

**EVALUATION OF THE CONTRIBUTION OF THE NORTHERN UGANDA
CONFLICT TO FOOD INSECURITY IN GULU DISTRICT**

A CASE STUDY OF BUNGATIRA SUB-COUNTY

BY:

**OKOT JAMES OCHAYA
BACHELOR OF SCIENCE OF AGRICULTURE
05/U/073
2007/2008**

**A RESEARCH REPORT SUBMITTED TO THE FACULTY
OF AGRICULTURE AND ENVIRONMENT IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF
BACHELOR OF SCIENCE DEGREE OF AGRICULTURE OF GULU
UNIVERSITY**

AUGUST, 2008

DEDICATION

This research work is dedicated with indescribable affection to my parents; Mom Mrs. Joyce Ocaya and Dad Alphonse Ochen-Ocaya (*RIP*) who both struggled untiringly to see that I explored the best form of education ever.

ACKNOWLEDGEMENT

I wish to heartedly register my sincere appreciation to my supervisor, Mr. Fred Otim for all the efforts he directed towards this research work. His tireless and unwavering guidance and critiques played a key role in my successful completion of this report.

Acknowledgement also goes to my Aunt, Christine and her husband Eng. Peter Okidi, Aunt Rose and my brother Denis Rugumayo. Their assistance in all aspects have all been invaluable. I appreciate them for all the support that gave me the fanaticism to successfully complete this research.

Appreciation further goes to my fiancée, Maya for all her cherished and generous comfort that incessantly offered me the peace of mind to read over and over again. I love you desperately.

Other acknowledgements also go to my brother Joe and Maria my sister. Their unrelenting guidance and wonderful pieces of advice have all been naturally invaluable.

I also wish to particularly appreciate Abitek Denis for the limitless assistance he rendered to me whenever approached. May the Almighty reward you abundantly.

Finally, I also wish to extend my congratulations to my fellow colleagues at the University who in one way or the other contributed to my successful completion of this dissertation. I feel greatly indebted to you all.

Despite all the various contributions of the persons mentioned above, I remain solely responsible for the entire academic documentation contained herein in this report.

LIST OF TABLES

| | |
|--|------|
| Table 1: Showing seed types used at home before relocation to Coo-Pe camp | 21 - |
| Table 2: showing reasons why farmers use local seed varieties in Coo-Pe camp | 22 - |
| Table 3: Cross tabulation showing engagement in economic activity and reasons why farmers use local seeds in Coo-Pe camp | 25 - |
| Table 4: Showing access to original farmland by displaced farmers in Coo-Pe camp. | 29 - |
| Table 5: Showing reasons for failed access to original farmlands by the farmers in Coo-Pe camp | 29 - |
| Table 6: Showing cross-tabulation of sex and engagement in income generating activities of respondents in Coo-Pe camp..... | 32 - |
| Table 7: Showing farm labour adequacy in Coo-Pe camp | 34 - |
| Table 8: Showing a cross-tabulation of age against labour adequacy for farming in Coo-Pe camp | 35 - |
| Table 9: Cross-tabulation showing age of respondents against labour for farming | 36 - |
| Table 10: Showing reduction in yields for some selected food crops | 37 - |
| Table 11: Showing the change in the number of farmers for selected food crops in Coo-Pe camp | 39 - |

LIST OF FIGURES

| | |
|--|------|
| Figure 1: Showing seed types used in Coo-Pe camp | 21 - |
| Figure 2: Showing the sources of improved seeds used by farmers in Coo-Pe camp .. | 24 - |
| Figure 3: Showing types of improved seeds used by displaced farmers in Coo-Pe camp- | 26 - |
| Figure 4: Showing farmland ownership by the displaced farmers in Coo-Pe camp..... | 28 - |
| Figure 5: Showing engagement in income generating activity by displaced population in Coo-Pe camp..... | 32 - |
| Figure 6: Showing the nature of income generating activities engaged in by the displaced population of Coo-Pe camp | 33 - |
| Figure 7: Showing the implications of labour shortage on the displaced farmers in Coo-Pe camp | 35 - |

ABSTRACT

The study was conducted in Gulu District, specifically in Coo-Pe camp situated in Bungatira Sub-county. It evaluated the contribution of the Northern Uganda conflict to food insecurity through its impacts on the factors of production; land, labour, and capital in form of income and seed availability on the levels of production, availability, and sufficiency of the staple food crops grown in the district. The study involved 60 respondents randomly selected from the camp. There was a 55.6% reduction in the average farm size tilled apparently by the population in the camp. Farmland in the camp is largely hired by 66.7% of the respondents at a cost of UG shs 50,000 per acre per growing season. Access to the originally larger farmlands was possible only to 25% of the respondents; with those who had no access indicating fear of abduction as the most profound barrier. Average distance to the farmlands from the camp is 4.7 Km, this was too far and affected efficient agronomic practices and consequently led to yield declines. Economic constraint was high, as only 48.3% of respondents were engaged in income generating activities. Average income per day was at 1555.6 UG shs per day; this is less than a dollar and puts them all quite below the poverty line.

Labour inadequacy was at 85% and greatly affected the will of the population to carry out larger farming; as stated by 94.2% of the respondents. Labour inadequacy minimally affected effective crop harvesting from fields; an indication that fewer yields were realized and the farmers could harvest them all. 53.3% of the population used local inferior germplasm for crop production; only 46.7% of them exploited improved seed varieties for farming. Most prevalent reason for the use of local seed varieties was that many respondents were not in the selected group of beneficiaries. Non-governmental organizations notably CRS and the IRC provided 82.1% of the

improved seed varieties used by the displaced farmers. Government offered no seed variety to the displaced population.

Yield reduction was worst in rice with 100% decline and least in groundnuts with a drop of 17.4%. There were also negative changes in the number of farmers; most prominent decline was in Rice, with 100% drop. Only one crop, maize had an upsurge in the number of growers, as given by the 55.6% rise in number of farmers.

ACRONYMS

| | |
|---------------|--|
| WFP | World Food Programme |
| CRS | Catholic Relief Services |
| IRC | International Rescue Committee |
| WFS | World Food Summit |
| UNOCHA | United Nations office for the Co-ordination of Humanitarian Affairs |
| USAID | United States Agency for International Development |
| FEWS | Food Security and Early Warning Systems |
| LRA | Lord's Resistance Army |
| IDPs | Internally Displaced Persons |
| FEWS | Food Security Early Warning Systems |
| UNFAO | United Nations Food and Agricultural Organization |
| SOFI | The State of Food Insecurity |
| NGO | Non Governmental Organization |
| IRIN | Integrated Regional Information Network |
| UNICEF | United Nations Childrens' Fund |
| IFAD | International Fund for Agricultural Development |

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

Gulu district is one of the districts that comprise the Acholi sub-region in Northern Uganda. The district has a population of 467,407 with over 90% of the population living in the rural setting (*WFP, 2003*). The district covers a total land area of 11,732 Sq.Km; arable land constitutes over 85% of this total land (*DAO, 2008*). The land tenure system is mixed but predominantly communal. The major economic activity is subsistence agriculture. The staple food crops grown are finger millet, sorghum, pigeon peas, cassava, sweet potatoes and beans. Among the major cash crops grown are cotton, rice, tobacco and sunflower.

The Acholi sub-region since independence in 1962 has experienced political conflicts of varying magnitudes; the major one being the Lord's Resistance Army (LRA) rebellion. This conflict has now raged on for over 21 years and has been described by the United Nations as the 'world's worst neglected humanitarian crisis'. The war has caused massive displacement of close to two million people who depend almost entirely for food and other necessities from the World Food Programme and a number of other non-governmental organizations (*UNOCHA, 2005*). The conflict has been marred by inhumane killing, butchering and maiming, looting and gross abductions of over 200,000 people in the sub-region (*UNOCHA, 2005*).

The concentration of the local population into internally displaced camps has been a key factor in crippling the self sustainability of the people of Gulu. Access to arable farmlands in areas not in the vicinity of the camps have been constrained by a number of factors ranging from fear of abductions, numerous landmines planted in the bushes and the government forces' declaration that the internally displaced people (IDPs) can only access their farmlands under monitored

security and only on a restricted time frame. This has had negative consequences on the levels of food crop productions as well as other agricultural activities in the district; for instance key cereals such as maize and sorghum have tremendously exhibited a 60% and 30% reductions in yields respectively (*Deininger & Okidi, 2000*). Key contributors to these phenomena are inhibited access to farmlands coupled with gross abductions and killing of the energetic section of the population, who could productively carry out farming activities. The use of high yielding varieties which are pivotal in enhancing agricultural productions have not significantly taken root in Northern Uganda. Adoption rate of improved varieties is only at 7%, implying that over 90% of northern farming communities still use inferior germplasm in agricultural production (*Deininger & Okidi, 2000*). It's also worth to note that Gulu district was among the five poorest districts in Uganda and this could have inhibited the population from pursuing a number of income generating activities inevitable for a food secure livelihood (*Appleton, 1996*).

The World Food Programme offers rations which only cover 75% of the recommended daily food intake and people in the camps consequently have a deficit of over 19% of the World Health Organization's daily recommendation of 2100Kcalories/person/day (*FEWS 2004, & UNOCHA, 2004*). Malnutrition rate in children less than five years of age in the district is reported at 6.8% and this has resulted into a mortality rate of 1.2 per every 10,000 persons per day (*Action Against Hunger, 2004*).

1.2 Problem Statement

The Northern Uganda conflict that has impoverished the local masses has not only rendered their farms inaccessible but has also deprived them of capital and labour through abduction of the youth who could provide cheap farm labour (*FEWS, 2004*). Consequently, general declines in agricultural productions have been reported (*Deininger & Okidi, 2000*). However, the extent to

which lack of capital, reduced labour and land inaccessibility have impacted on food insecurity in the district is not well documented and yet these are not only direct consequences of the conflict, but also essential factors of production which must be harnessed if any serious agricultural adventure is to be embarked on in order to alleviate food insecurity.

These constraints to agricultural productions could perhaps explain the shift in peoples' dependency towards dietary provisions by humanitarian organizations; even then a 25% food intake deficit of the recommended daily dietary intake stills remains (*UNOCHA, 2004*). Consequently, malnutrition rates of up to 6.8% in children less than five years of age coupled with increased vulnerability of IDPs to nutritionally depended illness have been reported (*Action against Hunger, 2004*). This clearly indicates unavailability, inaccessibility or existence of insufficient food for the displaced population, in spite of small scale farming around the camps as a coping strategy.

1.3 Objectives

1.3.1 General Objective

- To analytically establish the impact of the Northern Uganda conflict to food availability, accessibility and sufficiency among the IDPs in Bungatira sub-county.

1.3.2 Specific Objectives

- To establish how constrained-access to arable farmlands due to the conflict impacted on the levels of production and availability of basic foodstuffs
- To determine the effects of labour availability on the physical accessibility of staple foodstuffs among the IDPs.

- To determine how income levels have impacted on the economic accessibility of foodstuffs among the IDPS.
- To determine how improved seed availability affected food sufficiency among the IDPs.

1.4 Research questions

- Did constrained access to farmlands affect the availability of basic food stuffs among the IDPs?
- Was the economic access to food affected by the income level of the internally displaced persons?
- Was labour supply a key factor in determining physical accessibility of staple foodstuffs among the IDPs.
- Was basic food production levels affected by the availability of improved seeds among the IDPs?

1.5 Scope of the Study

The study was carried out in Bungatira sub-county. It involved NGOs and government representatives. Unique consideration was accorded to the internally displaced people because of their direct contact with the negative impacts of the conflict. The study examined the contribution of the conflict to household food insecurity through its impacts on the factors of production specifically land, labor, seeds and capital.

1.6 Significance of the Study

The report is very instrumental to the Government, the affected population living in the internally displaced camps and all other stakeholders involved in agriculturally rehabilitating the displaced population. It brings out clearly how the local population can be empowered in agricultural activities which is obligatory for adequate food production.

The findings contained in this report will definitely add up to the existing pool of information necessary in policy formulations for taking up productive agriculture as a central contributor to post-conflict resettlement and re-integration of the displaced population back to a decent and considerate livelihood.

Information realized from this report also helps Government and agricultural development partners address logically and systematically food problems facing internally displaced population and consequently come up with realistic and appropriate ways of enhancing food production indispensable for the economic, social and physical stability of Gulu district.

The affected populations who for long have suffered due to the conflict will as well benefit, for instance Government and concerned stakeholder could recognize and incorporate findings contained in this report into policies and guidelines which pursue realization of adequate domestic food crop production in war affected regions, for an improved and socially acceptable livelihood.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The last two decades has witnessed a more dramatic increment in the number of people in need of food. By 1996, there were approximately 840 million people worldwide faced with starvation, of which 35% were in Eastern Africa (*FAO, 1996*). In northern Uganda, there are about 800,000 people facing starvation; they live in displaced camps and have limited access to arable land (*USAID, 2005, UNOCHA, 2003*). According to *FAO (2000)*, proposals to reduce the World's starving population to 580 million by 2015 may hardly be realized if conflict, one of the root causes of food insecurity is not rationally addressed. Conflicts world-wide have exhibited a predominant outcome of predisposing people, primarily in the rural-settings to extremes of vulnerability, rendering them incapacitated and constrained to secure adequate food at all times (*FAO, 2002*).

2.2 Conflicts and Food Insecurity

There is a well established linkage between the exposure of a country to conflict and the subsequent stagnation and destabilization of the country's food security. Reports released previously by *FAO (2002)* show that conflicts of varying nature and magnitude are the foremost contributory factor to such food scarcity. This could be due to the outright destruction of food crops and livestock which directly reduce the food entitlement margins of such poor farming communities making them practically prone to reduced access to adequate and safe food (*FAO, 2000*).

In many of the poverty stricken developing countries such as Uganda, conflicts tend to push such rural population further to deeply rooted poverty (World Bank, 2000). This is for the reason that conflicts upset normal agricultural productivity of such nations, particularly the agrarian rural communities and subsequently predisposes them to the horrors associated with insufficient food supply (FAO, 2000).

2.3.1 Land Accessibility

Conflicts are known to restrict access and utilization of farmland in many ways; in certain cases, civilians are denied free movement into their farmlands due to active hostilities or combat operations or through directives from military agencies, these in effect reduce the farm sizes accessed and consequently tilled by such rural farmers (WFS, 2002).

According to the FAO (2002), conflicts tend to discourage farming through restriction of entry to farmlands. This may be through land mines left behind by warring factions which linger in farmlands for many years even after physical combat has long ceased (FAO, 2000). It is now known that over 2,000 people have lost their lives as a result of land mines in Uganda and unless land mines are removed, access to homesteads and eventually farmlands may not be fully realized. (*Uganda conflict Action Network, 2005*)

In secure locations, the little available farmlands are often hired by the displaced persons who can afford (HURIFO, 2007). Majority of them who can not hire land have to rely solitarily on relief since they have minimal ability to complement food rations offered by the WFP either by purchase or from own production (Huu, 2003)

Although not stated, the cost of such hired land could be prohibitive to most farmers; this gap on issues related to land hire is covered in depth by this research.

Previous reports have implicated land inaccessibility at least in part to the increased food shortage, malnutrition and vulnerability of the displaced population in northern Uganda and their proneness to nutritionally depended illness (*UNOCHA, 2003*).

Indeed hindrance to arable farmlands in northern Uganda can be linked to the immense food shortage facing the displaced population presently; this is because if access to farmland is restricted, agricultural productivity as well as economic activity usually decline (*Deininger & Okidi, 2000*). It is therefore not a surprise to note that northern Uganda registered the least reduction in household poverty between 1992 and 1997 and Gulu district was among the poorest five districts in Uganda (*Appleton, 1996*).

Although land is more abundant in this part of the country, the effective land acreage under tillage per household is estimated at 1.77 acres compared with the greater sizes of land farmed in the calm central region which stands at 2.53 acres (*Deininger & Okidi, 2000*); this definitely must have contributed to the food security existing in those part of the country as contrasted to the food insecure North.

2.3.2 Labour Availability

Conflicts generally lead to the displacement and abduction or enlistment of young and energetic youths who would provide cheap labour (*WFS, 2002*). In northern Uganda in particular, there has been a reduction in the number of the predominantly agrarian population due to abduction, displacement or killings associated with the insurgency (*UNOCHA, 2005*).

As the farming populations flee, decline in number or absolutely give up farming, widespread conflict-related food deficits is experienced during and long after the war has ceased (*Ellen et al., 1999*). They further attributed this observation to labour inadequacy which is one of the primary factors for the realization of increased agricultural output.

Even after resettlement in camps, the effective time spent on farming activities is often reduced as farmers have to trek long distances to their farmlands, for instance, in northern Uganda, the displaced population work on an average of 7 days a month (*IRIN, Feb 2008*).

In other circumstances, their health deteriorates due to poor nutrition or other diseases (*Ellen et al., 1999*). According to Refugees International (*2001*); the conditions of the camps in northern Uganda is appalling, characterized by a big water and sanitation gap, non-existence of adequate health services and acute shortage of qualified health personnel resulting into higher cases of sanitary and nutritionally depended illness. Consequently, hunger and vulnerability amplify as farm output declines given the fact that farm operations require a healthy and strong manpower.

This evidence is further a clear indication that conflicts have the capability of letting predominantly rural farming populations give up farming and turn temporarily delicate food shortages into longer-term insufficiencies.

2.4 Farm Capital

Different forms of farm capital exist; these include farmlands, farm assets, crops and livestock, as well capital equipment (*Caesar, 2003*). Conflicts may affect farm capital through the destruction of farm capital equipment, livestock and other farm assets.

Ellen et al.,l (1999) cited conflict as a factor leading to food insecurity through the disruption of food systems and economies with devastation of livestock, vegetation, crops and disruption of markets for food and livestock. Even the few assets and farm tools in their possession are usually lost and they consequently join the masses of hungry population (*FAO, 2000*).

Such losses to farm capital have been reported in northern Uganda as well as in Mozambique. According to *Gershoni, (1997)*, the population of cattle in Acholi sub-region that used to be at 285,000 in 1985 had declined to about 5000 by 1997, causing an estimated loss of US\$ 25

million. This has a negative impact on crop production and food availability particularly among those farmers who rely on ox-ploughs.

In Mozambique, conflict led to massive infrastructural losses, incapacitating larger farming and consequently making 80% of the country's food needs to be imported by 1992. Interestingly, this scenario was reversed ten years later when conflict subsided as the country could then afford to produce 80% of the food needs locally and only imported 20% (*UNFAO/MEDAIR, 2002*).

These are therefore clear indications that conflict plays a significant role in the reduction of farm capital and consequently food entitlement margins of the displaced population, leaving them in poverty and despondency that tend to form the basis of food insecurity.

2.4.1 Financial Capital

Conflicts and deprivation are seen as the underlying cause of poverty in the developing world and eventually offer such countries the form of oppression that leads them to despair and helplessness, much of this deprivation is registered in the rural setting where 70% of the world's populations take abode (*The Bruntland commission, 1987*).

The resultant poverty may be due to the disruption in food and livestock production systems, destruction of farm capital and suppression of income generating activities (*FAO, 2002*). According to IRIN (2008), there is limited income generating activity in northern Uganda and the rural dwellers earn on average US\$ 3.50 monthly. Ellen *et al.*, (1999), further stated that conflicts also tend to affect food and commodity prices; such prices influence the levels of farmers' income and their vulnerability to food insecurity. Owing to conflict, by 1996, Gulu district was among the five poorest districts in the country (*Appleton, 1996*). Similarly, in Mozambique, the conflict that marred the country for over a decade caused 67% of the population to live in desolate poverty (*IFAD, 2007*).

2.4.2 Seeds

According to Blackie, (1994) and Sserunkuuma 2001, extensive use of un-improved seed varieties mainly underpin the stagnation or declines in yields that apparently features in the sub-Saharan countries. This observation therefore offers an implication that wider adoption of high yielding disease resistant varieties would greatly uplift the food security status of such countries.

According to Deininger and Okidi, (2000), the use of high yielding varieties in Uganda is highest in eastern region, with the northern region exhibiting an exceptionally low 7% overall adoption among the predominantly farming population. They further linked this to the general stagnations and declines in yields that most crops faced in northern Uganda, with the exception of cotton.

Nangoti *et al.*, (2004) additionally documented the low adoption rates of improved varieties for staple food crops in northern Uganda. According to their publication, key northern staples like simsim and pigeon peas had a 0% adoption with the most notable acceptance occurring in Groundnuts with a 52% adoption. These figures were extremely low when contrasted with the adoption rates for eastern region. The north only appeared more established in the adoption of modern sorghum varieties with 15% as compared to 5% in the east. They attributed the low uptake of such modern and appropriate technologies mainly to seed shortages for particular crop varieties, high poverty and low awareness among farmers.

It's important to note that there are other numerous factors that affect adoption of updated agricultural approaches; Omari, (2003) recognized low accessibility to credits, lack of incentives and low educational levels of farmers for having greatly constrained the adoption of appropriate agricultural technologies in Africa. The people of Gulu district face sensitive poverty as

Appleton, (1996) stated. This could have limited their financial flexibility and hence impacted on their adoption of such innovations imperative for the enhancement of agricultural productivity.

In Uganda, largely attributable to the increasing use of high yielding varieties (HYV) was the increased household crop out-put between the 1992-1997 period that ultimately translated to the reasonable poverty reductions realized in the other regions of the country, with the exception of the north that was by then still critically engulfed in the conflict (*Appleton,1996*).

A food security baseline survey in post war Angola, indicated that only 48% of the war affected farming population could afford to buy seeds from the local markets, 7% could not plant any crop due to lack of seeds with the rest receiving seeds from the World Vision International (*FAO/WFP, 1998*). This scenario further supported the persistence of food insecurity as those persons who could hardly afford any seed to plant tended to rely essentially on the food rations offered by humanitarian organizations.

According to Louise (1995), conflicts tend to minimally cause losses in crop and plant genetic resources as was the case with his analysis of the effects of the Rwandan conflict on the diversity of major food crop varieties during pre- and post war Rwanda. He further cited gross inaccessibility of the seeds by the farming population as the major constraint to constructive post-war farming in Rwanda. Accordingly, this was attributed to the poverty that was pressing upon the population rather than on erosion of varieties. This therefore offers a suggestion that in the agricultural rehabilitation of war ravaged regions, concerns should essentially not be whether farmers are apparently using a particular crop variety (or set of varieties) , but rather whether they can re-access it affordably. Innovative poverty-focused projects (to generate income) and,

perhaps, selective distribution of 'seed vouchers' (to buy improved seed varieties) should be considered a strategy.

Household food insecurity is highly correlated to the unavailability or short supply of seeds and planting materials, the discontinuity in agricultural technology and development systems and the loss of information relating to appropriate cropping systems and varieties suitable for small holder farming (Chapman *et al.*, 1997). This author drew his conclusions from the Angolan conflict that greatly affected the agricultural sector of the country and led to gross existence of food insecurity. Agricultural productivity in war torn northern Uganda has not been that exceptional from the Angolan depiction, as stagnation and yield declines have been reported (Deininger & Okidi, 2000).

Chapman *et al.*, (1997) further recognized the tremendous effort that provision of improved high yielding seed varieties by the World Vision International, alongside food aid by the WFP played in the restoration and the realization of sustainable household food security in post-war Angola. This further poses an indication that a region like northern Uganda that is apparently experiencing relative peace, can effectively afford sustainable food security if wider distribution of modern seed varieties is undertaken.

2.5 Food Security

Food security has been previously defined variedly by a number of authors. According to World Food Programme, (1989), food security is the sustained ability of all people to have physical and economic access to the basic food consumption needs at all times. Food security also exists when all people at all times have physical, social and economic access to sufficient food, safe and nutritious enough to meet the dietary needs and food preferences for an active and healthy life

(FAO, 1996). World Bank, (1986) considered secured access at all times to sufficient food for a healthy livelihood to characterize what food security meant.

There are three major elements of food security according to the food security conceptual framework advanced by UNICEF (1998). These components are Availability, Accessibility, and stability or sustainability.

2.5.1 Food Availability

This refers to the physical existence of food, it be from own production or in the markets. This can be achieved mainly through domestic food production; other means is through commercial food imports. Conflicts must have destabilized the domestic food production and therefore availability of food in Mozambique, because in 1992, over 80% of the country's food was imported (UNFAO/MEDAIR, 2002). This was a clear indication of a conflict related food unavailability, hence insecurity.

Food availability from physical domestic production was also clearly non-existent in northern Uganda, as Deininger and Okidi, (2000) documented losses and reductions in yields in northern Uganda. Food rations are virtually met wholly by WFP (UNOCHA, 2005) The tremendous reduction in number of livestock in Acholi sub-region from 285,000 to about 5000 since the inception of the conflict in northern Uganda, is also a clear submission that food entitlement margins in northern Uganda was contracted (Gershoni, 1997).

2.5.2 Food Accessibility

This is ensured when all households and individuals within such household have sufficient resources to secure appropriate foods for a nutritious diet. According to UNICEF (1998), accessibility of food is highly dependent on household resource-capital base, land and

knowledge relating to food prices. Food access is therefore a function of physical, social and policy environments. The stipulation that Gulu district was among the poorest districts in Uganda, according to Appleton, (1996) meant that people were unable to access food through purchase even though it could have existed in the markets. Poverty according to Deininger and Okidi, (2000), Todd, (2004) is directly related to food insecurity. Much as Todd (2004) did not elucidate on how poverty directly impacts on food insecurity, it definitely can be attributed to the low purchasing power of the people due to their minute economic strength. Conflicts can seriously contribute to food inaccessibility through disruption of production activities and hence threaten food security (UNICEF, 1998).

2.5.3 Food Stability/Sustainability

This refers to the temporal dimension of food security. It considers time frame over which food security is being referred to. UNFAO, (1996), recognizes two forms of stability; chronic instability when food insecurity is felt at all times and transitory instability whereby the inability to meet food needs is only of temporary nature. The food insecurity in northern Uganda takes the chronic type. Stability of food security in northern Uganda has hardly been realized during the conflict (UNOCHA, 2003), there has been a general disruption of economic and agricultural production activities and has made the displaced population depend completely on food aid for their survival.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Introduction

This chapter gives an account of the research design employed in the study, area of the study, sampling procedure, research methods and instruments, data collection and data analysis procedure used.

3.2 Research Design

The researcher used descriptive and analytical survey in the study. Interview guides were used in the study because the majority of the respondents were semi-illiterate to completely illiterate. Questionnaires were administered to a few literate proportions of the respondents. Observations were as well employed accordingly.

3.3 Study Area

The study was carried out in Bungatira sub-county, specifically in Coo-Pe internally displaced peoples' camp. The researcher preferred Coo-Pe camp because of its population being larger than the counterpart camp, Lukodi and also due to its proximity in relation to transport cost. The chosen camp had a population of 11,489 unequally divided into four zones described as zone A, B, C, and D.

3.4 The Study Population

The sample frame consisted of sixty (60) respondents. Fifteen (15) people were selected from each of the four zones in the camp, giving a total of sixty (60).

3.5 Sampling technique

Stratified simple sampling technique was used to select the fifteen (15) respondents from each of the four zones in the camp. This helped a lot to ensure that the information generated was as representative as possible.

3.6 Sources of Data

The data used in this study was derived from primary and secondary sources. The primary source of data was from the internally displaced population in the camp. Secondary data included among others, review of related literature published by past scholars, the internet and libraries around Gulu district.

3.7 Data Collection Instruments

The method of data collection included interview guides. Direct interviews were held with the respondents and their responses concurrently filled into the guides. The researcher entered the data himself since most of the respondents were illiterate. Questionnaires were offered to a few respondents who could read and write. Observations were also used to obtain information which appeared rather hard to get from the respondents. Cases existed where some respondents were hesitant to reveal certain information, which clearly appeared existent.

3.8 Data Analysis

The data collected was analyzed both quantitatively and qualitatively through descriptive statistics. Tabulations, frequencies, percentages and pie charts were done using Statistical Package for Social Scientist (SPSS) software and Microsoft Excel in the analysis.

The analyzed data were then presented systematically and analytically interpreted to show the extent into which the Northern Uganda contributed to food insecurity in Gulu district, particularly in Bungatira Sub-county.

CHAPTER FOUR

4.0 DATA ANALYSIS, PRESENTATION AND INTERPRETATION

This chapter offers the presentation, analysis and interpretation of the data collected. More insights are then given on the implications of the findings while reflecting on each objective at a time.

4.1 Seed Type

Table 1: Showing seed types used at home before relocation to Coo-Pe camp

| Seed type | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| Local seed | 60 | 100.0 | 100.0 | 100.0 |
| Total | 60 | 100.0 | | |

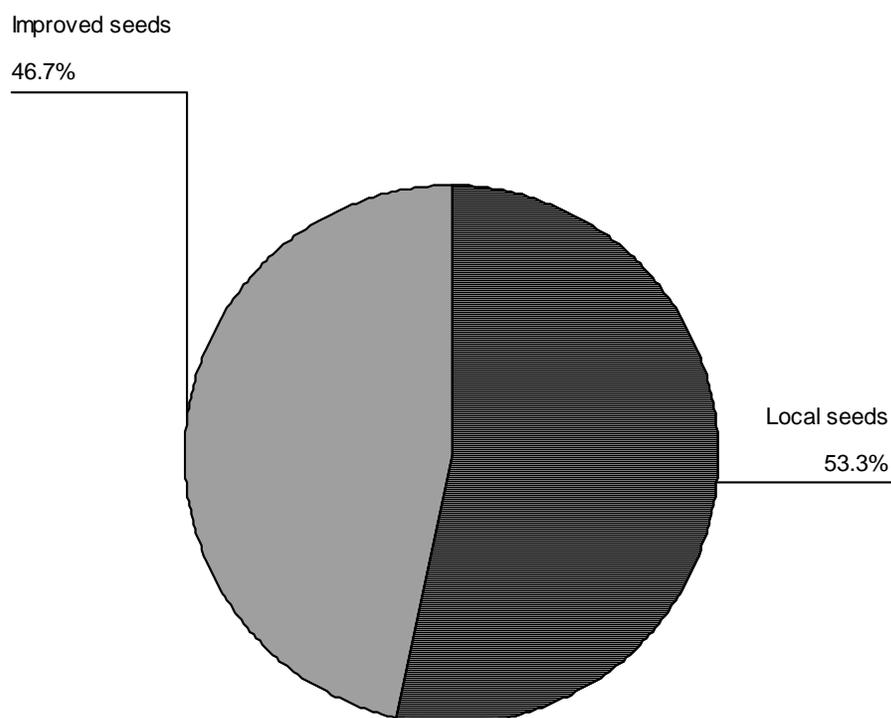
SOURCE: PRIMARY DATA

The information generated indicates that all the respondents reportedly used local seed varieties while still at home, before relocation to the camp. No single respondent asserted ever to have used improved seeds back at home; this therefore offers substantiation to the publication by Deininger and Okidi (2000) that over 90% of the Northern farming communities use inferior germplasm in agricultural production.

4.1.2 Seed Types Used Presently in Coo-Pe Camp

Of the sixty respondents interviewed, only 46.7% of them reported to use improved seeds, while the rest (53.3%) still rely on local inferior seeds for food crop production. See figure 1 below.

Figure 1: Showing seed types used in Coo-Pe camp



They however raised a number of reasons for their perpetual use of such inferior seed varieties.

See table 2 below:-

Table 2: showing reasons why farmers use local seed varieties in Coo-Pe camp

| Reason | Frequency | Percent |
|---|-----------|--------------|
| Improved seed varieties are not available | 10 | 31.3 |
| Not being in group of beneficiaries for improved seed varieties | 15 | 46.8 |
| Improved seed varieties are available but expensive | 7 | 21.9 |
| Total | 32 | 100.0 |

SOURCE: PRIMARY DATA

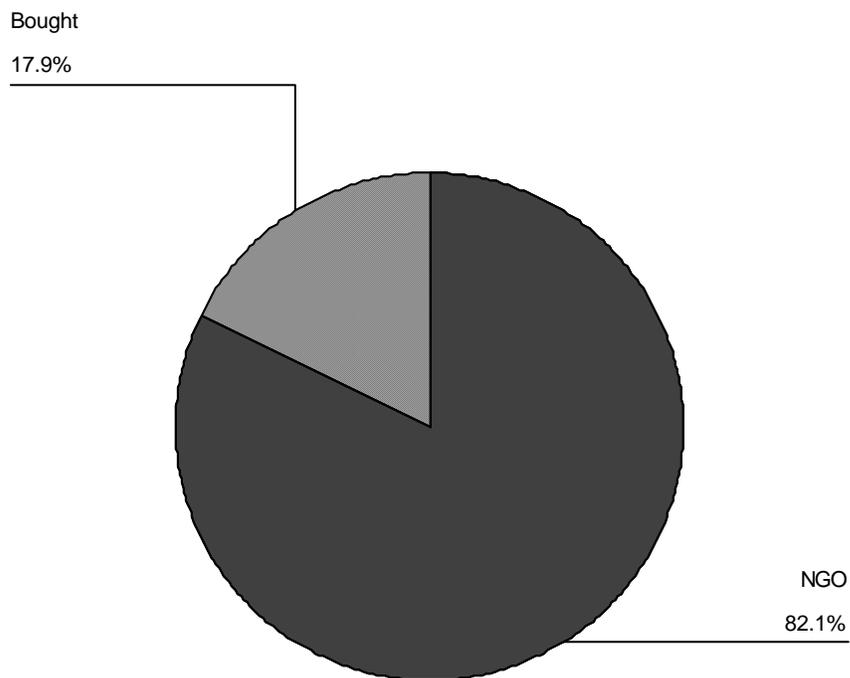
The incidence of some people not being in groups of beneficiary for the improved seed varieties was the most prevalent reason for the peoples' perpetuation in using local inferior seeds, which only minimally contributes to enhancement of agricultural production. This was closely followed by unavailability of the seeds as stated by 31.3% of the respondents who used local inferior seed varieties. 21.9% of the respondents related their use of inferior seeds to the high costs of purchasing improved seed varieties.

The economic incapacitation as cited by 51.7% (*figure 5*) of the respondents could also have hindered their ability to purchase improved seeds hence their reliance on local inferior seed varieties. The reduction in yields as seen later on certainly must have translated to the food insecurity facing the displaced population apparently.

4.1.3 Improved Seed Sources Used By Farmers in Coo-Pe Camp

Out of the 46.7% of the respondents who reported to use improved seed varieties while in camp, 82.1% of them derived their seeds from Non-governmental organizations such as Catholic Relief Services (*CRS*) and the International Rescue Committee (*IRC*).

Figure 2: Showing the sources of improved seeds used by farmers in Coo-Pe camp



Only 17.9% of the respondents who use improved seeds, reported to have bought them from the market. This could be compounded by the economic constraints that the displaced populations face, because only 48.3% of the respondents reported to be engaged in some forms of income generating activity (*figure 5*). Chances are existent that a respondent not engaged in any form of income generating activity, is also not in a group of improved seed variety beneficiaries; hence more likely to end up using local seed varieties for food crop production. (*See table 3*)

Table 3: Cross tabulation showing engagement in economic activity and reasons why farmers use local seeds in Coo-Pe camp

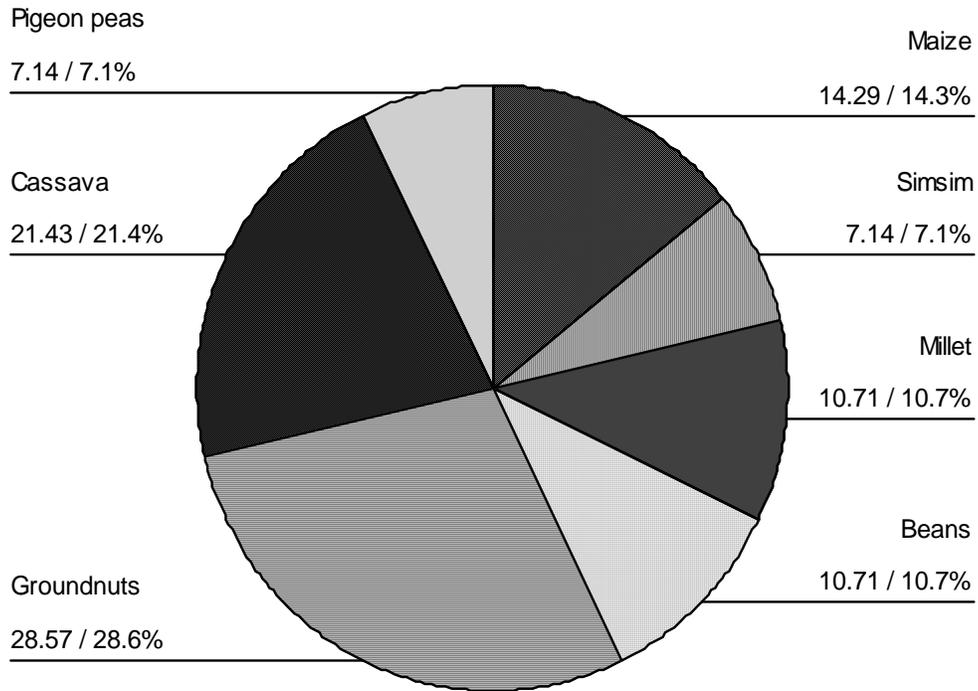
| | | Why use local seeds | | | Total |
|------------------------------|-----|----------------------------------|--|--|-------|
| | | Improved seeds are not available | Not among selected groups of beneficiary | Improved seeds are available but expensive | |
| Engaged in economic activity | Yes | 5 | 8 | 3 | 16 |
| | No | 5 | 7 | 4 | 16 |
| Total | | 10 | 15 | 7 | 32 |

SOURCE: PRIMARY DATA

From the table above, its clear that majority of respondents not engaged in any form of income generating activity, used local seeds basically because they were not in groups of beneficiaries.

No single respondent reported to have ever got any seed from the government; this is unrealistic and need to be addressed reasonably.

Figure 3: Showing types of improved seeds used by displaced farmers in Coo-Pe



camp

The crop with highest adoption of improved seed varieties was groundnuts, with 28.4% of respondents planting it. This could hold the explanation for the least yield reduction that the crop faced, (*table 10*). This was closely followed by cassava with 21.4% adoption rate among the respondents taking up the use of modern agricultural technologies. The low figures exhibited by pigeon peas and sinsim, seems to be supported by earlier on figures advanced by *Nangoti et al, 2004*. According to them; improved seed varieties for pigeon peas and sinsim had 0% adoption in northern region, it appears improvements were registered after post-2004. These low adoption rates, affects crop productivity, which in turn translates to food security. Broad spectrum provision of improved seed varieties would play a considerable in averting food insecurity apparently existing in the district, as would greatly reverses the declines in yields as seen later on.

4.2 Farm Size

There was considerable reduction in the average farm sizes. From the data collected, the average farm size before relocation to the camp was at 1.92 acres, whereas the present average farm size per household in the camp stands at 0.85 acres. This therefore gives a reduction of 55.7 % in the average acreage of land tilled. Its impact on the reduction of food crop productivity cannot be simply overruled. As stated before, majority of the northern farming communities in the past used local inferior seed varieties for food crop production, but still afforded being food secure by opening up larger chunks of land. Presently the use of local inferior seed varieties still abundantly exists; yet larger farming has been constrained greatly by various factors including land shortage. The cropping up of insufficient food is therefore not an astonishment, as inferior seed varieties are used extensively in the less acreage of land tilled.

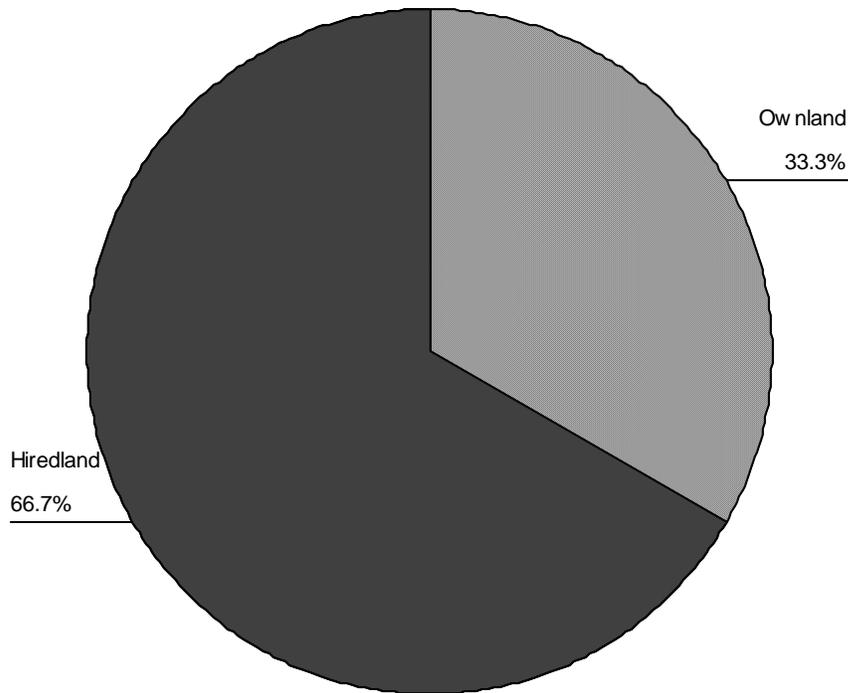
Land availability is a necessary prerequisite for food security because it's a direct resource needed for agricultural production. Therefore the reduction in the average household farm size, undoubtedly translates to yield reduction, as smaller acreage of land are tilled.

4.2.1 Farmland Ownership at Coo-Pe Camp

There is a predicament of land ownership at the camp, 66.7% of the respondents reported to hire farmland (*figure 4*). They had inhibited access to their original farmlands, and as a coping strategy to realize adequate food, they opted to hire farmland for food crop production. Only 33.3% of the respondents reported to own land near the camp, so they apparently incurred no cost in land hiring (*figure 4*). It's really hard for the financially incapacitated displaced population to hire such land. However, landlords may allow such individuals to till the land but at harvest time, they equally share the proceeds with the land owner. Considering the decrease in yields as seen later on, it puzzles one how such low yields can be conveniently shared between

the land tenant and land lord. An acre of farmland in the camp is hired at 50,000 Ug shs per growing season. This appears hard to be borne by the majority (51.7%, *figure 5*) of the respondents who are not engaged in any sort of income generating activity.

Figure 4: Showing farmland ownership by the displaced farmers in Coo-Pe camp



4.2.2 Accessibility to Original Farmlands by Farmers in Coo-Pe Camp

75% of the respondents never had access to their original farmlands since relocation to the camps. Only 25% of them asserted to have accessed their original farmlands (*Table 4*). Land is a very essential and primary requirement for sustainable crop production. Hindered access to original larger farmlands is a direct indication of why the displaced populations for long have depended on the regularly inadequate dietary provisions offered by the World Food Programme and other Non-governmental organizations.

From the previous findings that 66.7% of the respondents use hired farmland since they failed to have peaceful access to their original farmlands, they therefore opted to have nearby farmlands where they could till the land.

Table 4: Showing access to original farmland by displaced farmers in Coo-Pe camp

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| No | 45 | 75.0 | 75.0 | 75.0 |
| Yes | 15 | 25.0 | 25.0 | 100.0 |
| Total | 60 | 100.0 | 100.0 | |

SOURCE: PRIMARY DATA

4.2.3: Reasons for Hindered Access to Original Farmlands by Farmers in Coo-Pe Camp

The respondents reported various reasons for their constrained access to their original farmlands; the most prevalent reason was fear of abduction, as given by 84.5% of the respondents (Table 5). Certainly with access to original farmlands constrained, people who had the monetary capacity to hire farmlands nearby, did so whereas those incapable of doing so crept gradually to absolute food insecurity. Recall that 51.7% (*figure 5*) of the respondents were not involved in any form of income generating activity, this could have as well hindered their ability to hire land, given the fact that they owned non at the camp.

Table 5: Showing reasons for failed access to original farmlands by the farmers in Coo-Pe camp

| Reason | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------------------------|-----------|---------|---------------|--------------------|
| Restrictions by Security staff | 7 | 15.5 | 15.5 | 15.5 |

| | | | | |
|-------------------|----|-------|-------|-------|
| Fear of abduction | 38 | 84.5 | 84.5 | 100.0 |
| Total | 45 | 100.0 | 100.0 | |

SOURCE: PRIMARY DATA

4.2.4 Distance to Farmlands from Coo-Pe Camp

The average distance of the farmlands from the camp was reported to be 4.7 km from the camp. This long distance coupled with the great fear of abduction as reported above, greatly hindered access even to the hired farmlands. People were allowed to access their farmlands only under monitored security and on a restricted time frame. This could have also contributed to the reductions in the yields of most crops as indicated subsequently. Hardly could people open up larger farms, and carry out efficiently other agronomic practices such as early seed bed preparation, timely weeding, pest and disease control which are all necessary for the realization of adequate and supportive harvests. This destabilization could have as well contributed to both pre and post-harvest losses leading to the outright reductions in the final yields realized and the consequent exposure of the displaced population to food insufficiency and irregularity.

4.3 Income Generating Activity

Only 48.3% of the respondents reported to be involved in some income generating activity, whereas up to 51.7% of the respondents are not involved in any income generating activity (*figure 5*). The average income among those engaged in economic activity was at 1,555.6 Ug shs per day, an equivalent of 0.85 dollar per day. This revenue puts the respondents still below the poverty line, given the World Bank recommendation of 1 dollar per day for those persons considered as not being poor. The derivation clearly indicted by this low income, is abject

poverty making people not to adequately settle their living expenses as they come due, of which food is a fundamental component.

As presented before, farmland in the area is hired at a cost of 50,000 Ug shs per acre per growing season; but whether a person earning less than a dollar per day can effectively hire this farmland, still remains a mystery. This low income could also have contributed to the perpetual usage of local inferior seed varieties by a larger (53.3%) of the respondents (*figure 1*).

Figure 5: Showing engagement in income generating activity by displaced population in Coo-Pe camp

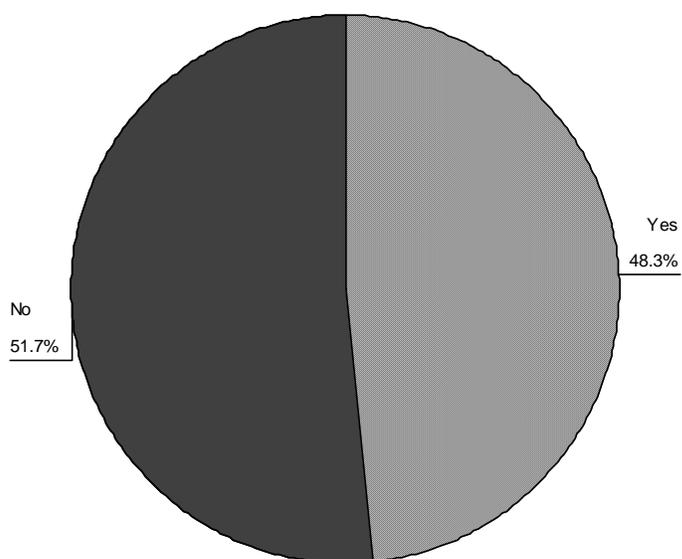
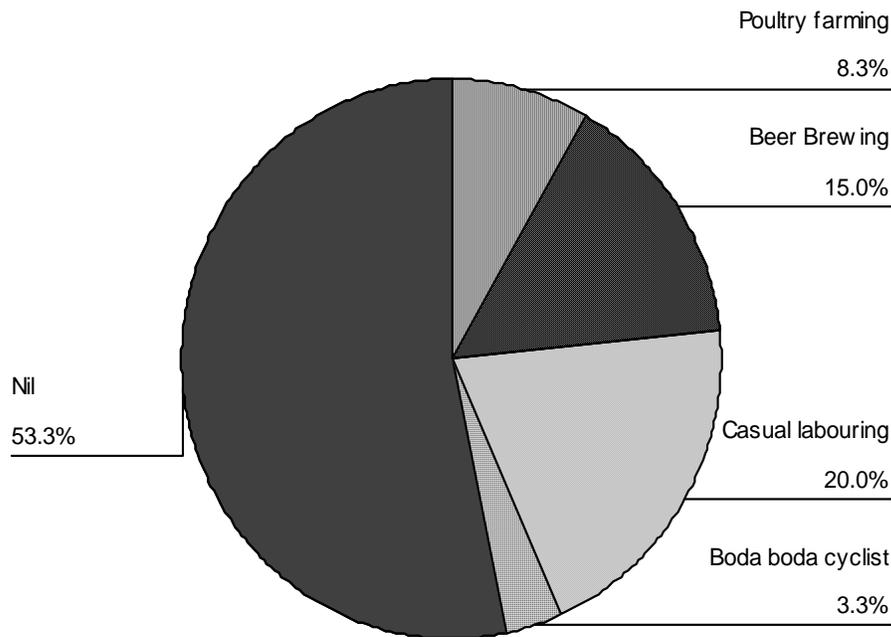


Table 6: Showing cross-tabulation of sex and engagement in income generating activities of respondents in Coo-Pe camp

| | | Engagement in income generating activity | | Total |
|--------------------|--------|--|----|-------|
| | | Yes | No | |
| Sex of respondents | Male | 14 | 17 | 31 |
| | Female | 15 | 14 | 29 |
| Total | | 29 | 31 | 60 |

SOURCE: PRIMARY DATA

Figure 6: Showing the nature of income generating activities engaged in by the displaced population of Coo-Pe camp



4.4 Labour Availability and Adequacy amongst farmers in Coo-Pe Camp

From the data collected, 75% of the respondents reported to use family labour for carrying out farming activities while the rest used hired labour. Labor inadequacy was reported by 94.2% (*figure 7*) of all the respondents, with the general contention that it hindered their will to carry out larger farming; however 5.8% (*figure 7*) of the respondents attributed labor insufficiency to having affected them from effectively harvesting crops from the fields (*figure 7*).

The reason why majority of the respondents do not employ workers in their farms could be due to the fact that a large portion of them are not realizing any daily income to pay off the Ug Shs of 1,000 that a worker would demand after a half day toil in the farm.

The problem of labor inadequacy can be reliably attributed to the fact that the conflict in actual fact contributed to a substantial reduction in the population of Acholi sub-region, of which Bungatira sub-county is no exception. However the researcher was unable to establish whether any of the respondents had lost a person due to the conflict, as he foresaw infliction of emotional pain to such a respondent.

Table 7: Showing farm labour adequacy in Coo-Pe camp

| Response | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------------|------------------|----------------|----------------------|---------------------------|
| Adequate | 9 | 15.0 | 15.0 | 15.0 |
| Inadequate | 51 | 85.0 | 85.0 | 100.0 |
| Total | 60 | 100.0 | 100.0 | |

SOURCE: PRIMARY DATA

Figure 7: Showing the implications of labour shortage on the displaced farmers in Coo-Pe camp

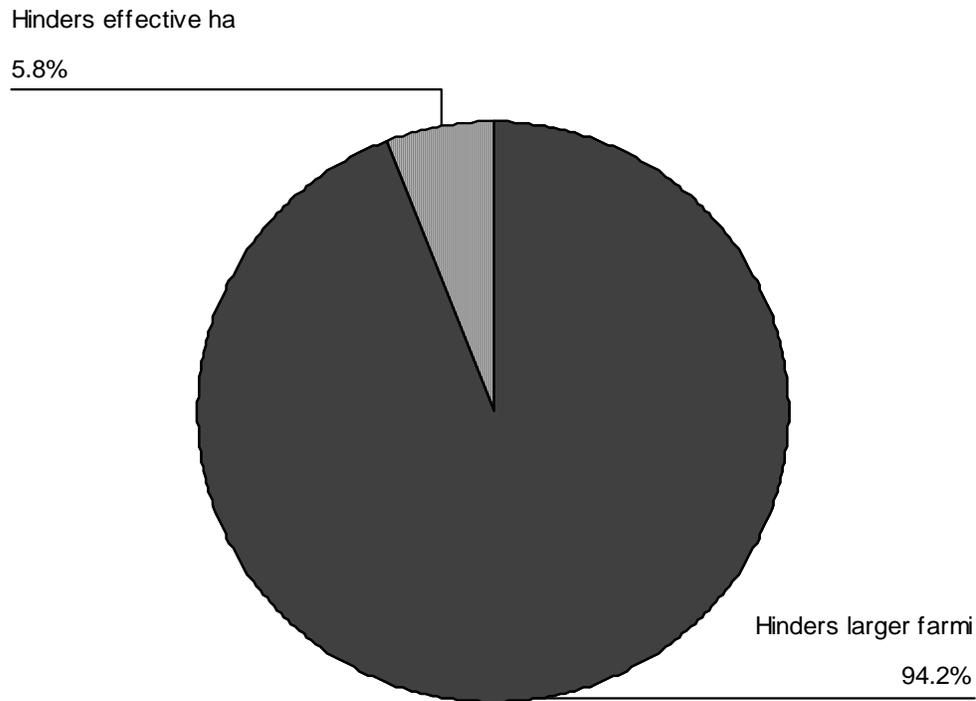


Table 8: Showing a cross-tabulation of age against labour adequacy for farming in Coo-Pe camp

| | | Camp labour adequacy | | Total |
|--------------------|-------|----------------------|------------|-------|
| | | Adequate | Inadequate | |
| Age of respondents | 20-35 | 5 | 15 | 20 |
| | 36-45 | 10 | 17 | 17 |
| | >45 | 4 | 19 | 23 |
| Total | | 9 | 51 | 60 |

SOURCE: PRIMARY DATA

Labour inadequacy was highest among the respondents who were above 45 years of age; this could be due to the understandable reason that such persons are less energetic and consequently failed to offer the huge energy that typical agricultural activities require. It's clearly indicated that respondents in the age bracket of 20 -35 least complained of labour inadequacy. People of this age range are still highly energetic and could definitely provide solitarily the farm labour they needed.

Table 9: Cross-tabulation showing age of respondents against labour for farming

| | | Source of labour for farming | | Total |
|--------------------|-------|------------------------------|-------|-------|
| | | Family | Hired | |
| Age of respondents | 20-35 | 17 | 3 | 20 |
| | 36-45 | 11 | 6 | 17 |
| | >45 | 17 | 6 | 60 |
| Total | | 45 | 15 | |

SOURCE: PRIMARY DATA

Table 9 clearly shows that respondents well above 45 years of age, tended to use hire labour more than respondents of the age range of 20 -35. This is clearly supported by the reason that such older persons much complained of labour inadequacy.

4.5 Yield Reduction for Some Selected Staple Food Crops in Coo-Pe Camp

There were drastic reductions in the yields of most of the food crops as indicated in the table below.

Table 10: Showing reduction in yields for some selected food crops

| CROP | AVERAGE YIELD AT HOME (KG/ACRE) | AVERAGE YIELD IN CAMP (KG/ACRE) | % YIELD REDUCTION | CURRENT UNIT PRICE@KG | INCOME LOSS (Ug shs) |
|-------------|--|--|------------------------------|--------------------------------------|-------------------------------------|
| SIMSIM | 333.9 | 178.8 | 46.4 | 3,500 | 542,850 |
| BEANS | 559.9 | 299.4 | 46.5 | 1,600 | 416,800 |
| SORGHUM | 796.5 | 600.3 | 24.6 | 400 | 78,480 |
| RICE | 875 | 0 | 100 | 2,500 | 2,187,500 |
| GROUNDNUTS | 425 | 351.1 | 17.4 | 2,000 | 147,800 |
| PIGEON PEAS | 473.8 | 228 | 51.9 | 1,000 | 245,800 |
| MAIZE | 597.8 | 221.8 | 62.9 | 500 | 188,000 |
| MILLET | 842.5 | 607.8 | 27.8 | 1,200 | 282,000 |

SOURCE: PRIMARY DATA

From *table 10* above, the mean output for some specific crops at home were appreciably higher than the present yields in the camp despite some limited use of improved seeds alongside local seeds. The reasons for the reduction in general yields can be attributed to the problems of continued use of inferior seed varieties by most farmers, labour inadequacy and losses occurring due to inability to effectively carry out basic agronomic practices coupled with the constrained access to both original farmlands as well as those hired but yet far away from camp..

The worst affected crop is maize with 62.9% reduction in yield. This conforms considerably well to the figure arrived at by Deininger and Okidi, (2000). The least affected crop is Groundnuts, with only a 17.4% reduction in yield (*Table 10*). The income reductions as seen in (*Table 10*)

above must have also played a considerable role in pushing the people to the wretched poverty presently hitting hard on them. Simon Appleton, (1996) noted Gulu as being among the five poorest districts in Uganda. He further recognized the effort that improved household crop productivity played in the uplift of good proportions of the population in other regions of Uganda out of poverty; with the exception of Northern Uganda.

4.5.1 Change in the Number of Farmers Growing Selected Staple Food Crops Before and After Displacement to Coo-Pe Camp

There has been a generally substantial decline in the number of farmers for some selected food crops in Bungatira sub-county, as indicated in *table 11*.

Rice suffered most severely with no farmer reportedly growing it presently. The reason given was that rice required closer and recurrent monitoring, such as management of pests like birds that greatly devastate the crop. Previous farmers engaged in rice farming claimed that they failed to afford such passive times involved in rice agronomy.

Maize on the converse had an increase in the number of farmers by 55.6%; this is an indication that despite the conflict persisting, there is a growing interest among local farmers to grow maize (*Table 11*). Programs and extension service providers can therefore venture into the popularization and support of the maize sub-sector in the area. Simsim is the most commonly grown food crop presently in the area, with 35% of the respondents apparently growing it (*Table 11*).

Beans, maize and millet are the least grown crops presently in the area, exhibiting low percentages of 13.3%, for beans and 15% for both maize and finger millet (*Table 11*).

The reduction in the number of farmers for key staple food crops as indicated above, therefore offers a submission that there has been a considerable reduction in general agricultural output,

hence predisposing the displaced population to the disgusts of insufficient food. There is therefore a clear necessity to expand the number of farmers involved in growing such vital food crops since they are imperative for the realization of food security in the area.

Table 11: Showing the change in the number of farmers for selected food crops in Coo-Pe camp

| CROP | GROWERS BEFORE THE CONFLICT | GROWERS PRESENTLY IN THE CAMP | CHANGE | % CHANGE |
|-------------|------------------------------------|--------------------------------------|---------------|-----------------|
| SIMSIM | 25 | 21 | 4 | 16 |
| BEANS | 11 | 8 | 3 | 27.3 |
| RICE | 6 | 0 | 6 | 100 |
| SORGHUM | 20 | 13 | 7 | 35 |
| G/NUTS | 38 | 19 | 19 | 50 |
| PIGEON PEA | 9 | 9 | 0 | 0 |
| MAIZE | 9 | 14 | -5 | -55.6 |
| MILLET | 31 | 9 | 22 | 70.9 |

SOURCE: PRIMARY DATA

4.6 Duration Taken in the Camp

The Northern Uganda conflict began in 1986, a whole 22 years back. However the strategy of relocation of the local population to the partially protected internally displaced camps ensued in the mid-1990s. From the data collected, the average number of years taken in the camp by the

respondents was 7.3 years; a suggestion that most of the respondents saw themselves off to the camp in the early 2000s. The highest number of years taken in the camp was reported to be 14 years; such duration is capable of pushing such displaced persons to upsetting and persistent poverty. In the past, the traditional Acholi farmers hired no land, they abundantly had their own farmlands liberally accessible but this scenario came to surpass when the conflict sparked out outrageously in the sub-region. The longer the people take in the appalling camp conditions, the more clearly poverty will heavily weigh down upon them hence the persistence of food insecurity; because there is a high correlation between poverty and food insecurity according to Deininger and Okidi, (2000). The incidence of poverty in Gulu district is not surprising as clearly put Appleton, (1996) pointed out Gulu as being among the five poorest districts in Uganda.

CHAPTER FIVE

5.0 DISCUSSIONS, RECOMMENDATIONS AND CONCLUSIONS

The Northern Uganda conflict that has persisted since 1986 has indeed impoverished the population of Gulu district and has contributed tremendously to severe food insecurity. The subsequent prevalence of food insecurity definitely can now be largely linked to the adverse effects of the conflict on the major factors of production such as land, labour, capital and availability of improved seed varieties.

From the findings above, land inaccessibility was overwhelming, with 75% of the respondents not having accessed their ancestral farmlands since relocation to the camp in the mid-1990s. This is a great predicament to effective and productive agricultural activities, considering the fact that land availability is a primary requirement for farming. This consequently translated to the general declines in the total crop output of most of the staple food crops grown in the sub-county. The huge decline of up to 62.9% in maize productivity is obviously deplorable and greatly narrows the food margins of the displaced population in Bungatira sub-county and Gulu district as a whole. Sserunkuuma *et al.*, 2001 recognized the increasing contribution of the maize sub-sector as a food as well as cash crop in other regions of the country.

It's disappointing to note that a crop like Rice that apparently is facing increasing demands country wide with greater potentials for export, faced such a staggering 100% output decline in the sub-county with entirely all previous growers shunning it. Its imperative that agricultural programs should be formulated that target the popularization of upland Rice production since it's ecological requirements matches the agro-ecology of the northern Uganda.

The general reduction in number of farmers also offered an indication that fewer people afforded to produce such staple food crops, leading to declines in yields as reported before. This resultant

reduction in yields definitely hampered the food-availability component of food security, as physical domestic productivity was greatly inhibited.

The contribution of conflicts to food insecurity is not alien to the African continent; Mozambique in 1992 had to import over 80% of its food needs as a result of conflict (UNFAO/MEDAIR, 2002). The decline in yields of staple food crops in northern Uganda and Gulu district particularly seems to hold the ground for the reason that over 75% of the dietary needs of the displaced population has for long been practically catered for by the World Food Programme and its partner non-governmental organizations.

For a population that is over 90% agrarian, as Deininger and Okidi, (2000) stated, disruption in the availability, size and accessibility of farmlands unquestionably has a direct negative consequence on resultant agricultural output.

According to Deininger and Okidi, (2000), Todd, (2004) poverty is highly correlated with food insecurity, with the assertion that as poverty becomes more apparent, food insecurity immediately becomes the order of the day. Accordingly, only 48.3% of the respondents were involved in various income generating activities. This definitely led to the horrendous poverty that Gulu district faced (Appleton, 1996). The average income of 1555.6 Ug shs among those persons engaged in income generating activities is less than a dollar and nevertheless still puts them all below the poverty level. The loss in household incomes owing to the reductions in agricultural output is far too extraordinary as it pushed the population to dismal poverty. It's clear that such incomes if effectively harnessed would have improved substantially the livelihood of such predominantly farming population

How such poor persons can effectively settle basic costs relating to physiological needs such as food remains in ambiguity. This low income certainly is not even enough to supplement the

inadequate dietary needs offered by humanitarian organizations, such as the World Food Programme among others.

Economic empowerment of the displaced population in Gulu district and Bungatira sub-county in particular can be achieved by formulation of rural-focused revolving loan scheme that target poor households. These loans should be interest friendly and used to support non-farm enterprise start-ups, which would substantially help in the realization of higher incomes in the hands of such poor communities.

The efforts of institutions such as the Northern Uganda Social Action Fund and the National Agricultural Advisory Services need to be strengthened as they could play the leading role in such attempts to reduce poverty through promotion of farming as a business. The correlation between poverty and food insecurity was clearly put forward by Deininger and Okidi, (2000) but this scenario can possibly be reversed if poverty is rationally unearthed and realistically solved.

The low usage of improved seed varieties is also hard hitting and yet this is a vital necessity for enhancing agricultural productivity. It's imperative that all concerned stakeholders involved in the agricultural rehabilitation of the displaced population, address the problem of improve seeds realistically. These improved and high yielding seed varieties should be made not only available but also accessible by the displaced population.

There is an urgent need for the government to support the considerable efforts of the non-governmental organizations. Government should support the extensive endeavors of the non-governmental organizations through strengthening its advisory and extension service sector; who should offer not only seeds and other agricultural inputs but also technical agronomic and other agricultural knowledge to the economically, socially and physically disadvantaged displaced predominantly farming population.

Although the agricultural input trade was privatized, Government could still effect free distribution of improved high yielding varieties within the context of an affirmative action; this should be done alongside the food rations offered to the displaced population as was the case in the post-war agricultural rehabilitation of Angola. Chapman *et al*, (1997) documented substantially well, how complimentary distribution of improved seed varieties played a significant role in the realization of sustainable food security in Angola. It further helped the war affected people of Angola to realize that relying on food aid was not the best solution to their problems.

It is therefore important that Government and concerned Non-governmental organizations rely on agricultural rehabilitation as a basis for sustainable food security for the displaced population in Gulu district and Bungatira sub-county in particular. This will of course takes various dimensions such as addressing the adequacy and accessibility of improved seed varieties compatible with the agro-ecology and farming system that exists in Gulu district. The associated problem of provision of seeds unsuitable for the region should be guarded against; this was an earlier encounter in the post-war re-habilitation of Angola whereby the initial seed varieties offered to farmers were not adapted to the agro-ecology of the Northern Kwanza region (Chapman *et al*, 1997).

The resultant low yields realized could have been attributed to the less acreage of land tilled coupled with the dominant use of inferior local seed varieties. Majority of the farmlands were as well hired and situated far away, an average of 4.7Km from the camp. This distance is considerably long and affected effective and efficient operation of essential agronomic practices such as early seed bed preparations, timely weeding and beneficial pests and disease control essential for the realization of higher yields.

As a recommendation for the land problem, Government should provide adequate security if the community is to freely access their farmland. Provision and popularization of the use of animal traction would also play a significant role in the expansion of average household farm sizes. As reported earlier on by Deininger and Okidi, (2000), the northern region had the least farm size per household despite the relative abundance of land in this part of the country. They further appreciated the contribution of animal traction to farming in eastern region. The adoption of such energy saving innovation would solve greatly the problem of labour shortage evident among the elderly as reported in chapter four. It would as well save their income that they previously spent on hiring of farm workers, because instances of using hired labour was abundant among persons above 45 years of age.

Conclusively, the resultant reduction in yields and its contribution to household food insecurity as reported in chapter four above is not surprising as the negative and synergistic impacts of all the factors discussed above definitely could not in any way favour constructive farming. The government and all the concerned stakeholders should realize that sustainable and long term food security in this war ravaged region can not suitably be solved by food aid, rather than by realistically rejuvenating the agricultural capability of the displaced population. As recommended above, wider and cost effective provision of factors such as improved seed varieties, economic empowerment, enhanced extension and advisory services to the farmers and not forgetting the free accessibility and availability of farmland; would play the most considerable role in the realization of sustainable food security in the region.

REFERENCES

1. Appleton, S. (1996). Problems of measuring changes in poverty over Time: The case study of Uganda 1989-1991. Institute of Development Studies Bulletin 27 (1): 43-55
2. Action against Hunger, (2004). Special Report on food security and Malnutrition in Gulu district.
3. Deininger, K. & Okidi, J. (2000). Market participation, Agricultural Productivity, and Non-agricultural Enterprise Start-Ups. Development Research Group, World Bank, Washington, D.C. Processed

4. Ellen, M., Marc, J. C. & Jasinta D' Costa (1999), *Armed Conflict and Hunger*.
5. HURIFO (2007), *The Examiner*, issue 1. Quarterly publication of Human Rights Focus.
<http://www.hurifo.org/Publications/HURIFO>
6. FAO, MEDAIR, (2002). *Report on Poverty and Food insecurity in Mozambique*
7. IFAD, (2007). *Report on Agriculture and Poverty in Mozambique*
8. Inter-News Regional Net work (IRIN), (2008). *Newsletter on Food insecurity and Vulnerability in Northern Uganda*. February.
9. Gershoni, R. (1997). *The Anguish of Northern Uganda: Results of a field-based assessment of the civil conflict in Northern Uganda*.
<http://www.reliefweb.int/rw/rwb.nsf>
10. The Bruntland Commission, (1987). *Our Common Future, Report of the World Commission on Environment and Development*.
11. Todd Benson, (2004). *Africa's Food and Nutrition security situation, discussion paper Issue No. 37*
12. FAO¹, (1996). *Rome Declaration on World food security and World Food Summit Plan of Action*. Rome, Italy. <http://www.fao.org>.
13. FAO, (1996). *Food and food assistance. World Food Summit Technical Background Documents*, page 13. Rome, Italy.
14. FAO, (2000). *Food Insecurity: When people live with hunger and fear starvation: The State of Food Insecurity in the World (SOFI)*. 2nd (Ed). Rome, Italy.
15. FAO, (2001). *Food Insecurity: When people live with hunger and fear starvation. The State of Food Insecurity in the World (SOFI)*. 3rd (Ed). Rome, Italy.

16. FAO, (2002). World food summit: Five years later. Rome, Italy.
<http://www.fao.org/WorldFoodSummit>
17. FAO, (2006). Eradicating world hunger-taking a stock ten years after the World Food Summit. The State of Food Insecurity in the World (SOFI). 8th (ed). Rome, Italy.
<ftp://ftp.fao.org/docrep/fao>
18. Huu, (2003). Food Insecurity in sub-Saharan Africa.
19. Omari, R. (2003). Agricultural Technology adoption and related policy issues in Ghana. May 12th – 14th.
20. Nangoti, N. Kayoby, G. & Rees, D.J. (2004). Seed Demand and Supply in Northern and Eastern Uganda; Implications for Government and non-government interventions. Uganda journal of Agricultural sciences Vol 9: pg 778- 784.
21. Chapman, J. White. J. & Nankam, C. (1997). Seed supply during emergency and resettlement programmes in Mozambique and Angola. Paper presented at the ICRISAT/ICARDA/IITA/GTZ WORKSHOP ‘Enhancing Research impact through seed supply’: Options for the strengthening National and Regional seed supply systems; Harare, Zimbabwe, 10th- 14th, march 1997.
22. Blackie, M.J. (1994). Maize Productivity for the 21st century. The African challenge. Paper prepared for the fourth Regional Eastern and Southern African conference. Harare, Zimbabwe, March 28th – April 1st.
23. Sserunkuuma Dick (2001). The adoption and Impact of improved maize varieties in Uganda. A paper prepared for the symposium on Green Revolution in Asia and its Transferability to Africa. Held on December 8th - 10th, Tokyo, Japan.

24. Louise, S. (1995). The effects of the Rwandan war on crop production, seed security and varietal security.
25. Refugees International, (2001). Uganda; Peace Prospects, Humanitarian and Emergency aid in Northern Uganda. <http://www.refugeesinternational.org/consentdetail/4631/>
26. UNICEF, (1998). The conceptual framework of Food Security.
27. World Food Programme, (2003). Special Report on Food and Humanitarian aid in Northern Uganda.
28. USAID, (2004). FEWS Newsletter: Food Insecurity and Vulnerability in Uganda, 17th June publication.
29. USAID, (2005). Food Insecurity and Vulnerability in Uganda, FEWS Newsletter 8th January publication.
30. UNOCHA, (2003). Consolidated Appeals Process (CAP): Humanitarian Update for Uganda. Vol II, Issue I; 11th Nov, 2004.
31. UNOCHA, (2004). Consolidated Appeals Process (CAP): Humanitarian Update for Uganda. Vol III, Issue I; 17th Feb, 2005.
32. UNOCHA, (2005). Consolidated Appeals Process (CAP): Humanitarian Update for Uganda. Vol III, Issue II; 17th Feb, 2005.
33. World Food Summit, (2002). Multi Stakeholders Dialogue on Food, Insecurity and Peace: 10th – 13th June.
34. World Bank, (1986). World Development Report. New York, Oxford University Press.
web.worldbank.org/
35. World Bank, (2000). World Development Report: Attacking Poverty.
web.worldbank.org/.../expoverty.

36. World Food Programme, (1989), Food and Nutrition Bulletin, Volume 11, Number 4,
December 1989
37. DAO, (2008). Gulu District Agricultural Report.
38. Caesar, M.C. (2003). Farm Capital Structure and Farmland Price Discounts: PhD
dissertation in Agricultural and Consumer economics, University of Illinois, United
States

APPENDICES

RESEARCH INSTRUMENTS

QUESTIONNAIRE

Dear Respondent

You are kindly requested to fill in this questionnaire which is being used as a research instrument to establish the contribution of the Northern Ugandan conflict to food insecurity in Gulu District, a case study of Bungatira Sub-county. The research is being carried out in fulfillment of the

requirements of the award of Bachelor of Agriculture of Gulu University. The information is being sought exclusively for academic purpose. Your contribution will be so vital and will be treated with absolute confidentiality. Thank you in advance for your kind consideration.

Section 1: Background Information

District.....Sub-county.....Name of camp.....

Block/Zone.....Camp Leader.....

Sex [Tick appropriate] Male Female

Marital status [Tick appropriate] Single Married Divorced Widow

[Specify number of children].....

Highest educational standard attained.....

Occupation.....Date of interview.....

Section II: Main Content

1) In which year did you come to stay in the camp?

2) a) did you own land back at home before you came to the camp? i) Yes ii) No

b) If, yes how big was the land?.....acres

3) What three major crops did you use to grow while still at home?

(i).....(ii).....(iii).....

4) On average what amount of harvest did you use to get per year from each crops mentioned above, while still at home?

| Crop | Average yield Kg/acre |
|------|-----------------------|
| | |
| | |

| | |
|--|--|
| | |
|--|--|

5) What kinds of seed did you use then?

a) Local seeds b) Improved seeds

6) Since you came to stay in the camps, what agricultural activity have you been involved in?

7) What three major crops do you grow here in the camp?

(i).....(ii).....(iii).....

8) On average what amount of harvest do you get per year from the three crops you have mentioned above?

| Crop | Average yield Kg/acre |
|------|-----------------------|
| | |
| | |
| | |

9) What kind of seed do you plant here in the camp?

a) Local seeds b) Improved seeds

10) If (a) why don't you plant improved seeds?

(i) Not available (ii) Available but expensive (iii) Not in group of beneficiary

11) If (b) how do you obtain these improved seeds?

(a) NGO (b) Buy (c) Government

12) If (a) Then please fill in the table below

| Type of seed | Amount/Kg | Frequency |
|--------------|-----------|-----------|
| | | |
| | | |
| | | |

13) Did you plant these seeds in any of your farmlands?

(i) Yes (ii) No

14) If (i), Was the yield sufficient to meet your domestic food requirement?

15) If (ii), what made you not to plant these seeds?

a) No land near the camp to plant the seeds b) Feared to access far away farmlands c) Relief food was adequate d) Others, please specify

16) How do you meet the labor requirements for your farm work?

a) Family labor b) Hired labor

17) Do you ever face labor shortages during your farming operations?

a) Yes b) No

18) If yes, how does it affect food accessibility by your family?

a) Hinders larger farming b) Food gets wasted in fields
c) Others

19) How big is the land you are currently cultivating?.....acres

20) How did you acquire this land?

a) Own land b) Hired land c) Communal land d) Bought e) Others

21) How far is your farmland from the camp?.....Km

22) a) did you ever have access to your original farmlands while staying in the camp?

i) Yes ii) No

b) If yes, how frequent?

i) Occasionally ii) Rarely iii) Frequently iv) Not at all

c) If no, why did you fail to have access to your original farmland?

i) Restriction ii) Fear of abduction c) Relief food was adequate d) others, please specify

23) Do you normally buy food from the market to supplement the food you produce?

a) Yes b) No

24) If, no why don't you buy food from the market?

a) Not available in the market b) Available but expensive

c) Produced enough food from nearby d) Relief food is adequate

25) Are you engaged in any income generating activity here in the camp?

a) Yes b) No

26) If, yes please specify the activity and your average income per day

a) Activity.....

b) Average income per day in UGX.....

RESEARCH WORK PLAN

| Activity | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Preparing Research proposal | | | | | | | | | |
| Research proposal approval | | | | | | | | | |
| Data collection | | | | | | | | | |
| Research processing, analysis and report writing | | | | | | | | | |
| Proof reading of report and handing over to the University | | | | | | | | | |

UNICEF CONCEPTUAL FRAME-WORK OF FOOD SECURITY

