THE INFLUENCE OF DEPENDENCY ON RELIEF FOOD PROGRAMME INTERVENTION ON FARMERS' PARTICIPATION IN CROP PRODUCTION IN MANDERA COUNTY

BY

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DECLARATION

I hereby declare that this research project is my original work and that no part of this has been presented for another dissertation in this university or elsewhere for the purpose of examination or otherwise.

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

The research has been submitted with my approval as a University Supervisor

Signature:…… Date……..

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DEDICATION

This project is dedicated to my parents Haji Barre and Maryan Issa for their endless love, support and encouragement

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ABBREVIATIONS AND ACRONYMS

ACF: Action for Farming International

EMOP: Emergency operation

FAO: Food and Agriculture Organization

FFS: Farmer Field School

FGD: Focus Group Discussion

G.A.P: Good agricultural practices

IPCC: Intergovernmental Panel on Climate Change

JEFAP: Joint emergency food assistance programme

MDG: Millennium development goals

ODI Overseas Development Institute

PRRO: Protracted relief and recovery operation

SPSS: Statistical Package for Social Science

WB: World Bank

WFP: World Food Programme

ABSTRACT

The purpose of this research was to impart new knowledge and skills on the influence of relief food intervention on farmer's participation in crop production in Mandera County. The overall objective of the research was to find out the influence of protracted relief food intervention on farmer's participation in crop production in Mandera County. Governments and non-governmental organizations spend much on distributing relief food to community over the years without due consideration of the influence of such practices on agriculture production and resultant impact on food security. The study was conducted through a descriptive research survey; case of Mandera County. Data was collected using questionnaires administered to 368 heads of consenting household who were randomly sampled using proportionate stratified method. Questionnaires were used to collect primary data with the help of the research assistants. Percentages and tables have been used to summarize, organize and present the data. To investigate whether a dependence relationship exists between two variables or whether the variables are statistically independent a Chi-square was used to test the research questions. The qualitative and quantitative data was triangulated for deeper understanding. The study found out that relief food distribution has an influence on the farmer's participation in crop production in Mandera County. The outcome of this research will enable County Government, Policy makers and donor organization to come up with suitable measures that can reduce over reliance on food aid and impart dry land farmers with insights to engage in food security projects believing that will improve agricultural performance and productivity.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The global community has identified the reduction of poverty and hunger as significant issue. The number of malnourished people in the world remains high and has hit past one billion mark since the year 2000 (FAO 2013). The fact that over a billion people remain hungry even after the recent food and financial crises have largely passed indicates a deeper governance challenge that gravely threatens the ability to achieve globally agreed goals on hunger reduction. Even with the shift from the first Millennium Development Goal (MDG) and the 1996 World Food Summit goal to Sustainable development goals, it is also evident that economic growth, while essential, will not be sufficient in itself to eliminate hunger within an acceptable period of time.

This high degree of hunger results from many compounding factors, including armed conflict and natural disasters, often in combination with poor governance scarce resources, unsustainable livelihoods systems and failure of local institutions. Faced with so many obstacles, it is little wonder that relief food interventions can become a self perpetuating vicious cycle. Protracted crises are not short lived phenomena temporary interruptions from which countries easily return to a path towards longer-term development (Pantuliano 2008). Rather, they represent continuous and fundamental threats to livelihoods, from which recovery may become progressively more difficult over time. Protracted crises call for tailor

made design and targeted assistance for the community. Assistance focused on the immediate need to rescue lives is important in protracted crises as it is in short lived emergencies.

Despite these additional needs, trends in development assistance give cause for concern. Nearly 65 percent of countries in protracted crisis receive less development assistance per person than the average for least developed countries. More importantly, agriculture receives only 3 to 4 percent of development and humanitarian assistance funds in countries in protracted crisis, despite accounting for 32 percent of their gross domestic product and supporting the livelihoods of 62 percent of their populations (FAO 2013).

There are a number of actions that we can do to improve the way we handle protracted relief crises, and provide more effective and lasting solution for people living in these situations. Lessons from the experience of many countries show that building longer term assistance activities based on the framework of existing local institutions offers the best hope of long term sustainability and real improvement of food security. Developing targeting systems, which can be operated effectively at reasonable financial and administrative cost, has been a focus of work in the humanitarian sector in recent years (Barrett, 2002).

Kenya still depends on rain-fed agriculture for its household food requirements, relying on the two main rain seasons namely the March to June long rains and September to December short rains. Close to 80 percent of the land is arid or semi-arid (Bai et al 2006). The national and county governments have been collaborating with international and local NGOs to initiate projects with concerns with food security aimed at achieving Millennium

Development Goal of eradicating extreme poverty and hunger (Sachs et al 2005). Food security projects are majorly concerned about stable and sustainable pillars of food security which are availability, accessibility and utilization (ACF, 2009). Their efforts are to see that there is enough food available to vulnerable groups in a long term continuous basis including when households face stress such as crop failure, fluctuation in food prices or seasonal changes in cash income or food production (FAO, 2005; 2011; 2013). There is evidence of food aid causing various types of negative dependency, which arises when meeting current needs occurs at the cost of reducing beneficiary capacity to meet their own basic needs in the future without external assistance (Abdulai et al. 2005).

Mandera County, located in the border of Kenya and Ethiopia is an arid and semi arid land and receives annual rainfall of less than 1500 mm. The County is characterized by limited water supply, rainfall variability and recurrent droughts periods thus there both the inadequate availability of and access to food. As a result proportion of the population is unable to meet their annual food requirements. Low agricultural yields resulting from inadequate rainfall or severe floods have reduced household food availability, as well as earnings from crop production, leading to diminished purchasing power for basic staple food and nonfood items for poor and vulnerable households in Mandera County.

Mandera County has continuously faced perennial food insecurity as a result of extreme climates, characterized by a succession of drought and floods in the past years. Agricultural outcomes are extremely poor, leading to a lack of market for livestock and unemployment. Since the drought experienced in 2005, 2006 and 2011, Government and NGOs have been

providing relief food distribution to the community in order to prevent the community vulnerability to malnutrition and rehabilitate already malnourished populace. Most people, in pastoral and marginal agricultural areas in particular have heavily relied on relief food.

Food security is at the centre of food crises and food related emergencies. It is significant factor in longer term livelihood security (Corbett, J. (1988). Food insecurity may cause irreparable damage to livelihoods, thereby reducing self-sufficiency. It is therefore part of the process leading to malnutrition, morbidity and mortality. In addition, the state of being food insecure directly contributes to destitution and damaged livelihoods in the long term. The national and county governments are collaborating with international and local NGOs to initiate projects with concerns with food security aimed at reaching Millennium Development Goal.

Understanding the effects of food insecurity on livelihoods and self-sufficiency in the longer term requires an analysis of vulnerability and risk. Vulnerability to food insecurity has two aspects, one external to the household, and the other internal to it (Chambers, 1989). The external shock or stress might be drought, market failure, conflict or forced migration. The internal aspect of vulnerability is to do with people's capacity to cope with these external shocks. Due to constant drought lack of market for livestock and unemployment most people are poor and depend entirely on relief food (maize rations and water) and hence food insecurity remains pervasive. Increasingly, the food security problems in pastoral and marginal agricultural areas in particular, are chronic and an outcome of successive poor seasons coupled with inadequate livelihood support interventions prior to and during

droughts. The implication of dependency on relief food on farmer's participation in crop production by local community is the core of this study.

1.2 Statement of the Problem

Studies have shown that agricultural food security projects have performed poorly and attain lower scores. De Janvry (2010) found that that agricultural investment projects have been faring poorly on a comparative basis, following misguided approaches and integrated rural development that have since been discontinued. With respect to relief food interventions, assessments of negative dependency should be ongoing. Core data should be collected during programming and, ideally, following termination of a programme may offer insights for future programming decisions. Harvey and Lind (2005) recommend greater accountability and transparency in programming decisions, which can align recipient and donor expectations as to the timing and duration of relief. Good targeting can limit the adverse consequences of food aid on producers, host communities, and governments.

For many years Communities in Mandera have benefited from a plentiful supply of relief food targeting households in emergency situations. In Mandera County, the impacts of climate change are already being experienced by communities, who are seeking ways to adapt to the changes and to build resilient livelihoods. Increasing exposure to climate shocks and stresses such as droughts and floods have increased vulnerability to climate change in Mandera County. The adaptive capacity of pastoralists and agro-pastoralists is dynamic, affected by a range of social, environmental, economic and political variables, many of them beyond the control of the community. Maize farmers for instance do not till their land have to

depend on relief food With little crop farming, over time, the amount of cereals and other fresh produce available in the market have decreased.. For instance, the Gadudia Scheme is currently 40% operational has a potential 90 Ha irrigable land. Most of the families undertaking irrigated agriculture are destitutes who have no other source of income. These people solely dependent on the government and other donors for help inform of famine relief foods, procurement of pumping sets among other necessities. Despite national and international efforts to improve livelihoods, Mandera County is still exposed to the risks of food shortages and hunger. Progress towards enhancing farmer's participation in crop production and meeting food security will require comprehensive programmes that aim to simultaneously address, declines in the productivity of the agricultural sector and expanding the scope of livelihood opportunities for poor and food insecure households so that they are able to better manage the risks associated with natural and man-made emergencies. It is against this background that this study seeks is to find out the influence of relief food programmes on farmer's participation in crop production.

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of relief food programmes on farmer's participation in crop production in Mandera County. This study therefore sought to establish the extent to which protracted relief food interventions has significant impact on farmer's participation in crop production and food security.

1.4 Objectives of the Study

The study was guided by the following objectives:

1. To establish the influence of type of relief food distributed on farmer's participation in crop production in Mandera County
2. To establish the influence of the adequacy of relief food distributed on farmer's participation in crop production in Mandera County
3. To establish influence of attitude of local community towards the relief food distributed on the farmer's participation in crop production in Mandera County

1.5 Research Questions

This study was organized around the following research questions:

1. What influence does the type of relief food distributed have on farmer's participation in crop production in Mandera County?
2. What influence does the adequacy of relief food distributed have on farmer's participation in crop production in Mandera County?
3. What is the attitude of local community towards farmer's participation in crop production in Mandera County vis-à-vis relief food programme?

1.6 Significance of the Study

The findings of this study will add to the existing body of knowledge on factors that influence agricultural food production in Mandera County. Most organizations and institutions are only focussed on emergency programmes but give little attention on the sustainability of the same. These organizations include: National and County Government,

Humanitarian agencies, policy makers and other researchers. The research findings will help national government and County Government implement a variety of interventions that not only protect livelihoods but enhance farmer's participation in crop production. These may include preparedness and mitigation measures which range from destocking and fodder distribution to cash for work and seeds and tools distributions, construction of climate proof irrigation canal and systems, rainwater harvesting structures, livelihood diversification among other climate resilience projects. To the Policy makers, the research will help them understand the effects of relief food programmes on livelihoods and farmer's participation in crop production and come up with best type of response.

The study did not cover everything as far as the influence of relief food programme is concerned. The emerging issues and gaps may spur other scholars to carry out further researches. Their findings will also contribute to the growing body of knowledge by identifying the pathways through which negative dependency might arise, to outline how the targeting and management of food aid might affect the likelihood of negative dependency as a result of emergency operations or follow on protracted relief and recovery operations; and to suggest indicators that donor community might employ in context sensitive evaluations to reduce the risk of fostering negative dependency through food aid.

1.7 Basic Assumptions of the Study

The research was based on the assumption that the respondents will provide the reliable information. The study also assumed that the respondents are representative of the rest of the population and the data collection instruments were to measure the desired results.

1.8 Delimitation of the Study

The study was conducted in Mandera County specifically focusing on relief food beneficiaries on farmer's participation in crop production with specific focus on crop farming. Ideally the study ought to have been conducted in the whole of Northern Kenya Counties or even in country to get a bigger picture of the relationship of relief food intervention on food production but it was due to limited resources that the findings in Mandera County were generalized for even other places with similar conditions.

1.9 Limitations of the Study

One of the limitations of the study was financial constraints of the researcher since to collect all the required data involved a lot of travelling within the sub counties in Mandera County. A limitation of the study was the relatively small sample size. In addition, there are limited resources to cover large sample sizes. Another challenge is the Infrastructure problem in Mandera County made it not easy to move around collecting data. Mandera County is grappling with security challenges. This may hampered data collection activities in some areas. For this reason, these findings cannot be generalized to the broader community based on this study alone.

1.10 Definition of Significant Terms

The following terms are clarified for the sake of understanding the context of this study. It is always important to make readers understand the placement of the study in order to digest and make use of the find outs. These terms include:

Food security: This is a condition is related to the food supply and access to it. Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern.

Food access: Access by individuals to adequate resources to acquire foods for a nutritious diet. Entitlements are defined as the set of all those commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they lives such as Mandera County (including traditional rights - e.g. access to common resources).

Relief food: It is food that is provided to support fight hunger. In Mandera County, many concerns about relief food dependency seem to stem from a preoccupation with the disincentive effects of food aid. If concerns about the possible negative impacts of food aid are genuine, then the more important question is what form of assistance is most appropriate to prevent hunger, save lives and alleviate suffering in times of crisis. In situations where people's lives and livelihoods are under acute threat and local capacities to cope with crisis are overwhelmed, being able to depend on receiving assistance should be seen as a good thing. The focus should be, not how to avoid dependency, but how to provide sufficiently reliable and transparent assistance so that those who most

need it understand what they are entitled to, and can rely on it as part of their own efforts to survive and recover from crisis.

Attitude: This refers to the manner of thinking; feeling or behaving that reflects a state of mind or disposition. For this study it can be defined as inherent thinking that affects the state of crop production.

Crop Farming: This is related to produce that is generated from agricultural activities. The greatest food security gains typically come not directly, from feeding programs, but rather indirectly, through policies that promote poverty reduction through employment creation and productivity growth among the poor, as well as safety nets to safeguard the vulnerable non poor. Enhanced control over productive assets and access to the technologies and markets necessary to sustainably use them to generate a stable livelihood are especially crucial to reducing vulnerability to food insecurity and facilitating the escape from poverty traps (Barrett, C. B. 2010).

Adequacy of relief food: Is a state of having complete food capable of satisfying with nutrient defined and containing many essential nutrients per calorie from all the food ration distributed.

Type of relief food: A particular kind of solid nourishment substance that is eaten, drunk, or otherwise taken into the body to sustain life during emergency operation.

1.11 Organization of the Study

Chapter one presented the background of the study, problem statement, objectives of the study, research questions that were to be answered, and hypotheses that were to be tested. It also presented the basic assumptions of the study with definitions of the significant terms used. Literature review relevant to the study is presented in chapter two and provides a clear understanding of the logical cause effect relation between farmer's participation in crop production and relief food intervention. The chapter is organized as introduction, concept of relief food programme, conceptual framework, research gap and the summary of literature review. Chapter three presented the research design, target population, sampling procedure and sample size, data collection methods and procedure. The chapter also outlined the validity, reliability, ethical consideration and data analysis techniques. Finally this chapter also presented the operational definitions of variables. Chapter four contained the analysis of the data and presentation of the results in tables and percentages. This section also contained Chi-square test results. Chapter five presented the summary, discussion and conclusion of the researcher's findings on the influence of relief food intervention on of farmer's participation in crop production practices for the case of Mandera County. The chapter also proposes policy directions and how they can be improved to farmer's participation in crop production in Mandera County and how community can avoid over dependence on relief food in the case of the study area. This chapter also presented the recommendations emanating from the study findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter earlier studies related to this field of study are explored. More similarities are drawn from previous studies conducted in. This chapter consists of three main sections namely: the food aid implication on agriculture production, community and household farmer's participation in crop production and marketing incentives, climate change and food security and relief food on long term development. Relief food dependency is rarely defined or analyzed in any detail. It is, however, possible to suggest certain assumptions and meanings that underpin its common usage within the discourse of humanitarian aid. Dependency is generally seen as something negative and to be avoided; associated with the provision of relief and contrasted with development approaches; seen as undermining people's initiative; contrasted with a variety of positive values or terms notably independence, self-sufficiency, self-reliance and sustainability; and seen as a particular problem in contexts where relief assistance has been provided over a prolonged period. Lautze and Hammock (1996) suggest perhaps the most neutral definition of the term as

'*extreme reliance on resources beyond one's control'*

A country is aid dependent if it will not achieve objective in the absence of aid for the foreseeable future (Lensink & White 1999).

An individual, household or community exhibits dependency when it cannot meet its immediate basic needs without external assistance. Helping individuals, communities by organizations to meet basic needs that cannot otherwise foster positive dependency is

indisputably desirable. The undesirable aspect, negative dependency, arises when current needs are met at the cost of reducing recipients' capacity to meet their basic needs in the future without external assistance. Aid distributions can simultaneously foster positive dependency for some stakeholders and negative dependency for others, so it is important to determine who benefits and who is harmed by aid distributions, and it is critical to gauge the relative benefits and costs (Bulir& Hamann 2003).

Food aid impacts food aid recipients, traders, producers and host communities and their livelihood strategies differently. To understand how such effects can arise, it is helpful to have a conceptual framework. This includes a discussion of frameworks for analyzing a concept and how it influences practice, drawing on concepts from discourse theory. It also examines how the term is used in debates around donors and in development theory, which influences and informs its use in humanitarian relief. The concept can also be analyzed in terms of the functions that it serves, for example by providing a justification for scaling back relief efforts, shifting to more developmental approaches, or not mounting a relief response at all. The functions of dependency discourse for humanitarian actors are discussed (Hamann et al 2001).

One approach is to begin with the idea that households hold a bundle of assets or endowments that include, physical capital in the form of agricultural tools and livestock, natural capital such as owned land and access to common property resources, human capital in the form of knowledge, skills and health, financial capital such as cash in hand, bank accounts and outstanding loans, and social capital such as networks, norms and social trust

that facilitates coordination and cooperation. Households also have labor power the ability of household members to generate income. (Lentz et al 2005).

2.2 Type of relief food distributed and implications for agriculture

Changes in prices or in the volume of food traded locally may trigger negative dependency effects. Higher food prices driven by local purchases or cash transfers may force poor consumers to liquidate productive assets to meet immediate consumption needs, thereby compromising future well-being. Lower prices brought about by in-kind food aid may decrease local production and market activity in the short term and decrease longer-term investments in agriculture (Maxwell et al 1979). Food aid can reduce trade volumes to the point where trade is uneconomic for importers; it can also increase negative dependency by disrupting marketing patterns. In principle, food aid like any sort of aid could induce exchange rate appreciation and thereby undermine the competitiveness of agricultural producers, but there seems to be no empirical evidence for this (Barrett et al 2005).

Several studies (Faminow 1995; Clay *et al*. 1996; and Barrett et al 2005) have shown that monetization of food decreases prices. In addition Barrett and Maxwell (2005) argue that monetizing food aid has the largest adverse affect on local market prices. To address this concern, the United States requires all agencies undertaking monetization to complete a Bellmon analysis, which analyses the local food situation before monetization is started. This requirement was enacted in 1977 to keep United States food aid from flooding recipient markets, driving down local prices and displacing United States commercial food exports (Ralyea, 1999). In order to be granted the right to monetize, operational agencies must

demonstrate that the recipient country has adequate storage facilities and that the monetized commodity will not result in a substantial disincentive in either domestic agriculture or domestic marketing (Ralyea, 1999). Before 2002, recipients of United States food aid were required to monetize food at not less than 80 percent of its market value in the recipient country, to discourage possible dumping of food aid; the 80 percent minimum was cancelled in the 2002 United States Farm Bill.

Price decreases may be unavoidable if food aid is delivered in kind. Colding and Andersen (2000) argue that for small open economies that are price takers, the effect of food aid on prices will be limited. Lind and Jalleta (2005) found that most farmers observed that grain prices fell during distributions of food aid in Delanta Dawunt in Ethiopia, but stabilized within a few weeks. Many recipient economies are not robust, however, and inflows of food aid can cause large price decreases, reducing producers' profits and so limiting their ability to pay off debts and in turn reducing capacity and incentives to invest in improving agricultural productivity.

Barrett and Maxwell (2005) describe a collapse in sorghum prices in southern Somalia in 2000, linking it partly to poorly timed sorghum food aid delivered to Ethiopia that then moved across the border and adversely impacted producers in southern Somalia. Tschirley, Donovan and Weber (1996) found that large amounts of maize food aid delivered to Mozambique caused the market prices of yellow and white maize to fall. In each of these examples, the mistiming of food aid deliveries and food aid arriving late as the next harvest was coming on to the market is at least partly to blame. Leach (1992) found that food aid

sold by recipients reduced the price of food during the lean season; lower prices benefited food-insecure households in the host community and refugee households, and traders of complements such as soap or vegetables benefited from increased demand from aid recipients. Bezuneh *et al*. (1998) and Barrett *et al*. (2002) found that food aid distributed directly or through food-for-work (FFW) programmes to households in northern Kenya during the lean season brought about increased purchases of agricultural inputs, thereby increasing agricultural productivity precisely the opposite of a negative dependency effect. The adverse effects of food aid deliveries on prices do not necessarily generate negative dependency if operational agencies target and time distributions appropriately.

2.3 Adequacy of relief food programme intervention on farmers' participation in crop production

Production disincentives can take two forms. First, reduced prices resulting from an inflow of food aid may decrease the relative payoffs of investing in own production. This impacts recipients and producers in areas with food aid flows in host communities. In theory, a country is most at risk for production disincentives in the face of inelastic demand and elastic supply (Centre for International Economics, 2002). Second, food for work (FFW) programmes may be more attractive than recipients' own production, either because FFW pays immediately or because households consider the payoffs of FFW to be higher than the return on labour on their own plots. In this case, programmes based on food aid-based take productive inputs away from local farmer's participation in crop production. Evidence suggests that food aid in the form of FFW programmes harms local production by encouraging households to reallocate their labour from production to FFW. There is little

econometric or ethnographic evidence in support of this claim, however, and the opposite has been seen to occur, for example in the FFW programme for on-farm soil and water conservation in Tigray, Ethiopia, crowding in that is, encouraging on-farm labour and private investments (Holden, Barrett and Hagos, forthcoming), or in lean-season FFW projects enabling smallholders to purchase fertilizer and hire labour to increase production in Baringo County, central Kenya (Bezuneh *et al*., 1988).

The evidence of production disincentives at the local level is mixed and highly dependent on context. Sellers and producers are harmed by large price decreases, the magnitude of which depends on season, type of commodity and the characteristics of local markets. Local producers are most at risk when food aid arrives simultaneously with harvests, or when food aid floods thin markets that is, markets characterized by low transaction frequency and volume. The Overseas Development Institute (ODI, 2000) reported:

> "…*there is much evidence of ineffectiveness and some evidence of late-arriving, elief hampering the recovery of local economies affected by natural disaster*…"

Other research finds that in certain contexts food aid does not impact local production. Abdulai *et al*. (2005) find that production decisions are not adversely affected by food aid in sub-Saharan Africa on a macro-level, nor in Ethiopia on a micro-level. By addressing targeting related placement effects, the authors find an apparently negative correlation between food aid and production that does not appear to reflect a causal relationship between food aid and reduced labour inputs or on-farm investments. Abdulai *et al*. (2005), who used repeated longitudinal observations of households, refutes claims of negative dependency among Ethiopian farmers in their sample. Another research in Kenya suggests that producers

choose their crops on the basis of long term price trends, not short term fluctuations. Production changes may therefore be more likely to occur in areas with recurrent crises that receive a long-term, steady stream of food aid rather than one off responses such as EMOPs (Deloitte Consulting, 2005). This is not to say that long-term food aid or transparent deliveries of aid will necessarily result in dependency, which still has not been shown rigorously.

2.4 Relief food programme intervention and crop production

Dynamic interactions between the bio-geophysical and human environments lead to the production, processing, distribution, preparation and consumption of food, resulting in food systems that underpin food security. Food systems encompass food availability (production, distribution and exchange), food access (affordability, allocation and preference) and food utilization (nutritional and societal values and safety), so that food security is, therefore, diminished when food systems are stressed. Such stresses may be induced by a range of factors in addition to climate change and other agents of environmental change such as conflict and may be particularly severe when these factors act in combination (IPCC 2001). Climate change may affect food systems in several ways ranging from direct effects on crop production for example; changes in rainfall leading to drought or flooding, or warmer or cooler temperatures leading to changes in the length of growing season, to changes in markets, food prices and supply chain infrastructure (Nelson et al 2009).

In sub-Saharan Africa climate variability and extreme weather events such as droughts, excessive rains and floods are among the main risks affecting agricultural productivity and

hence rural household food security. A failure of the rainy season is directly linked to agricultural failure reducing food availability at household level as well as limiting rural employment possibilities. In recent years, the largest food crises in Africa that required large-scale external food aid have been attributed fully or partially to extreme weather events (Dilley *et al*. 2005). For instance, the food crises of 1974, 1984/1985, 1992 and 2002 affected the lives and livelihoods of millions of rural populations. Recovery from such big drought events could take several years as shown in (Dercon 2004). The livelihoods of subsistence farmers and pastoral people, who are already weakly coupled to markets, could also be negatively affected. In regions where there is a likelihood of decreased rainfall, agriculture could be substantially affected regardless of latitude (IPCC 2001).

2.5 Attitude of local community, relief food distribution development

It is important to consider the complete food chain from production to distribution, access and utilization (Gregory *et al*. 2005). This requires an appreciation of the intimate relationship between climate, socio-economic and environmental factors, and an understanding of major economic sectors and the embedding of agricultural systems within national economies.

There is a complex web of policy and decision making along the value chain from farm to fork. Buchanan et al (1994) concludes that there are some circumstances where efforts to link relief and development are not justified; but that in many other cases, the approach makes sense. The main constraints encountered are institutional and political, but there is room for maneuver and practical suggestions are made. For instance, food aid dependency among Ethiopian farmers frequently is claimed with serious policy impacts. By examining

patterns of food aid distribution and resource allocation among groups of food aid recipients and non-recipients in South Wollo, Ethiopia, one of the country's largest recipients of food aid Little, Peter (2008) concludes that food aid has not encouraged dependency-like behaviors. It suggests that few farmers would be foolhardy enough to significantly alter their actions, since food aid delivery is too uncertain and poorly timed.

2.6 Conceptual Framework

This conceptual framework provides a link scenario of interacting processes and/or entities within the relief food programme. It shows factors that cause initiation of food relief linking it to the local population. Existing drought is as result of low and highly variable rainfall within the area. Climate change is a factor that compounds on the effect of rainfall or climate variability. The culminating droughts affect local agricultural activity which in turn affects local food security which causes famine. Once the local farmer's participation in crop production is affected, local communities cannot access products in the markets and also means of exchange for foreign products is compromised.

In this scenario, the area will depend on external sources of agricultural products. Foreign agricultural products will affect the local residents by the type of food, available quantity and the duration of supply for the food type. Purchasing of the products by the local residents would be affected by the purchasing power which is already affected by the famine. In a situation where there is lack of food from local agriculture and poor purchasing power for foreign agricultural products, local residents seeks food relief from the government and other organizations to meet the demand. The cyclical drought/famine and low purchasing power by the local residents would make most of them rely on relief food. This in turn creates an

attachment to relief food throughout the years despite some of the beneficiaries capable of agriculture and other livelihood activities. See the figure 2.1 below

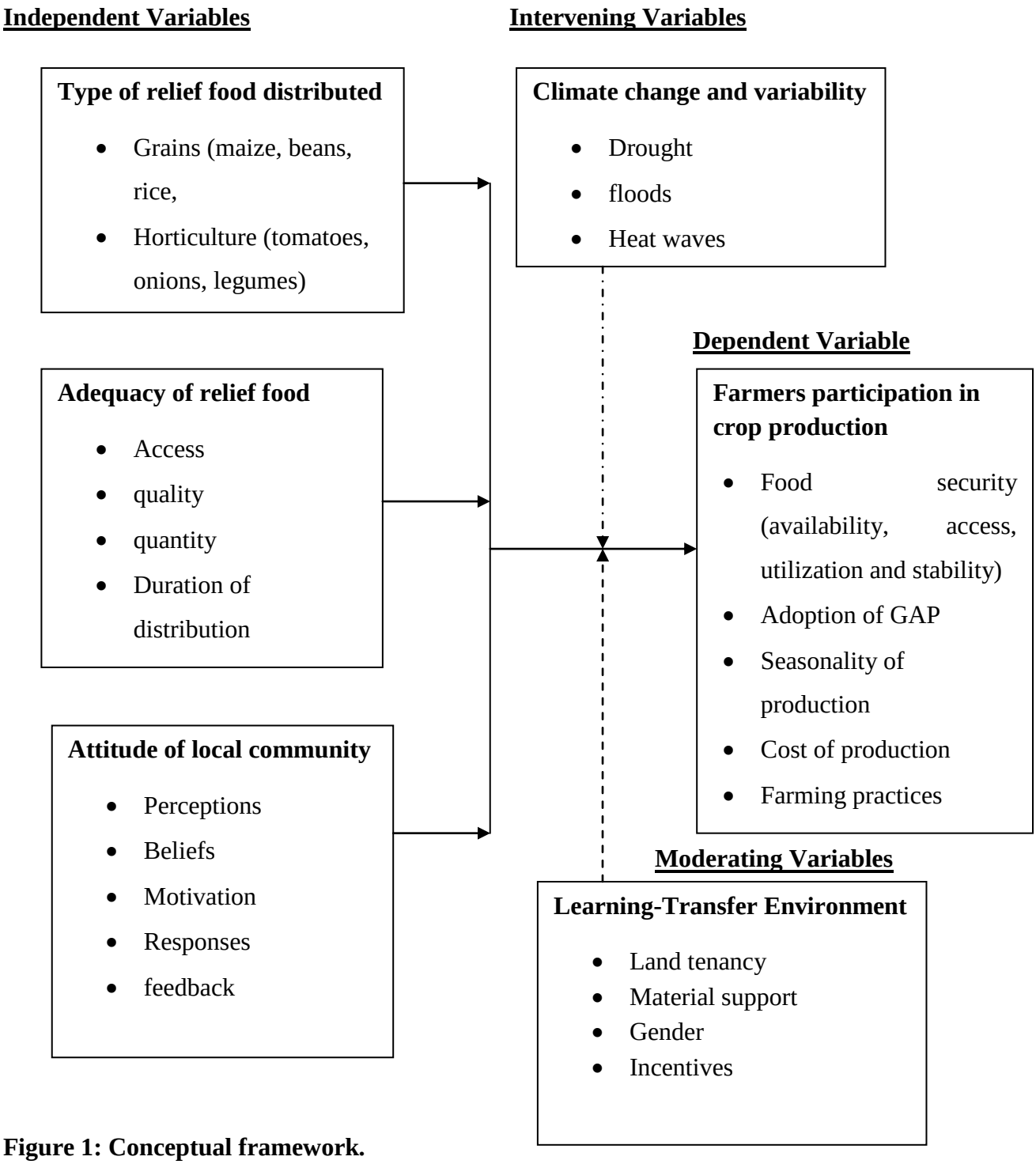

Figure 1: Conceptual framework.

2.7 Research Gap

There has been almost no study conducted specifically for the Mandera County as far as influence of relief food programmes on farmer's participation in crop production is concerned.

Evidence is accumulating that participatory planned, well managed and timely measure to mitigate the impacts of drought on farmer's participation in crop production can be both successful and cost effective both in terms of overall superiority of benefits over costs, and in terms of greater cost effectiveness than the food relief alternative (Morton, John, et al 2006)

While some studies have been conducted on impacts of food aid on development by the likes of Clay, Edward J., and Olav Stokke1991, only few have done the influence of relief food programme on agricultural development. Food aid is still considered to be the most controversial form of aid (Clay, Edward J., and Olav Stokke1991). The issue include the potential and actual contribution of food aid to development, the impact of food aid on food security and farmer's participation in crop production in the third world countries. It seems reasonable to conclude that food aid is not exactly as they seem. Most donors and governments for instance insist in their declared policy that assistance is given to alleviate needs and create sustainable development. But to what extent does food aid when not directed towards relief operations fit into such strategy?

Clay et al (1991) concluded that the more fundamental development effects of state food aid will highly be dependent on policy orientation and priorities of recipient government.

In this study the intention is to come up with a new model of approaching relief food distribution while promoting farmer's participation in crop production in Mandera County.

2.8 Literature Review Summary

The chapter on literature review places the study topics within the broader background; which covered both direct and indirect issues related to the study. The study was broken into several topics that relates with the problems and the objectives. Thus, it reviews issues concerning with food relief and implications on agriculture broadly and at household levels. The interactions of farmer's participation in crop productions and market systems and incentives are a central issue in the balance of food at local levels. Climate change is reviewed with regard to food security in this chapter, as well.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter of the study describes the methodology that was used in data collection and its analysis in order to answer the research questions addressing the overall research objective of investigating the influence of relief food intervention on farmer's participation in crop production. The section discussed the research design; detail the target population, sampling procedures, data collection methods and instruments and procedures, validity, ethical considerations and methods of data analysis.

3.2 Research Design

Research design is the strategy for a study and the plan by which the strategy is to be carried out. It specifies the methods and procedures for the collection, measurement, and analysis of data (Mugenda, et al 1999). The research will adopt a qualitative approach because of the problem and research objectives of the study area set earlier. Qualitative approach sees the situation from the point of view of the people affected. The respondents of Mandera County were asked about what they do, what they think, and what they wish should be done to change with respect to relief food programme. The study used descriptive survey design. According to Kothari (2004) the design provides a deep understanding of the circumstances under study and its instruments are helpful in getting in-depth first hand experiences; and that it has ability to allow the collection a large amount of data quickly and a minimal cost. It is concerned with conditions that exist, practices that prevail, beliefs and attitudes that are held, processes that are ongoing and the trends that are developing.

3.3 Target population

Target population refers to all members of a real or hypothetical set of people or objects by observing some of them and extending them to the entire population or set of events (Orodho, 2009). The target population of the study was farming households within Mandera. There are approximately 1,025,756 people living in Mandera County with a household of 125,497 (2009 Census). Among these 7% (8784) belong to farming household distributed all the six Sub Counties namely Mandera East, Mandera West, Mandera North, Mandera South, Lafey and Banissa from which a sample was drawn. Heads of farming household was interviewed in this study. A house hold has an average of 7 members.

3.4 Sampling size and sampling procedure

The sample size of the study was respondents calculated using the formula and table by Krejcie & Morgan (1970). This formula has a confidence level of 95% and an error margin of 5%.

$$s = \frac{X^2 NP(1-P)}{d^2(N-1) + X^2 P(1-P)}$$ where;

s=required sample size

X^2=the table value of chi-square for 1 degree of freedom at confidence level 0.05 (which is $=1.96^2=3.8416$)

N=Population Size of 8785

P=the population proportion (assumed to be 0.5 since this would provide the maximum sample size)

d=degree of accuracy expressed as a proportion =0.05

Thus, s= $\frac{3.841 \times 8785 \times 0.5\ (1-0.5)}{0.05^2(8785-1) + 3.841 \times 0.5\ (1-0.5)} = \frac{8435.79}{21.96+0.96025}$

=368 household respondents

This was about 368 farmers.

For stratification purposes, the study population was categorized into two groups; farmers, agro pastoralist according to their locations within Mandera County after which random sampling was applied in the two categories. This method is chosen because it gives each household an equal opportunity to be selected (Bordens & Abbott (2011). Because of the time limitations, the method is appropriate to get the right information from the people. Within the settlements, systematic random sampling was used to identify the respondents to be interviewed. And since the settlements in Mandera are mostly clustered this was used as clusters where the sample size was drawn. Heads of households that was interviewed was selected through systematic random sampling from a randomly selected starting point and in his or her absence; any adult present was interviewed.

Table 3.1 Sampling size

Number	SubCounty	Membership	%
1	Mandera South	914	10.4
2	Mandera North	1567	17.8
3	Mandera East	682	7.8
4	Mandera West	1008	11.5
5	Banissa	1046	12
6	Lafey	3567	41
	TOTAL	**8784**	**368**

3.5 Data Collection Instruments

Self administered questionnaires were the main research tool to collect the primary data among the farmers. The questionnaires (with structured and semi-structured questions) were used to collect data since they are less costly and easy to administer. 368 questionnaire were distributed. The questionnaires were administered to all the selected respondents within maximum of three weeks. The questionnaire was given to the relief food beneficiaries who are also farmers and filled in writing. This was most appropriate for only the very patient and willing respondents who were literate. The questionnaires captured basic information such as Gender, Age, Livelihood, and Income level, education and House Head. The researcher trained the research assistants on how to collect the data using the tools that had already been prepared. Communication to the respondents was made in English, Kiswahili and Somali (where possibly applicable). The enumerators were from Somali speaking community to ease the process of data collection and exchange information among illiterate respondents.

To establish the influence of type of relief food distributed on farmer's participation in crop production in Mandera County, farmers were interviewed on the type of food they obtain from the relief food agencies, the distribution of type of food with period. The questionnaire also collected data on the strategies for allocation of relief food which was assessed during the exercise; and this involved for instance beneficiary structure (age/gender Type of food distributed over time, distribution points, beneficiary age/ gender structure, household, food crop grown, food prevalent in the market). Respondents were asked on how the relief food type influences the type of agricultural food crop grown or sold in the area and how it affects purchasing of the type of agricultural food production from local markets/shops. Agricultural produce considered here were direct farm produce sold in market and groceries; processed agricultural products.

To establish the influence of the adequacy of relief food distributed on farmer's participation in crop production in Mandera County farmers were asked about the frequency of relief food distributed, quantity of relief food provided (duration coverage from the Government and relief food agencies. To establish influence of attitude of local community towards the relief food distributed on the farmer's participation in crop production in Mandera County, data was collected using opinion oriented questions. These questions interrogated whether the reliance on relief food by the local residents was due to an attitude towards the food provided for free. Alternatively, reliance due to the local condition would also be confirmed from interviews that were conducted.

3.6 Validity of the Research Instruments

Gakuu & Kidombo (2010) refers validity to the appropriateness, meaningfulness and usefulness of the inferences a researcher makes (drawing the correct conclusions based on the data obtained from an assessment). To ensure content related validity; the questions was set in a form that they are appropriate, relevant, free from bias so that the information being sought was availed by the respondents. Denzil et al (2005) have analogous criteria for qualitative validity, which are authenticity, trustworthiness, fairness, ontological authenticity, tactical authenticity, catalytic authenticity and educative authenticity. Pretest of questionnaires was conducted at the training centre over a period of two days prior to actual study. To enhance the trustworthiness of a questionnaire schedule the researcher together with research Assistants will review of the questions themselves to reduce ambiguity, leading questions, emotive questions and stressful question. Instrument content validity was achieved by using a range of measures that are accepted as covering the main features of a phenomenon such as covers income, education, and attitudes among others. Names of the respondents were not asked throughout the process.

3.7 Reliability of the Research Instruments

Bordens & Abbott (2011) define reliability as ability to produce similar results when repeated measurements are made under identical conditions while Gakuu & Kidombo (2010) define it as the degree of consistency of score or answers from one administration of an instrument to another, and from one set of items to another. Thus an instrument is said to be reliable when it gives consistent results with repeated measurements of the same object with the same instrument.

The test retest method was sued to test for reliability of the instruments used for the study by implementing questionnaire in two separate times for each subject to enhance accuracy of the research findings (Creswell 2007). Correlation between two separate measurements was computed with assumption that there is no change in the underlying conditions between test 1 and 2. This was ensured by using trained and motivated persons (research assistants) to conduct the research and also by broadening the sample by increasing the sample size from the least 10 percent as suggested by Mugenda & Mugenda (1999) (10% of 368). The researcher carried out test re-tests to the 10 percent of the sample (that is 37 respondents) and analyze by correlation coefficient. The Pearson's coefficient was 0.98025 as the Spearman Brown's coefficient was 0.99003.

3.8 Data collection procedure

The study employed both and secondary Primary Data Collection procedures. The methods for primary data collection included Questionnaires, Interview administered questionnaires and Observations. Secondary data collection basically involved collecting data from documents, records and reports of others. It was important to compare all these procedures to find out their comparative advantages and disadvantages before the researcher finally settled for a particular data collection procedure. All guidelines regarding ethics in data collection, management of data collection and designing of data collection instruments were kept in mind.

3.9 Data Analysis Techniques

In data analysis, computation of certain measures along with the searching for patterns of relationship that exist among data groups was done as drawn from Kothari's (2004) definition. Data analysis will facilitate answering of the research questions.

Data was checked for accuracy and completeness. All responses were corded before data was entered into the computer by use of SPSS version 11.5. To investigate whether a relationship exists between two variables or whether the variables are statistically independent a Chi-square was used in testing the relationships. The qualitative data collected from the interviews analyzed and presented for triangulation with the quantitative data that will have been collected using research tool. Cross tabulation was used as well as determination of correlation among the variables. Data collected by interviews was analyzed qualitatively and quantitatively. Counts of interview responses were analyzed quantitatively. After an analysis data was presented using tables.

3.10 Ethical Considerations

To successfully conduct this study the researcher first applied to the National Commission for Science technology and Innovation for clearance and issuance of Research Permits. The researcher also submitted a written request to Office of County Commissioner Mandera County for permission to carry out study within the County. The consent was sought from the participants; and the purpose of the study was comprehensively explained to them. Their confidentiality was assured. The researcher did not change data or create false data to meet a desired objective and did not interpret data from a biased perspective.

3.11 Operational Definition of Variables

Table 3.2: Operational Definition of Variables

Variable	Type of variable	Indicators	Level of scale	Data collection method	Data Analysis technique
Farmer's participation in crop production	Dependent	• Food availability • Seasonality of production • Cost of production • Farming practices	Nominal	Questionnaire Observation	Cross tabulation with chi square
Type of Relief food distributed	Independent	• Grains (maize, beans, rice, • Horticulture (tomatoes, onions, legumes	nominal	Questionnaire	Cross tabulation with chi square
Adequacy of relief food distributed	Independent	• Access • quality • quantity • Duration of distribution	Nominal		Cross tabulation with chi square
Attitude	Independent	• Perceptions • Beliefs • Motivation • Responses • feedback	Ordinal	Questionnaire	rank order correlation

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This section describes the findings of the study. Tables have been used to present the data. In testing the research questions, inferential statistics Chi-square test for independence has been used to test the relationships among the variables.

4.2 Response Rate

Table 4.1: Distribution of respondents between genders

Gender	Response	% response
Female	151	46
Male	177	54
Total	328	100

This is a very important component of the research. A lower response rate has dangers of biasness. Response rate is the percentage of those selected in a sample that provides the data for analysis. A total of 368 questionnaires were distributed to the respondents. 328 were filled and duly completed (Table 4.1). According to Fowler (1984), a response rate of or above 60% is a representative.

4.3 General Information of the Respondents

Table 4.2: Summary of demographic information

Demography	Respondents	Total	Percentage
Gender	Male	177	54
	Female	151	46
Age	15-25 years	49	15
	26-35 years	91	28
	36-45 years	124	38
	Above 45 years	64	20
Marital status	Single	131	40
	Married	197	60
Level of education	Did not attend school	207	63
	Lower primary school	46	14
	Upper Primary school	23	7
	Secondary school	30	9
	Tertiary college	23	7

This section sought to find the general information about the respondents including: gender, age, level of education and marital status. By age structure; respondents aged 15-25 years old constituted a total of 15% out of total respondents, 26-35 years old were 28%, 36-45 years old were 38 and above 45 years old were 20% (Table 4.2).

Age structure of female respondents aged 15-25 years old constituted 16% of the total females; 26-35 years old were 30%, 36-45 years old were 38% and above 45 years old were 16%. While in males respondents aged 15-25 years old constituted 14% of the total females; 26-35 years old were 25%, 36-45 years old were 37% and above 45 years old were 23%.

A total of 60% of the respondents are married and about 40% are single parents; among males, 75% of males and 44% females are married. People without formal education constitute the biggest percentage 63% of the population in the area; tertiary level constituting the lowest percentage 7% distribution. Generally females constitute the lowest percentage in both secondary (2%) and tertiary levels (2%) of all population.

4.4 Beneficiary of relief food according to gender, age, marital status and education level

Table 4.3: Distribution of the relief food according to gender, age, marital status and education level

Demography	Respondents	Total	Percentage
Gender	Male	151	46
	Female	131	40
Age	15-25 years	33	10
	26-35 years	79	24
	36-45 years	112	34
	Above 45 years	62	19
Marital status	Single	39	12
	Married	180	55
	Widowed	23	7
	Divorced	43	13
Level of education	Did not attend school	194	59
	Lower primary school	39	12
	Upper Primary school	19	6
	Secondary school	16	5
	Tertiary college	16	5

According to research, an estimated of 86% of Mandera County population are benefiting from relief food. Among those who receive relief food, about 46% are males while 40% are females. Population in the age structure 36-45 years benefits from relief food distribution than other age structure. About 34% of the population are within this age structure; while 10% of population within age sturcture 15-25 years least benefit from the food relief (Table 4.3). Male population in the upper age structures seems to benefit more from food relief than females. Population who did not attend school consist of 59%, the highest beneficiary of relief food followed by population who left at the Lower Primary School (Table 4.3). Population benefiting from relief food decreases with the level of education. The population of males and females receiving relief food in the lower primary school and those who did not attend school are relative. Apparently, the population of males whow have finished primary, secondary and tertiary benefits more from relief food than females.

An estimated population of 55% are married and constitute population benefiting highly from relief food than singles 32% (divorced, widowed and single parents). Amongst the singles; about 12% is constitutes divorced females while males are only 2% (Table 4.3). Single parents and widowed males and females are relatively same in percentage distribution.

4.5 Relief food type distribution between genders, among age structures, marital status and education levels in relation to farmer's participation in crop production

Table 4.4: Distribution of Mandera County population among the relief food ration between genders, among age structures and education levels in relation to Farmer's participation in crop production

Variable	Sub-variable	Beans	Maize	Oil	Pulses	Rice	Sorghum	Vegetable	Blended Food
Gender	**Male**	32	33	0	24	14	0	2	3
	Female	28	27	1	21	15	1	1	1
	Total	60	60	1	44	30	1	3	3
Age Structure	**15-25yrs**	5	8	1	5	2	0	1	0
	26-35yrs	18	17	0	15	9	0	1	1
	36-45yrs	24	22	1	17	13	0	1	2
	Above 45 yrs	13	13	0	8	6	0	0	1
Education Level	**Did not attend school**	44	35	1	30	25	1	1	1
	Lower primary school	9	12	0	8	2	0	0	1
	Upper primary school	3	4	0	2	1	0	0	1
	Secondary School	3	5	0	1	1	0	1	0
	Tertiary	2	5	0	3	1	0	0	0

According to findings, the common ration provided as relief food consist of beans, maize, pulses and rice. An estimated 60% of the population benefit from distribution of beans and maize; 44% from pulses and 30% benefit from rice (Table 4.4). Significant population benefit from beans and maize compared to other rations. There was significant difference

(F=14.67, p=0.00) on distribution of age structure population between males and females (Table 4.5). While, no significant difference (F=1.48, p=0.31) was observed in food ration type distribution between males and females in Mandera.

Table 4.5: Two-Way ANOVA analysis distribution of population in Mandera County among age structure and between genders.

	Sum sqrs	df	Mean sqr	F	p
Age structure	9704.38	3	3234.79	14.673	0.02683
Gender	325.125	1	325.125	1.47477	0.3115
Error	661.375	3	220.458		
Total	10690.9	7			

Beans is distributed mostly as a relief food ration to population within age structure, gender, marital status, and educatiol levels. Most population, 8%, within the age structure 15-25 year old receive maize more than other food ration; this followed by beans and pulses (5% each) (Table 4.4). Within age structure 26-35 years, most population (18%) receive beans followed by maize (17%) and pulses (15%). About 24% of population within age structure 36-45 years receive beans; this is followed by 22% population that receive maize and pulses 17%. Beans and maize are received equally (13%) by the population in the age structure above 45 years old (Table 4.4). Two-Way ANOVA (without replication) was performed to test difference in population distribution receiving the food ration among the age structure and the food rations. There was significant difference (F=13.93, p=0.00) on distribution of age structure population among the food ration (Table 4.6). Also, significant difference (F=5.68, p=0.00) was observed on food ration type distribution among the age structure in Mandera.

Table 4.6: Two-Way ANOVA analysis distribution of population in Mandera County among age structure and on relief food ration

	Sumsqrs	df	Meansqr	F	p
Age structure	13892.2	8	1736.53	13.9252	2.562E-07
Relief food ration	2125.11	3	708.37	5.68043	0.004367
Error	2992.89	24	124.704		
Total	19010.2	35			

The distribution of food ration amongst the education categories indicate most of the rations are distributed to the population that did not attend school. Higher education level categories constitute lowest population receiving relief food ration. Within the category of population who did not attend school, most of the population receive beans (44%) followed by maize (35%), pulses (30%) and rice (25%) (Table 4.4). Those who attended school upto lower primary, most of the population receive maize (12%) followed by beans (9%) and pulses (8%). Population who attended upper primary school, secondary and tertiary education levels constitute the least in receiving beans and maize ration. There was significant difference ($F=2.73$, $p=0.03$) on distribution of education level category population amongst the food ration (Table 4.7). Also, significant difference ($F=7.07$, $p=0.00$) was observed on food ration type distribution among the education level categories in Mandera.

Table 4.7: Two-Way ANOVA analysis distribution of population in Mandera County among education levels and on relief food ration

	Sumsqrs	df	Meansqr	F	p
Education level	1028.38	7	146.911	2.72643	0.02736
Relief food ration	1523.65	4	380.913	7.06913	0.0004577
Error	1508.75	28	53.8839		
Total	4060.78	39			

4.6 Type of relief food distributed and Farmer's participation in crop production

Table 4.8: Distribution of Mandera county population

Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Male	12	2	7	12	22
Female	7	3	7	10	18
Total	19	5	14	22	40
15-25yrs	4	1	3	5	2
26-35yrs	4	3	4	5	11
36-45yrs	7	2	6	7	16
Above 45 yrs	3	0	2	5	10
Did not attend school	9	2	8	14	30
Lower primary school	2	1	2	2	7
Upper primary school	2	1	1	2	2
Secondary School	2	1	2	3	1
Tertiary	4	1	1	1	1

A total of 35% of the population in Mandera county own arable land. Out of this 20% of the population are constituted by men and 15% by women owning the arable lands. The arable land are used differently for various agricultural activties by the population. An estimated 13% of the population uses arable land for crop farming only; 10% of the population use the land for both crop farming and livestock keeping; while 6% of the population uses it for livestock keeping only. Population practising crop farming was distributed as follows; 15% grow maize, 10% grow pulses, vegetables 5% and fruits are only grown by 4%.

62% of the county's population, agree or strongly agree with the opinion that the distribution of the relief food hinder local residents from practising crop farming; while about 24% disagree or strongly disagree with the opinion. Among those who agree or strongly agree, 34% is constituted by males and 28% by females; while those who disagree or strongly disagree, 14% is constituted by males and 10% by female population (Table 4.8).

Population distribution among education level shows those who did not attend school constitute the people who agree or strongly agree by 11% and those who disagree or strongly disagree by 44% of the total county's population. Among those who agree or strongly agree, population with tertiary education constitute 5% while those with lower primary, upper primary and secondary school education had, each consituted 3% of the county's population. The population that disagree or strongly disagree which is majorly constituted by those who did not go to school is followed by the population who only attended primary school which constitute 9%; upper primary and secondary school, each constitute 4%, and tertiary level 2% of the county's population (Table 4.8).

Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that the type of relief food distributed do not hinder local residents from practicing crop farming; between genders, among age structures and education levels.

4.7 Population cumulation receiving relief food ration

Table 4.9: Accumulation of population receiving relief food rations since 5 years ago to less than a year

	Over 5	5 years	4 years	3 years	2 years	1 year	Less 1 year
Beans cum	17	20	27	35	46	57	61
Blended food cum	1	1	2	3	3	3	3
Maize cum	26	29	35	40	48	54	60
Oil cum	0	0	0	1	1	1	1
Pulses cum	21	25	30	34	39	42	44
Rice cum	5	6	10	14	19	28	30
Sorghum cum	1	1	1	1	1	1	1
Vegetable cum	1	1	2	3	3	3	3

Maize has been food ration distributed mostly over the last five years. The overall trend has increased at rate of (slope=5.92, intercept=18.04). distribution of beans has over the last one year and half overtaken maize distribution rate; population receiving beans has been well above the population that has been receiving maize. Population that received pulses were initially more than those receiving beans 5-3 years ago but recently surpassed by beans. The rate of distribution of beans has been increasing at a rate of (slope=8.03, intercept=5.55);

while pulses increases at a rate of (slope= 4.05, intercept=17.52). Population receiving rice has been lower than population receiving maize, beans and pulses; however, its distrbution has been increasing at a rate of (slope=4.45, intercept=-1.92). Other food rations such as oil, sorghum and vegetable are distributed to very few population and no increase has occurred over the last years.

4.8 Adequacy of relief food distributed

Table 4.10: Adequacy of relief food distributed among Mandera county population between gender, among age structure and education levels.

Variable	Sub-variable	Yes (%)	No (%)
Gender	**Female**	10	33
	Male	6	43
Age	**15-25yrs**	3	10
	26-35yrs	6	19
	36-45yrs	5	31
	Above 45 yrs	4	16
Education Level	**Did not attend school**	11	51
	Lower primary school	2	12
	Upper primary school	2	4
	Secondary School	1	6
	Tertiary	2	4

Only 16 % of the population in Mandera County are satisfied with the relief food ration distributed; out this, 10% are women and 6% are men. Chi-sq test performed between those

who are satisfied (Yes) and not (No), between men and women indicate no significant difference (Table 4.10). The standard error bar indicate signififcant difference in satisfaction between men and women in the county.

By age structure between 26-35 years are more satisfied than other structure but this reprent small population of about 6%. This is followed by the age structure 36-45 years (5%); while 15-25 and above 45 years old are less satisfied with the distribution of the relief food rations. No significant difference was observed between those who are satisfied and not, and among the age structure categoreies in the county (Chi^2=1.16, p=0.76) (Table 4.10). observation made on the standard error bar indicate significant differences between the populations in the group except between the age structure 26-35 and 36-45 years old.

Table 4.11: Chi-Square tests on those who are satisfied or not with the distribution of relief food ration among age structure

Yes_(%) vs. No_	(%)
One constraint	
N1:	18
N2:	76
Deg. freedom:	3
Chi^2:	1.1623
p(same):	0.76207
Monte Carlo p(same):	0.8094
Fisher exact p(same):	0.76159

Those who did not attend school represent the highest population satisfied with the distribution of the relief food. About 11% of the population satified with the relief food are those who did not attend school. Other education levels represent very small population

satisfied with the distribution of relief food; each representing less tha 2% of the county's population. No significant difference was observed between those who are satisfied and not, and among the marital status categoreies in the county (Chi^2=3.80, p=0.28) (Table 4.11). Observation made on the standard error bar indicate significant differences between population who did not attend school and lower primary school, upper primary school, secondary school and tertiary level of education.

Table 4.12: Chi-Square tests on those who are satisfied or not with the distribution of relief food ration among marital status

Yes_(%) vs. No_	(%)
One constraint	
N1:	17
N2:	76
Deg. Freedom :	3
Chi^2:	3.798
p(same):	0.28412
Monte Carlo p(same):	0.3242
Fisher exact p(same):	0.23239

4.8.1 Quantity of relief food distributed in relation to agricultural food purchased locally

Table 4.13: Distribution of Mandera county population on the scale of agreement

Main Variable	Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Gender	Male	6	3	4	13	28
	Female	8	3	2	13	20
	Total	15	6	6	25	47
Education level	Did not attend school	8	3	1	15	36
	Lower primary school	2	0	1	4	6
	Upper primary school	2	1	1	2	2
	Secondary School	1	2	2	2	1
	Tertiary	1	1	1	3	1

An estimated population of 47% of Mandera county strongly disagree that the relief food distributed is the same in quantity with the agricultural food purchased locally (Table 4.12). While, only 6% of the population strongly agree the relief food is same to agricultural food they purchase locally. 25% disagree but 15% of the population agree relief food they receive is same in quantity to agricultural food they would buy locally. 28% of Men strongly disagree the relief food is same in quantity with locally purchased agricultural foods (Table 4.12). Two-Way ANOVA (without replication) shows there is significant difference between levels of opinion ($F=21.08$, $p=0.005$) but not between men and women (Table 4.13).

Table 4.14: Two-Way ANOVA analysis conducted between gender and among levels of opinion (agreement) on similarity of relief food types with local agricultural products

	Sumsqrs	df	Meansqr	F	p
Opinion levels	624	4	156	21.0811	0.005967
Gender	6.4	1	6.4	0.864865	0.405
Error	29.6	4	7.4		
Total	660	9			

Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that relief food distributed is the same in quantity to agricultural food purchased locally between genders and education levels.

Population that did not attend school forms majority in the different opinions that relief food is same in quantity with agricultural food purchased locally. Two-Way ANOVA (without replication) shows there is significant difference among among education level ($F=3.17$, $p=0.05$) but not between different levels of opinion of whether the relief food is same in quantity with agricultural food purchased locally (Table 4.14).

Table 4.15: Two-Way ANOVA analysis conducted among education levels and among levels of opinion (agreement) on similarity of relief food types with local agrocultural products

	Sumsqrs	df	Meansqr	F	p
Education level	470.96	4	117.74	3.17128	0.04554
Opinion levels	222.56	4	55.64	1.46556	0.2588
Error	607.44	16	37.965		
Total	1300.96	24			

Population that did not attend school and that only attended lower primary school significantly vary on opinion (F=35.39, p=0.00), upper primary school (F=565.34, p=0.00), secondary school (F=661, p=0.00) and tertiary level (F=246.93, p=0.00). significant variation was also observed between population that attended lower primary school and upper primary school (F=15.97, 0.02), secondary school (F=18.39, p=0.02) on opinion that relief food is same in quantity with agricultural food purchased locally.

4.8.2 Opinion that relief food distributed is similar to local agricultural food

Table 4.16: Distribution of Mandera county population on the scale of agreement

Main Variable	Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Gender	Male	11	4	4	16	18
	Female	13	3	4	14	12
	Total	24	7	8	30	30
Age Structure						
	15-25yrs	4	1	3	2	4
	26-35yrs	8	2	3	9	6
	36-45yrs	7	2	1	14	13
	Above 45 yrs	5	2	1	4	8

Population of the opinion that relief food distributed is similar to local agricultural food products varied on the scale of agreement and various social variables. Those who agree with the opinion constitute 24% and 7% strongly agreed with the opinion (Table 4.15). Thus, a total of 31% of the population are of the opinion that relief food distributed is similar to the local agricultural food produced. Population who disagree and strongly disagree, each constitute 30%; thus, an estimated 60% of the population are of the opinion that relief food distributed is similar to the local agricultural food produced (Table 4.15). Only 8% of the populated are undecided on the opinion. The distribution of males and female genders were relatively same on the scale of agreement on the above opinion. On the scale of agreement, about males form 15% and females 16% of the population of the county agreed or strongly agreed with the opinion. While about 34% (males) and 26% (females) of disagree or strongly with opinion (Table 4.15).

Among the age structure, 26-35 year old forms 10% of the population who agree or strongly agree with the opinion; followed by age structure 36-45 years old (9%), above 45 years old (7%) and 15-26 years old (5%) (Table 4.15). Population that disagree or strongly disagree amongst the age structure is led by age structure 36-45 years which constitute 27%, followed by 26-35 years old 15%, above 45 years old 12%, and 15-26 years old 6% (Table 4.15).

Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that relief food distributed is similar to local agricultural food between genders and age structures

4.9 Attitude of the population on relief food distribution

Table 4.17: Distribution of Mandera county population on the scale of agreement
Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that relief food distribution should continue throughout the year between genders, among age structures and education levels

Main Variable	Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Gender	Male	3	3	1	2	7
	Female	3	3	1	2	5
	Total	6	6	2	4	13
Age Structure	15-25yrs	4	3	2	3	4
	26-35yrs	5	4	2	3	14
	36-45yrs	7	7	1	5	17
	Above 45 yrs	3	6	1	2	7
Education level	Did not attend school	11	15	2	7	0
	Lower primary school	4	0	1	2	6
	Upper primary school	1	1	1	1	3
	Secondary School	2	1	2	2	3
	Tertiary	2	2	1	2	1

From the study, 74% of the population have the opinion that relief food has not been distributed the way they would like it to happen; while 22% are contented. Both males and females.

Population holding opinion that distribution of the relief food should continue throughout the year varied on the scale of agreement. However, population disagreeing with the opinion is forms 17%; while 12% agree or strongly agree (Table 4.16). The distribution of males and female population among the scale of agreement is relatively same; 6% agree or strongly agreed by each, males and females, while male and females that disagree or strongly disagree constitute 9% and 7% of the county's population, respectively (Table 4.16). On age, 22% of the population among the age structures, 36-45 years old disagree or strongly disagree with opinion that distribution of the relief food should continue throughout the year (Table 4.16). Age sturcture 26-35 years old follows with 17% in disagreement; above 45%, 9%, and; 15-25 years old 7%. 14% of age structure 36-45 years agree with the opinion. This is followed by population in the age structures 26-35 and above 45 years old that has, each 9% (Table 4.16). On education level, 26% of Population that did not go to school agree or strongly agree with the opinion that distribution of relief food should continue throughout the year. 8% Population who only attended lower primary school forms disagree or strongly disagree with the above opinion' followed closely by the population that did not attend school at all with 7% (Table 4.16).

4.9.1 The relief food distributed meets daily dietary needs

Table 4.18: Distribution of Mandera county population on the scale of agreement
Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that the relief food distributed meets daily dietary needs between genders, among age structures and education levels

Main Variable	Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Gender	Male	6	2	5	17	24
	Female	7	2	6	13	18
	Total	13	5	11	30	42
Age Structure	15-25yrs	2	1	2	2	5
	26-35yrs	5	1	4	6	12
	36-45yrs	4	2	2	13	16
	Above 45 yrs	2	1	2	5	9
Education level	Did not attend school	6	3	6	20	28
	Lower primary school	1	0	2	3	8
	Upper primary school	1	0	1	2	2
	Secondary School	2	0	1	2	2
	Tertiary	3	1	1	2	2

From the study, 72% of the population disagree or strongly disagree with the opinion that relief food distributed meets daily dietary needs while, those agree forms only 18% of the county's population. 41% of Males disagree or strongly disagree with the above opinion while, females forms 31% of the county's population (Table 4.17).

The population of the age structure 36-45 years old that disagree or strongly disagree disagree with the opinion that relief food distributed meets daily dietary needs constitute 29% of the county's population. This is followed by 18% of the population constituted by the age structure 26-35 years old; above 45 years old 14%, and; 15-25 years old 7%. Population that agree or strongly agree are relatively same among the age structure (Table 4.17).

In relation to education level, 48% of the County Population that did not attend school disagree or strongly disagree with the opinion that relief food distributed meets daily dietary needs. This was followed by those who attended lower primary school only forming 11% of the population disagreeing or strongly disagreeing; other education level are relatively same in the population disagreeing or strongly disagreeing. Those who did not attend school forms majority with 9% of the population, among the education levels that agree or strongly agreeing with the above opinion (Table 4.17).

4.9.2 Opinion that local residents receive relief food that cannot be grown on farm

Table 4.19: Distribution of Mandera county population on the scale of agreement (agree or strongly agree, and disagree or strongly disagree) on the opinion that local residents receive relief food that cannot be grown on farm; between genders, among age structures and education levels.

Main Variable	Sub-variable	Agree	Strongly agree	Undecided	Disagree	Strongly disagree
Gender	Male	5	2	9	23	14
	Female	2	1	9	22	11
	Total	7	3	18	45	25
Age Structure	15-25yrs	2	1	3	6	3
	26-35yrs	2	1	4	13	8
	36-45yrs	2	1	7	18	9
	Above 45 yrs	1	0	3	9	6
Education level	Did not attend school	3	1	12	31	15
	Lower primary school	1	1	2	6	5
	Upper primary school	1	1	1	3	2
	Secondary School	2	0	3	2	2
	Tertiary	1	1	1	4	1

From the study, 70% of the population disagree that they receive relief food that cannot be grown on farm. Male population constitute 37% while females are 33% of the county population. 10% of the population agree or strongly agree with the above opinion.

Population 27% of the age structure 36-45 years old disagree or strongly disagree with the opinion that they receive relief food that cannot be grown on farm. They are followed by population in the age structure 26-35 years old that constitute 21%; above 45 years old, 15%, and; lastly, population of age structure 15-25 years old that constitute 9% of the county population that disagree or strongly disagree with the opinion (Table 4.18).

4% population in the education levels agree or strongly agree with the opinion that they receive relief food that cannot be grown on farm. Those who did not attend school and disagree or strongly disagree constitute 46% in the category. This is followed by 11% of the population that attended lower primary school; upper primary and tertiary level, each constituting 5%, and; secondary level population constituting only 4% of the county's population (Table 4.18).

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section discusses the findings in brief and compares and contrasts with the findings of the similar studies. Finally it gives conclusions and recommendations arising from the study at the same time propose areas of future research. The Chapter is organized according to the objectives of the study. The first objective was to establish to establish the influence of type of relief food distributed on farmer's participation in crop production in Mandera County. The second objective was to establish the influence of the adequacy of relief food distributed on farmer's participation in crop production in Mandera County and the last objective was to establish influence of attitude of local community towards the relief food distributed on the farmer's participation in crop production in Mandera County.

5.2 Summary of findings

The aim of the study was to study to investigate the influence of relief food programmes on farmer's participation in crop production in Mandera County. This study therefore sought to establish the extent to which protracted relief food interventions has significant impact on farmer's participation in crop production and food security.

5.2.1 The influence of type of relief food distributed on farmer's participation in crop production in Mandera County

The study found that estimated of 86% of Mandera County population benefiting from relief food. Among those who receive relief food, about 46% are males while 40% are females. The common ration provided as relief food consist of beans, maize, pulses and rice. An estimated 60% of the population benefit from distribution of beans and maize; 44% from pulses and 30% benefit from rice. Significant population benefit from beans and maize compared to other rations. There was significant difference ($F=99.54$, $p=0.00$) on distribution of age structure population between males and females. Also, no significant difference ($F=3.47$, $p=0.11$) was observed in food ration type distribution between males and females in Mandera. The distribution of food ration amongst the education categories indicate most of the rations are distributed to the population that did not attend school. Higher education level categories constitute lowest population receiving relief food ration. Within the category of population who did not attend school, most of the population receive beans (44%) followed by maize (35%), pulses (30%) and rice (25%). Those who attended school upto lower primary, most of the population receive maize (12%) followed by beans (9%) and pulses (8%). Population who attended upper primary school, secondary and tertiary education levels constitute the least in receiving beans and maize ration. There was significant difference ($F=2.73$, $p=0.03$) on distribution of education level category population amongst the food ration. Also, significant difference ($F=7.07$, $p=0.00$) was observed on food ration type distribution among the education level categories in Mandera Hence type of relief food distributed were found to significantly influence farmer's participation in crop production in Mandera County.

5.2.2 The influence of the adequacy of relief food distributed on farmer's participation in crop production in Mandera County

Only 16 % of the population in Mandera County are satisfied with the relief food ration distributed; out this, 10% are women and 6% are men. Chi-sq test performed between those who are satisfied (Yes) and not (No), between men and women indicate no significant difference. The standard error bar indicate signififcant difference in satisfaction between men and women in the county. By age structure, the between 26-35 years are more satisfied than other structure but this reprent small population of about 6%. This is followed by the age structure 36-45 years (5%); while 15-25 and above 45 years old are less satisfied with the distribution of the relief food rations. No significant difference was observed between those who are satisfied and not, andamong the age structure categoreies in the county (Chi^2=1.16, p=0.76). observation made on the standard error bar indicate significant differences between the populations in the group except between the age structure 26-35 and 36-45 years old. Those who did not attend school represent the highest population satisfied with the distribution of the relief food. About 11% of the population satified with the relief food are those who did not attend school. Other education levels represent very small population satisfied with the distribution of relief food; each representing less tha 2% of the county's population. No significant difference was observed between those who are satisfied and not, and among the marital status categoreies in the county (Chi^2=1.97, p=0.74). Observation made on the standard error bar indicate significant differences between population who did not attend school and lower primary school, upper primary school, secondary school and tertiary level of education.

5.2.3 The influence of attitude of local community towards the relief food distributed on the farmer's participation in crop production in Mandera County

An estimated 74% of the people in the county have not been contented with the way relief food has been distributed in the past, while 22% are contented.

Population holding opinion that distribution of the relief food should continue throughout the year varied on the scale of agreement. However, population disagreeing with the opinion is forms 17%; while 12% agree or strongly agree. The distribution of males and female population among the scale of agreement is relatively same; 6% agree or strongly agreed by each, males and females, while male and females that disagree or strongly disagree constitute 9% and 7% of the county's population, respectively.

55% of the county's population, have the opinion that relief food should only be distributed during the extreme dry season; an estimated 18% of the population disagree or strongly disagree with the opinion. An estimated population of 47% of Mandera county strongly disagreethat the relief food distributed is the same in quantity with the agricultural food purchased locally. While, only 6% of the population strongly agree the relief food is same to agricultural food they purchase locally. 25% disagree but 15% of the population agree relief food they receive is same in quantity to agricultural food they would buy locally. Two-Way ANOVA (without replication) shows there is significant difference between levels of opinion ($F=21.08$, $p=0.005$) but not between men and women. Population of the opinion that relief food distributed is similar to local agricultural food products varied on the scale of agreement and various social variables. Those who agree with the opinion constitute 24% and 7%

strongly agreed with the opinion. Thus, a total of 31% of the population are of the opinion that relief food distributed is similar to the local agricultural food produced. Population who disagree and strongly disagree, each constitute 30%; thus, an estimated 60% of the population are of the opinion that relief food distributed is similar to the local agricultural food produced. Only 8% of the populated are undecided on the opinion.

5.3 Discussion of the Findings

The research findings point out that adequate relief food supplies could negatively affect farmer's participation in crop farming and agricultural food production and turn the beneficiaries into relief food aid dependants leading to food insecurity. Insufficient relief food would encourage households to look for ways of getting the deficit food supplies hence enhancing food security through participation in crop farming. While there is 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, sometimes inducing suspicion that the humanitarian face of food aid is merely a morally appealing cover for inherently objectionable corporate subsidies. But much of the concern arises instead because the ultimate impacts of food aid programs like any other policy intervention are not always as intended. The finding of this research is in agreement with other research findings where food aid dependency undermines food security in Ethiopia at every level from the household to the national government (Sharp 1997). A recent study found that 78% of needy Ethiopian farming households that received food aid at all declined its receipt in the following years (Clay et al. 1999). Moreover, the quantity of food aid is usually too small to encourage household reliance on it (Barrett and Maxwell, 2005;

Little, 2005; Lentz and Barrett, 2005). Further, it is often not clear to recipients if they will be targeted to receive aid at all (Bennett, 2001; Harvey and Lind, 2005). Little (2005) argues that the small amounts and the irregular timing of deliveries discourage Ethiopians from relying on food aid.

Teressa and Heidhues (1998:132) conclude that food aid is no solution to chronic food insecurity, as evidenced by declining per capita food production since at least 1970 in Ethiopia. A recent analysis found evidence of a disincentive effect on agricultural production, exacerbated by food aid's "continuance during good harvest years and its distribution in non-emergency regions of the country".

A vast amount of unverified anecdotal evidence suggests that food aid, in the form of food for work programs, harms local production by encouraging households to reallocate their labor away from crop production towards food for work. The econometric or ethnographic evidence in support of this claim is thin, however, and there are examples where the opposite seems to occur. (Holden, Barrett and Hagos 2006), or in the case of lean season food for work projects enabling smallholders to purchase fertilizer and hire labor to increase on-farm labor effort on their own plots in Baringo District of central Kenya (Bezuneh et al., 1988). Yet, evidence suggests that poorly designed food for work programs may cause more risk of harming local production than free food distribution does (Ravallion 1991). There exist a number of unverified anecdotes suggesting that communities alter their collective behavior in the presence of external assistance. For example, Groupe URD (2005) reports that in Afghanistan, some communities stopped maintenance on public goods in anticipation of

relief food payments for the same project. Similarly, Salisbury (1992) reports that Ethiopians deliberately boycotted tree planting as part of a food for work scheme, allegedly to encourage the ongoing delivery of food aid.

Based on other studies, the research concludes that relief food dependency has an influence in farmer's participation in crop production in Mandera County. Mandera County has a potential of supporting irrigated agriculture by farmers to boost food security in the area and beyond. Relief food drives down prices of local products and the producers are not themselves beneficiaries of food aid or interventions based on monetization proceeds.

5.4 Conclusion

Types of relief food distribution, adequacy of relief food distributed have an influence on farmer's participation in crop production. Respondent's attributes such as level of literacy, family responsibilities, gender, age, and culture were found important. Ability of the relief food distribution entity to give and get feedback from the beneficiaries is essential for the beneficiary's growth as it provides direction and helps to change their attitude towards relief food.

5.4 Recommendations

This study realized important finding that have effect on the farmer's participation in crop production in Mandera County. Based on this the following recommendations have been given for improvement of the relief food programme.

i. The organizations distributing relief food should thoroughly consider sustainability needs and long term assessment so as shape the design and delivery of relief food. Lack of sustainable approaches may erode their ability to produce or procure food in the future and undermine their chances for early recovery and rehabilitation. After an emergency, when farmers have lost their crops and productive assets, agricultural interventions need to be organized. For example, seeds for drought-tolerant staple crops and vegetables, tools, and veterinary care and fodder for livestock and draught animals may be distributed.

ii. Assistance must be appropriately targeted to ensure that the best use is made of scarce resources and that the most vulnerable individuals benefit. Food aid should target those who are entirely destitute and to physiologically vulnerable groups such as the malnourished, infants, children, pregnant and lactating women, the elderly, orphans and the physically disabled.

iii. There should be empowerment of the beneficiaries through capacity building for the organizations distributing the relief food and community in general through training to equip them with skills and knowledge on practising climate smart agriculture in dry land areas of Mandera County. There is also need to involve women and Youth in the capacity building if equity is to be achieved.

iv. Government and responsible organizations should design development activities that aim to make communities food secure, so that they can devote time, attention and energy to escaping the poverty trap. Food-for-Assets projects give community members food in return for work on roads, schools, wells or irrigation systems. Food may also support them as they start small businesses or replant degraded forests.

v. Government to embark on Disaster risk reduction approach to managing disaster, investment in preparedness and mitigation measures.
vi. The county government should set up funds to mitigate the effects of climate change.

5.5 Recommendations for further studies

Emanating from the findings, the study recommends the following concepts for further study:

i. Influence of culture on farmer's participation in crop production in Mandera County.
ii. Influence of land tenancy on the farmer's participation in crop production in Mandera County to increase communities' resilience to climate related disasters such as droughts and floods.

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APPENDICES

APPENDIX A: LETTER OF TRANSMITTAL

Abdul Aziz Baree Hassan
P.O. Box 82,
MANDERA
Mobile Phone: 0721623667
Email: abarre@racida.org
Date:
……

TO WHOM IT MAY CONCERN,

Dear Sir,

RE: DATA COLLECTION

I am a student at the University of Nairobi undertaking a post graduate degree in Masters of Project Planning and Management. As part of the requirement for this program, I am required to undertake a research.

I humbly request you to permit me undertake my research taking in all six sub counties of Mandera County. The purpose of this questionnaires, focus group discussions and checklists are strictly to collect data for purely academic purpose. All the information gathered was treated with stringent confidence.

Thank you.

Yours faithfully

…….

APPENDIX B: CONSENT FORM

THE INFLUENCE OF RELIEF FOOD PROGRAMME INTERVENTION ON FARMER'S PARTICIPATION IN CROP PRODUCTION IN MANDERA COUNTY

Researcher: Abdulaziz Barre Hassan

Masters Student at University of Nairobi, School of Continuous and Distance Education

Department: Extra Mural Studies

You are kindly requested to take part in this research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please I request that you carefully listen to the following information. Kindly ask the researcher if there is anything that is not clear or any more information.

The purpose of this study is purely for academic purposes and will treated with the utmost confidentiality. The risks of study are minimal. The questions in the survey are not intended to upset you. Just in case you feel compromised, feel free to terminate it.

There was no direct benefit to you for your participation in this study. However, I hope that the information which was obtained from this study may help inform the donor community on best approaches in handling food distribution in order to scale up farmer's participation in crop production in Mandera County. Thank you.

Respondent's declaration:

By signing this form, I confirm that I have understood the information and I have had an opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw any time, without giving any reason and without cost. I voluntarily agree to take part in this study.

Thank you

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

APPENDIX C: QUESTIONNAIRE

THE INFLUENCE OF RELIEF FOOD PROGRAMME INTERVENTION ON FARMER'S PARTICIPATION IN CROP PRODUCTION IN MANDERA COUNTY

Researcher: Abdulaziz Barre Hassan

Masters Student at University of Nairobi, School of Continuous and Distance Education

Department: Extra Mural Studies

Background Characteristics

I am a student at the University of Nairobi undertaking a post graduate degree in Masters of Project Planning and Management. As part of the requirement for this program, I am required to undertake a research. You are kindly requested to take part in this research study. Before you decide to participate in this study, it is important that you understand why the research is being done and what it will involve. Please I request that you carefully listen to the following information. Kindly ask the researcher if there is anything that is not clear or any more information.

The purpose of this study is purely for academic purposes and will treated with the utmost confidentiality. The risks of study are minimal. The questions in the survey are not intended to upset you. Just in case you feel compromised, feel free to terminate it.

There was no direct benefit to you for your participation in this study. However, I hope that the information which was obtained from this study may help inform the donor community on best approaches in handling food distribution in order to scale up farmer's participation in crop production in Mandera County. Thank you

SECTION A: GENERAL INFORMATION ABOUT RESPONDENTS

1. What is you gender? (*Please tick*)

   (a) Male ☐ (b) Female ☐

2. What is your age? (*Please tick*)

   a) 15-25 years ☐

   b) 26-35 years ☐

   c) 36-45 years ☐

   d) Above 45 years ☐

3. What is your marital status? (*Please tick*)

   (a) Single ☐ (d) Widowed ☐

   (b)Married ☐ (e) Divorced ☐

   (c)Single parent ☐

4. What is your level of education? (*Please tick*)

   (a) Did not attend school ☐ (d) Secondary school ☐

   (b) Lower primary school ☐ (e) Tertiary/Colle ☐

   (c) Upper Primary school ☐

5. Are you a beneficiary of relief food programme? (*Please tick*)

   (a) Yes ☐ (b) No ☐

6. If yes what type of rations was distributed to you? (*Please tick*)

a)	Maize	
b)	Beans	
c)	Rice	
d)	Pulses	
e)	Blended food	
f)	Floor	
g)	Vegetables	
h)	Others	

7. For how long have you received the relief food

a)	Less than 1 year	
b)	1 year	
c)	2 years	
d)	3 years	
e)	4 years	
f)	5 years	
g)	Over 5 years	

SECTION C: ADEQUACY OF RELIEF FOOD ON FARMER'S PARTICIPATION IN CROP PRODUCTION

8. Is the food distributed sufficient to meet your household needs?

(a) YES ☐ (b NO ☐

9. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	The relief food distributed is	1	2	3	4	5
B		1	2	3	4	5
C		1	2	3	4	5

SECTION D: ATTITUDE OF RELIEF FOOD ON FARMER'S PARTICIPATION IN CROP PRODUCTION

10. Do you like the way the relief food distribution have been conducted in the past? (*Please tick*)

    (a) YES ☐ (b) NO ☐

11. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	Relief food distribution should continue throughout the year	1	2	3	4	5
B	Relief food distribution should only be carried out during the extreme dry periods	1	2	3	4	5
C	Relief food distribution should target non farming households	1	2	3	4	5
D	The distributed relief food is meets your daily dietary needs					
E	The way relief food is distributed should be changed					

SECTION D: FARMER'S PARTICIPATION IN CROP PRODUCTION

1. Do you own a piece of arable land? Please tick one

a)	Yes	
b)	NO	

2. If yes what activities do you undertake on that piece of land? Please tick one

a)	Crop farming	
b)	Livestock keeping	
c)	Poultry farming	
d)	Sheltering	
e)	Nothing (fallow land)	
f)	Others	

3. In case of 9 (1) above what crops do you cultivate? Please tick

a)	Maize	
b)	Pulses (Beans, peas, lentils)	
c)	Fruits	
d)	Vegetables	
e)	Others	
f)	None	

4. On a scale of 1-5, please tell me whether you agree or disagree with the following statement. Circle the number that agrees with your views.

	Statement	Strongly disagree	Disagree	Undecided	Agreed	Strongly agree
A	The type of relief food distributed do not hinder us from practising crop farming	1	2	3	4	5
B	I only receive relief food that cannot be grown in the farm	1	2	3	4	5

C	I practise farming regardless of time or period of relief food distribution	1	2	3	4	5
D	Climatic factors hinders me from practising farming	1	2	3	4	

THANK YOU FOR YOUR RESPONDENCE!!!

APPENDIX D: FOCUS GROUP DISCUSSION GUIDE

Introduction

Hello everyone. Thank you for availing yourselves. Welcome to this session of focus group discussion. My name is Abdul Aziz Hassan. I am a master's degree student at the University of Nairobi taking a course in Project Planning and Management. I am studying the influence of relief food programme intervention on agricultural crop farming in Mandera county Kenya.

The purpose of the study

Over the next two hours we will discuss a variety of issues relating relief food interventions in respect to type of relief food distributed, adequacy and attitude on the farmer's participation in crop production. Each one of you is entitled to his/her points of view. Particularly we will discuss the following questions:

1. What are the types of relief food distributed that matter most that make the intervention successful or fail? Arrange them in the order of importance.
2. What is adequate for you, the quantity that will comfortably support your household with all nutrients? Is the food distributed adequate?
3. How do you think about the way relief food has been distributed is sustainable (you ever attended in this project) have been conducted? Do you have any suggestion(s) for improvements?
4. Do you think it is important for you to be involved in farming of agricultural produce to supplement the relief food given? Why?
5. Do you think you have a role as a relief food beneficiary to engage policy makers to seek long lasting solution in tackling food insufficiency? Why?
6. How easy or hard for you to engage on farming activities after such a protracted relief food operations in Mandera County?

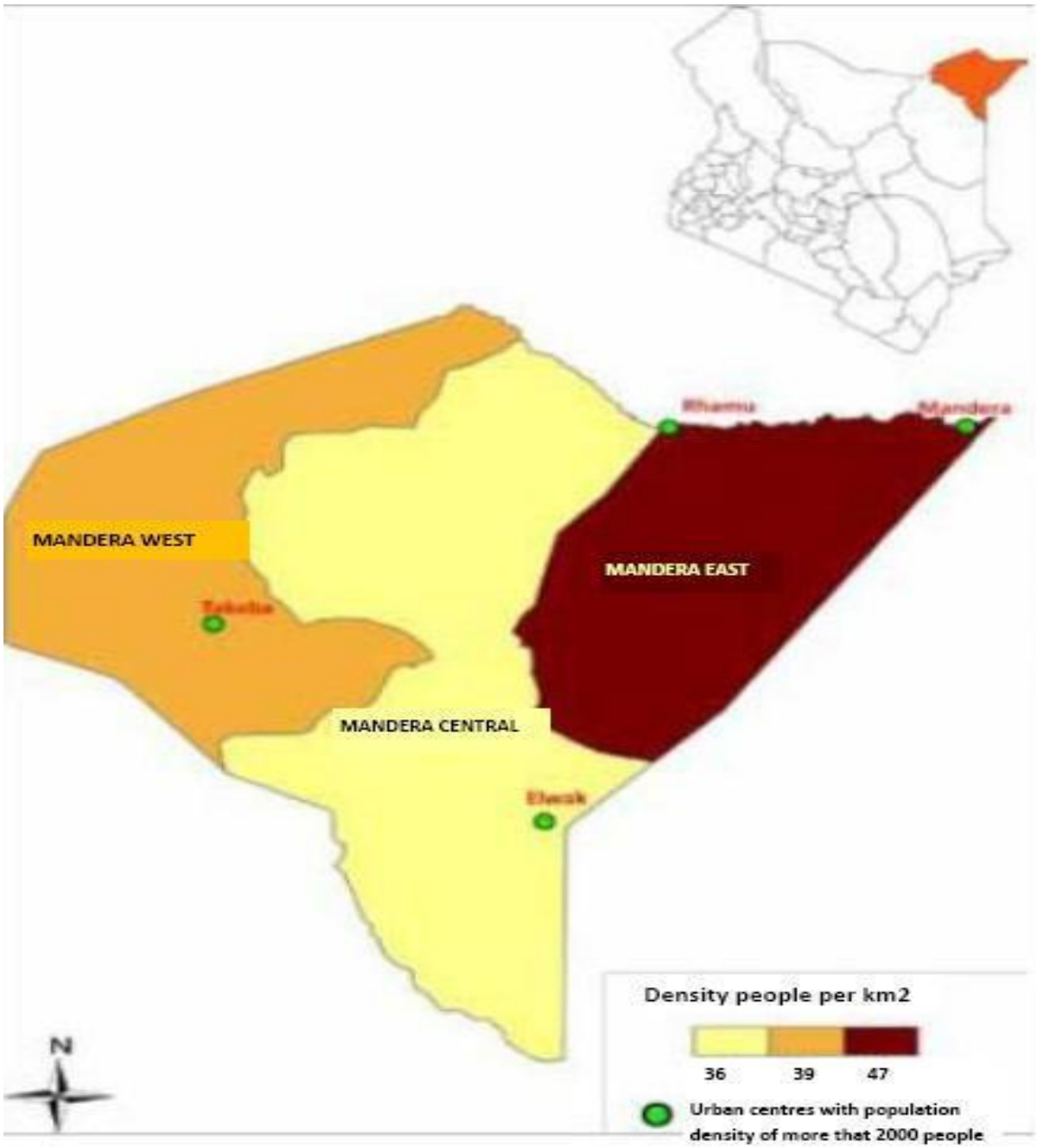
Roles

You (the respondents) will share your points of view. And listen to others. Remember there are no right or wrong answers and we invite creative and open minded ideas that may differ with what other people's ideas. I (the facilitator) will direct the flow of conversation and ensure that each one of you has a chance to participate. While the discussion is ongoing I was taking some notes; and if you allow me I was taking some photographs for documentation. But before we begin our discussion, I would like you to sign the consent form as your declaration.

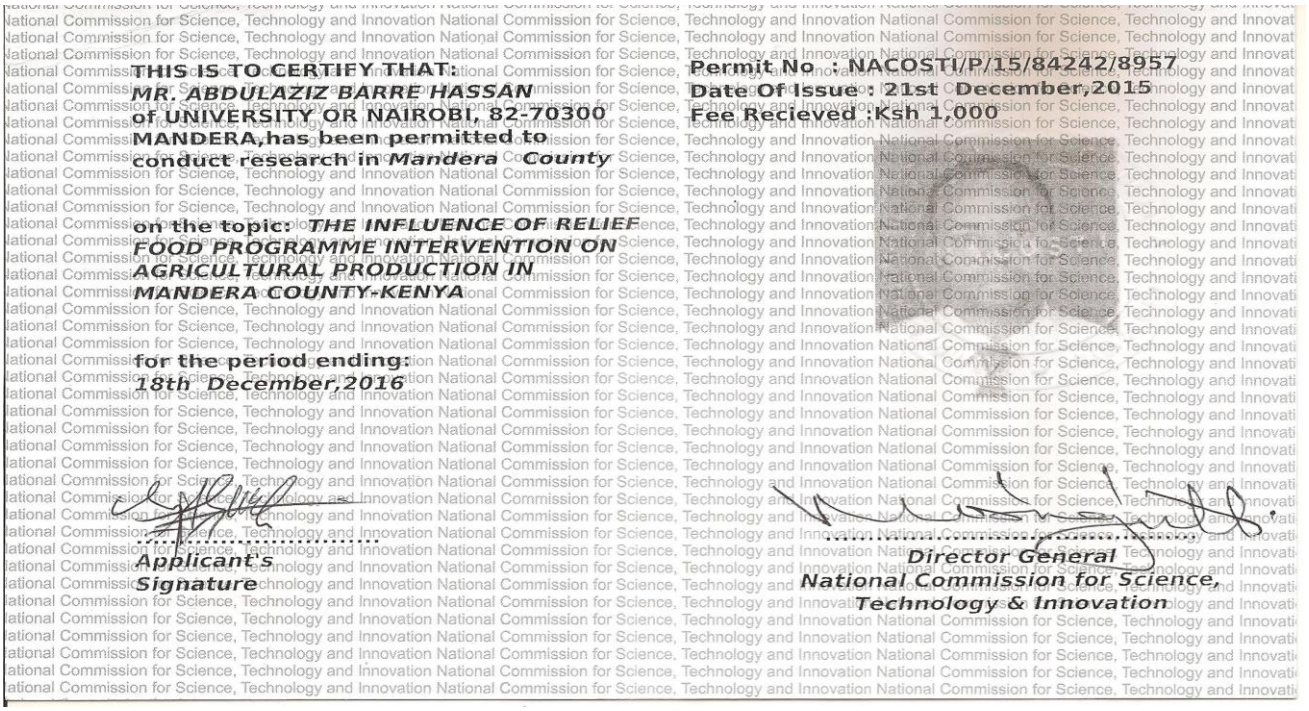
Please feel free to take your refreshments and answer calls of nature and come back as you are not detained here in this session. As I mentioned earlier this session is expected to last for about two hours.

Right! Let's start.

APPENDIX E: STUDY AREA: Mandera County



APPENDIX F: RESEARCH PERMIT

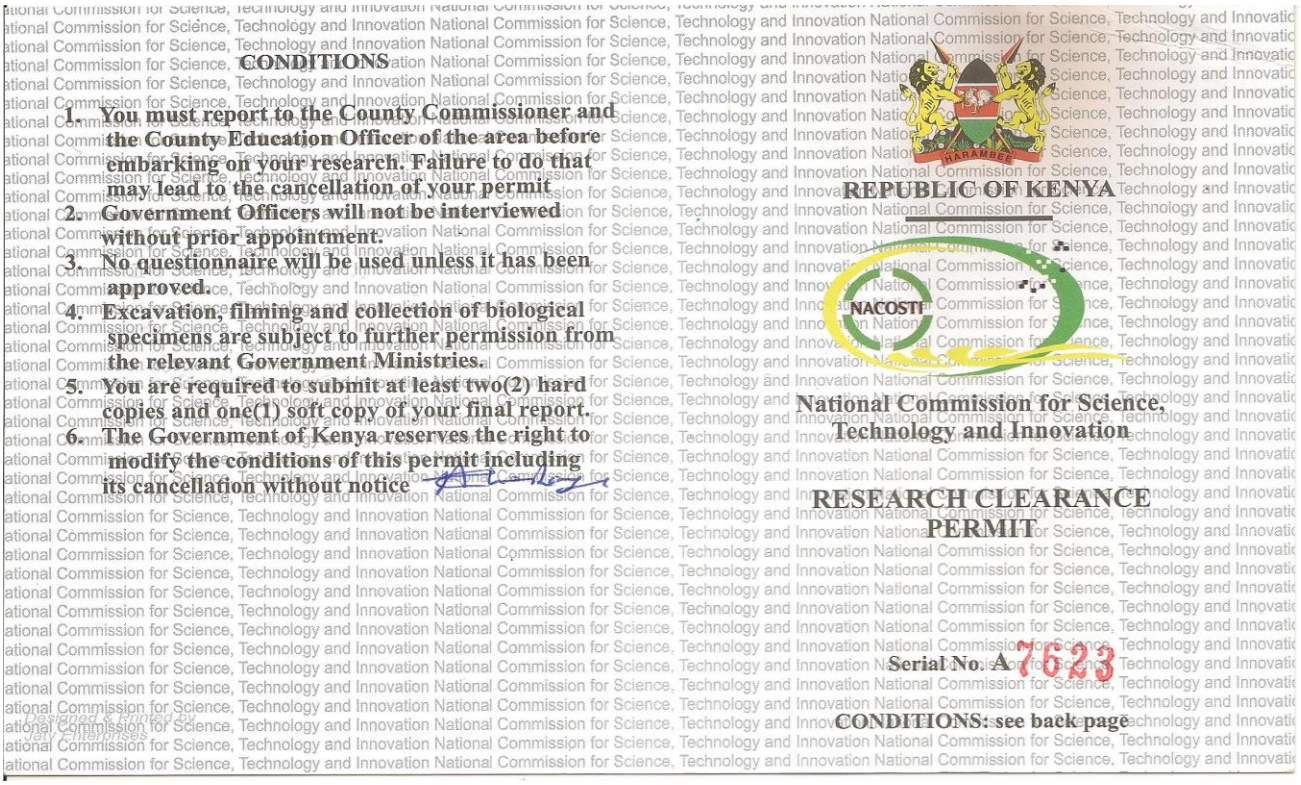


THIS IS TO CERTIFY THAT:
MR. ABDULAZIZ BARRE HASSAN
of UNIVERSITY OR NAIROBI, 82-70300 MANDERA,has been permitted to conduct research in Mandera County
on the topic: THE INFLUENCE OF RELIEF FOOD PROGRAMME INTERVENTION ON AGRICULTURAL PRODUCTION IN MANDERA COUNTY-KENYA
for the period ending:
18th December,2016

Permit No : NACOSTI/P/15/84242/8957
Date Of Issue: 21st December,2015
Fee Recieved :Ksh 1,000

Applicant's Signature

Director General
National Commission for Science, Technology & Innovation



CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 7623

CONDITIONS: see back page

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