NRM_strategy/natural_resource_management_2005-2015.pdf)
- Shanghuya, Naomi. 2008. *State Policy and Food Insecurity in Kenya's Arid and Semi-Arid Land (ASAL) Regions*. Retrieved October 10, 2008.

([https://eidr.wvu.edu/files/5735/Shanguhya Naomi thesis.pdf](https://eidr.wvu.edu/files/5735/Shanguhya_Naomi_thesis.pdf))

Speranza, Chinwe Ifejika, Boniface Kiteme, Urs Wiesmann. 2008. *Droughts and Famines: The Underlying Factors and the Causal Links among Agro-Pastoral Households in Semi-Arid Makueni District, Kenya*. Science Direct. Retrieved October 10, 2008.

(<http://linkinghub.elsevier.com/retrieve/pii/S0959378007000362>)

The Food and Agriculture Organization. 2007. *Programme Workplan for the Republic of Kenya*. Retrieved October 10, 2008. (http://www.foodsec.org/docs/wp_kenya.pdf)

United Nations Conference on Trade and Development. 2008. *Addressing the Global Food Crisis: Key Trade, Investment and Commodity Policies in Ensuring Sustainable Food Security and alleviating Poverty*. Retrieved December 15, 2008.

(http://www.unctad.org/sections/edm_dir/docs/osg_2008_1_en.pdf)

United Nations Development Program. N.d. *Kenya Natural Disaster Profile*. Retrieved November 10, 2008. (<http://www.ke.undp.org/KenyaDisasterProfile.pdf>)

United Nations Environment Program. 2000. *Table of Contents*. Retrieved November 12, 2008. (http://www.unep.org/PDF/2000_drought_full_document.pdf)

Wallace, Tyner, Philip Abbot and Christopher Hurt. 2008. *What's Driving Food Prices?* Retrieved December 15, 2008.

(<http://www.farmfoundation.org/news/articlefiles/404-FINAL%20WDFP%20REPORT%207-28-08.pdf>)

Women Thrive Worldwide. 2008. *The Effect of the Food Crisis on Women and Their Families*. Retrieved August 15, 2008.

(<http://www.globalpolicy.org/socecon/hunger/general/2008/05women.htm>)

World Food Summit. 1996. *Rome Declaration on World Food Security*. Retrieved October 11, 2008. (<http://www.fao.org/docrep/003/w3613e/w3613e00.HTM>)