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Farmer–herder conflict and food security in Kwahu East District, Eastern Region, Ghana.

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International Development Studies

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DECLARATION

I, Samuel Owusu Antwi, declare that this thesis is the result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list appended. This work has not been previously submitted to any other university for the award of any type of academic degree.

Signature

Date

DEDICATION:

To my siblings and parents, Mr. Benjamin Antwi and Madam Florence Oduraa who showed me real love, unflinching support and encouraged me throughout my studies.

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Give thanks to the Lord, for he is good; his love endures forever (1 Chronicles 16:34). First, I thank God for His protection and guidance throughout my study period.

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ABSTRACT

The conflict between resource users is no new phenomenon in West Africa including Ghana. Debate and discussions about such conflict mostly centre on resource scarcity. This study examines the impact of farmer–herder conflict on food security in Ghana using Kwahu East District as a case study. A qualitative method was employed for data collection and respondents included farmers, herders, traditional rulers, security officers, local government officials, agriculture and veterinary officers. In addition to individual interviews, group interviews were carried out with farmers and herders. Also, nineteen household heads were interviewed to ascertain the impact of the conflict on household food security. Semi-structured questions were used to obtain the data from the respondents. Direct observation was also used to gain a better understanding of the issues. The study showed that the major cause of the conflict is competition over arable lands for farming and grazing, especially in the dry season. Other triggers of the conflict reported were crop destructions, stealing and killing of cattle, violence against women, pollution of water bodies, burning of grass, spraying weedicide and pesticide, farming close to grazing lands. The conflict has caused displacement of families and individuals, injuries, loss of lives and negatively affected agriculture production. The study revealed that affected farmers are unable to access their farms which have caused food shortage and hunger in such households. To seek to manage and resolve the conflict, measures used by the government include Operation Cow Leg, the creation of fodder banks to limit the movement of cattle and registration of cattle owners and their cattle. Government interventions to ensure food security have mainly involved support to crop farmers and farming communities and left out pastoralists, and as such appear one-sided. Based on the findings, the study recommends that a mediation committee should be set up to resolve conflicts at the individual level, registration of herders, cattle owners and cattle for easy identification and creating grazing reserves far from farmlands. The national government should also enact ranch law and ban open grazing method to avoid future occurrence of such conflict since the expulsion policy has proven futile in resolving farmer – herder conflict in the country.

Keywords: Farmers, herders, Operation Cow Leg, resource scarcity, food security.

ACRONYMS

AAND	Asante Akyem North District
CID	Criminal Investigation Department
DCE	District Chief Executive
DCOP	District Chief Commander of Police
DPO	District Planning Officer
DISEC	District Security Council
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organisation
FASDEP	Food and Agriculture Sector Development Policy
FCUBE	Free Compulsory Universal Basic Education
GNACAF	Ghana National Association of Cattle Farmers
GHC	Ghana New Cedis
GPRS	Ghana Poverty Reduction Strategy
GSFP	Ghana School Feeding Program
GSS	Ghana Statistical Service
IFAD	International Fund for Agricultural Development
IRIN	Integrated Regional Information
KED	Kwahu East District
KTC	Kwahu Traditional Council
MDG	Millennium Development Goals
MOFA	Ministry of Food and Agriculture
MP	Member of Parliament

NDC	National Democratic Congress
NPP	New Patriotic Party
OCL	Operation Cow Leg
PNDC	Provisional National Defence Council
PFJ	Planting for Food and Jobs
PRIO	Peace Research Institute Oslo
REGSEC	Regional Security Council
RELC	Research and Extension Linkage Committee
SADA	Savannah Accelerated Development Authority
SDG	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme
USAID	United States Agency for International Development
WANEP	West Africa Network for Peacebuilding

TABLE OF CONTENTS

DECLARATION	i
DEDICATION	ii
ACKNOWLEDGEMENTS	iii
ABSTRACT	iv
ACRONYMS	v
LIST OF FIGURES	xi
LIST OF TABLES	xii
1. INTRODUCTION	1
1.1. Research problem	3
1.3. Objectives and research questions	4
1.4. Scope and justification for the study	5
1.5. Thesis organisation	6
2. BACKGROUND	7
2.1. The study area.....	7
2.2. Economic activities and political administration	8
2.3. Land tenure system in Ghana and the study area	10
2.4. History of Fulani migration to Ghana.....	15
2.5. Violence in Ghana after independence	17
3. LITERATURE REVIEW	20
3.1. Conflict, violence and resources.....	20
3.2. Land conflict and food security	23
3.3. Relationship between farmers and herders	25
3.4. Review of farmer–herder conflict in some African countries	27
3.4.1. Cases of farmer–herder conflict in Ghana.....	28
3.4.2. Consequences of farmer–herder conflict in Ghana	30

3.5. Ghana’s policy on farmer–herder conflict	32
3.5.1. The policy of expelling Fulani herders from Ghana	32
3.5.2. National agricultural policy towards food security	34
4. THEORETICAL APPROACH	37
4.1. Environmental security theory.....	37
4.2. Counter-arguments.....	39
4.3. Food security.....	42
4.4. Elements of food security	43
4.4.1. Availability of food.....	43
4.4.2. Access to food.....	44
4.4.3. Utilization	44
4.4.4. Stability	45
4.5. Entitlement approach and food security	45
5. RESEARCH METHODOLOGY	47
5.1. Research strategy and design.....	47
5.2. Methods of data collection	48
5.2.1. Sampling approach	48
5.2.2. Research interviews	50
5.2.3. Data analysis	51
5.3. Ethics.....	51
5.4. Plans for security purpose.....	52
5.5. Limitations of the study	52
6. PRESENTATION AND DISCUSSION OF FINDINGS	54
6.1. Migration of Fulani herdsman to Kwahu East District.....	54
6.2. Relationship that exists between farmers and herders.....	57
6.3. Nature of the conflict in the study area.....	60

6.4. Actors of the conflict	62
6.4.1. Farmers	62
6.4.2. Pastoralists (Fulani herders)	62
6.4.3. Cattle owners	64
6.4.4. Traditional and local government authorities	65
6.4.5. Security officers, task force and youth groups	65
6.5. Manifestations or triggers of the conflict.....	67
6.5.1. Competition over land	67
6.5.2. Destruction of crops.....	68
6.5.3. Killing and rustling of cattle	70
6.5.4. Spraying of weedicide and pesticide by crop farmers	70
6.5.5. Violence against women	71
6.5.6. Pollution of water bodies and burning of grass	72
6.5.7. Farming close to grazing lands, kraals and cattle route.....	73
6.6. Consequences of the conflict	74
6.6.1. Economic consequences	74
6.6.1.1. Unemployment.....	74
6.6.1.2. Reduction in crop and cattle production.....	76
6.6.1.3. Difficult to secure credit facility.....	76
6.6.1.4. Loss of revenue and shortage of labour	78
6.6.2. Other effects of the conflict	79
6.6.2.1. Loss of lives	79
6.6.2.2. Forced displacement	80
6.6.2.3. Loss of property	83
6.6.2.4. Education of farmers' wards.....	84
6.7. Farming activities in the study area	85

6.7.1. Effects of the conflict on household food security	85
6.7.1.1. Encroachment of farmlands by herders	86
6.7.1.2. Reduced production	88
6.7.1.3. Lands losing their arable nature.....	89
6.7.2. Stakeholders perceptions on food security	90
6.7.3. Government policies on food security.....	92
6.7.3.1. Direct supply of food	93
6.7.3.2. Ghana School Feeding Program	94
6.7.3.3. Research and Extension Linkage Committee.....	94
6.7.3.4. Planting for Food and Jobs	95
6.8. Action and policies to resolve the conflict	96
6.9. Internal measures use for conflict resolution.....	99
7. CONCLUSIONS AND IMPLICATIONS	101
7.1. Nature of the conflict: Environmental scarcity theory	101
7.2. Answering the research questions	102
7.2.1. Who are the parties involved in the conflict?	102
7.2.2. What relationship exists between farmers and herders in the study area?.....	102
7.2.3. What factors have triggered the conflict among the main parties involved?.....	103
7.2.4. What are the effects of the conflict on economic activities, particularly agriculture in the study area?.....	104
7.2.5. What are the other effects of the conflict?.....	104
7.2.6. What is the effect of the conflict on food security in the area, including how different actors perceive this?	105
7.2.7. What has been the government policies/interventions in controlling and resolving the conflict?	105

7.2.8. What policies and measures have the government taken to affect food security in the area?	106
7.3. Implications of the study findings	106
7.3.1. Conflict Mediation Committee	106
7.3.2. The need to address institutional failures	107
7.3.3. Long term recommendations	108
7.3.4. Recommendations for sustenance of food security	109
7.4. Concluding remarks	110
REFERENCES	111
APPENDICES	120
Appendix 1. Report on Stakeholders Meeting.....	120
Appendix 2. Yields of staple crops in Kwahu East District	125
Appendix 3. Valuation of destroyed crops on farmlands	126

LIST OF FIGURES

Figure 1 Map of Kwahu East	7
Figure 2 Summary of environmental scarcity argument	38
Figure 3 Fulani leaders and herdsman after a group interview Source: Author.....	51
Figure 4 After an interview with a herder.....	64
Figure 5 Maize and cassava farms destroyed by cattle in Dwerebease. Source: MOFA, KED, 2017.....	69
Figure 6 A house burnt down by herders at Hweehwee area	81
Figure 7 Photo showing emptiness of Oboyan (1)	82
Figure 8 Primary school in Oboyan closed from February to April 2017.....	85
Figure 9 Cattle on barren land Source: Author.....	89

List of tables.

Table 1 Agricultural activities by households	9
Table 2 Breakdown of respondents.....	49
Table 3 Household data.....	86
Table 4 Crop yields in Kwahu East District	92

1. INTRODUCTION

Pastoralism and farming have been the primary source of livelihood for most people in developing countries including Ghana, making them depend mostly on renewable resources. The produce of smallholder farmers and pastoralists remains the primary source of food for both the rural and urban population in developing countries such as Ghana, Tanzania and Kenya. For instance, IFAD (2013) reported that smallholder farmers in Asia and sub-Saharan Africa produce 80% of the food they consume, which is thus the major source of food security. But in several West African countries recurrent farmer–herder conflicts threaten peace, food security, and the economy, since such conflicts are on the rise and often violent in the sub-region.

Brinkman and Hendrix (2011) asserted that nowadays violent conflicts are not triggered only by ideological differences as it happened during the 20th-century world wars originating in Europe but instead by fierce competition over the control of renewable resources such as land and water. Homer-Dixon (1999a) also argued that competition over scarce resources, especially arable lands, and water, often degenerate into violent conflict among users. Therefore, it can be argued that natural resource conflict now forms part of the fabric of societies especially at the local level since most rural folks' livelihood depends on natural resources. These conflicts help to tackle the problem of inequalities in resource allocation and distribution but can negatively affect livelihoods if not addressed effectively.

In sub-Saharan Africa, some scholars have argued that there is an increase in resource-use conflicts especially farmer–herder conflict, since the Sahelian drought of the 1970s and 1980s (Hussien et al. 1999; Tonah 2006). The Sahelian drought caused the movement of many herders to West Africa especially the savannah areas for survival (Tonah 2005). The movement and settlement of the herders in the West African zone caused increased violent conflict between herders and local farmers especially the struggle for water and land for their activities. Increasing conflict means 'more conflict, a new scale of conflict being attained/increased frequency or intensity of existing conflicts' (Hussein et al., 1999:401). Matthew et al. (2009) found that since 1990 exploitation and competition over natural resources have been the cause of nearly eighteen violent conflicts in some West African countries, Darfur and the Middle East. Also, the Ministry of Animal Resources in Burkina Faso reported that about 600 conflicts between farmers and

herders are recorded in the country every year (IRIN, 2012). In Nigeria (Benue), a total of 1,200 people were killed in 2014 due to the conflict between local farmers and Fulani herders¹.

Ghana has not been free from clashes between the two groups. There have been frequent conflicts between farmers and herders especially in the Atebubu, Agogo and Kwahu districts (Kwahu East and Kwahu Afram Plains). For instance, more than 20 farmers, as well as some Fulani herders, have been killed because of the conflict between the two groups in Agogo, Ashanti Region (Ghanaweb.com. 2011)². Olaniyan et al. (2015) have also confirmed that conflict between herders and farmers has increased in the Northern part of Ghana and is related to competition over access to scarce resources.

The etiology of this conflict has been blamed mainly on crop destruction by cattle that enter farms, sometimes in the presence of the herders owning them, fierce competition over shrinking arable lands, and the inability of government institutions to solve the conflict (Abubakari & Longi 2014; Tonah 2002; 2005). Also, Hagberg (1998) argues that this type of conflict stems from competition over scarce resources because of increased in population, migration and land degradation. This is in line with the population theory of Malthus, which sees a population increase as a source of resource competition and conflict. Thomas Malthus argued that population will grow exponentially whilst food production will grow arithmetically (Seidl and Tisdell 1999). Thus, the population will double with each cycle, and food production will increase gradually which will cause scarcity of resources in the future. Therefore, theoretically, the environmental–scarcity debate has been at the centre of discussions by scholars when explaining causes of farmer–herder conflict. But critics have argued that the Malthusian and environmental/scarcity debate has not been able to explain other drivers of farmer–herder conflict (Moritz 2010). For instance, factors such as increased availability of modern weapons, limited laws on pastoralism, marginalization of herders, corruption, and expansion of farmlands have been stated as causal factors by some scholars (Hagberg 1998; Tonah 2006; Benjaminsen and Ba 2009; Mwamfupe 2015).

¹ BBC News, (29 February 2016). Nigeria's Buhari orders investigation into Benue clashes. Retrieved from: <http://www.bbc.com/news/world-africa-35686264> (Accessed on 10/2/2018)

² Ghanaweb.com. (16 September 2011). Agogo residents demonstrate against Fulanis. Retrieved from: <https://www.ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=219052> (Accessed on 11/2/2018).

Despite the existence of many studies on farmer–herder use of natural resources, such as arable lands and water, in Ghana (Tonah 2002; 2003; 2005; 2006; Abubakari & Longi 2014; Bukari & Schareika 2015; Olaniyan 2015), very little can be found on the impact of the conflict on food security, economic activities and policies of government towards finding a lasting solution to the problem. In light of this, any research that seeks to explore the causes of the conflict, its consequences and examine the impact on food security is commendable. Among other things, such study may provide documentation and analysis for the government and other policy makers to tackle the problem, and also be useful in the ongoing debate about the resource scarcity/conflict nexus.

1.1 Research problem

Farmer–herder conflict is not a new phenomenon in Ghana since the conflict has been re-occurring for almost two decades now. Stakeholders concern is not only about the frequency of the conflict and how it is spreading but the violence aspect of the conflict has increased (Tonah 2006). In the same vein, Moritz (2010) argued that the frequency of violent clashes between these two groups are increasing in the West African sub-region. Areas such as the Atebubu, Yeji, Agogo, Begoro Mamprusi and Kwahu Afram Plains, have all experienced conflicts (violent and non-violent) between these two groups of resource users.

Fulani herders migrated to Ghana around the 20th Century (Oppong 2002) but their settlement in the southern part of Ghana is recent. The northern territories were their first point of settlement during the colonial era when the colonial government encouraged them to settle in Ghana to sustain and improve the livestock industry based on their exceptional expertise in herding (Tonah 2002). Fulani pastoralists and their host communities including local farmers had strong and warm relations but currently, the cooperation and co-existence have been destroyed by a recurrent conflict between the two groups. Therefore, conflict dominates discussions and reports by the media in Ghana regarding the relationship between the two groups. Abubakari & Longi (2014) and Tonah (2006; 2005) have attributed crop destruction as the direct cause of the conflictual relation. Farmers and herders in the study area also share the same view that crop destruction is the primary reason for the frequent conflict between them (Fieldwork 2007). Other

research conducted in Ghana revealed that the conflict relationship is borne out of climate change, ethnic differences, scarcity of land and water (Olaniyan 2015; Dosu 2011; Tonah 2006).

Despite the negative effects of the conflict such as death and injuries, Fulani herders continue to migrate to Ghana especially the southern part where there are abundant pastures. This has been attributed to their strong ties to powerful individuals such as chiefs and cattle owners who control the use and access to resources like land (Bukari 2017; Olaniyan et al. 2015).

The conflict situation in the study area is similar to the case of Agogo but farmers continue to produce food to feed their households and the surplus for the market. Herders also continue to tend cattle because that is their main source of livelihood. Nevertheless, in the northern part of Ghana, there is high food security as compared to the south (Biederlack & Rivers 2009). This could be the cause of farmer – herder conflict as most of the conflicts have happened in the north. An example is the Konkomba and Fulani conflict in Gusengu which claimed 13 lives in the north. For this reason, the question is what has been the effect of the conflict on food security in the study area?

Various measures – such as the expulsion of Fulani herdsmen, provision of fodder banks for pastoralists and bringing perpetrators of murder to book – have been adopted by the government and other stakeholders to bring an end to this conflict. These attempts to end the conflict have not been successful. Therefore, the conflict persists and is more frequent and intensified nowadays in the study villages and other parts of the country.

Based on the ongoing discussions and debates about the conflict, the study aims to investigate the causes and consequences of farmer–herder conflict in the study area. I will also examine the impact of the conflict on food security. The study will employ qualitative research methods, such as interviews, observations, focus group discussions.

1.2 Objectives and research questions

The research aims to contribute to the knowledge of natural resource conflict. **The main objective of the study is to understand the impact of farmer–herder conflict on food security, particularly the availability of and access to food.**

The following sub-objectives and research questions have been formulated for the study:

1. To understand the relationship and causes of increased conflict between farmers and herders in the study area.
 - Who are the parties involved in the conflict?
 - What relationship exists between farmers and herders in the study area?
 - What factors have triggered the conflict among the parties involved?
2. To show and understand the impact of farmer–herder conflict on food security.
 - What are the effects of the conflict on economic activities, particularly agriculture in the study area?
 - What are the other effects of the conflict on the parties involved?
 - What is the effect of the conflict on food security in the area, including how different actors perceive this?
3. To document and assess the policy and actions by the state in addressing farmer–herder conflict.
 - What has been the government’s policies/interventions in controlling and resolving the conflict?
 - What policies and measures have the government taken to affect food security in the area?

1.3. Scope and justification for the study

This is a study of the conflict between farmers and Fulani pastoralists over the use of natural resources in the KED. Regarding scope, the research is focused on 1. Triggers of farmer–herder conflict in the study villages, 2. Consequences of the conflict on agricultural activities including its repercussions on food security and 3. Government policies and measures to control and resolve the conflict and the issues of food security respectively. Also, regarding justification, the

topic was selected because several studies have been conducted in Ghana which focused on such conflicts, but after skimming through the literature, none investigated into the area of food security. Geographically, the researchers concentrated on areas such as Northern Region, Ashanti Region (Agogo), Volta Basin and not the Kwahu districts. It is worth noting that the case of Kwahu is not empirically documented since most of the issues are reported by local media which often present the story of the farmers. It is therefore necessary to scientifically dig into the causes, consequences and its impact on food security by presenting the case of both conflicting parties.

1.4. Thesis organisation

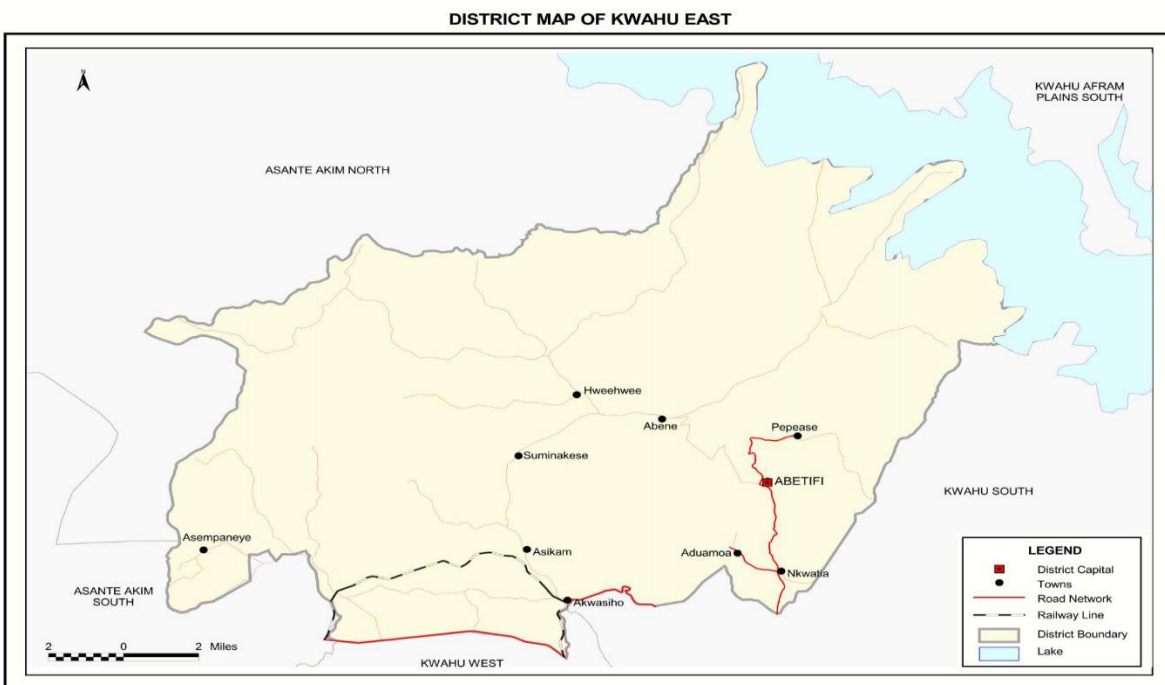
The thesis is organised into seven chapters. The first chapter introduces the study by looking at natural resource conflict in general and some causes. The problem statement, objectives and research questions are captured in this chapter. In Chapter two, I discuss the background of the study area and the land tenure system in Ghana and locally. Some cases of violence in Ghana after independence, including those related to the natural resources, will be presented in this chapter. Chapter three gives a review and analysis of relevant literature about the farmer–herder conflict in some African countries, such as Nigeria and Ghana. The land conflict and food security nexus, migration of Fulanis to Ghana, causes of farmer–herder conflict and its consequences are also discussed in this chapter. In Chapter four, I will present the theoretical approach used for the study. The environmental scarcity concept is employed in the analysis of the causes of the conflict. The food security concept is used to explain how the conflict has affected household food security in the three study villages (Hweehwee, Oboyan, and Dwerebease). Chapter five on methodology discusses the research design and methods by looking at the rationale for the sampling, data collection during the fieldwork and techniques used in the analysis. The security strategy adopted by the researcher due to the volatility of the area will be outlined. Chapter six contains the presentation, discussion, and analysis of the field data. Chapter seven concludes the study with a summary of key findings and recommendations to resolve the problem, and presents some further implications of the research findings.

2. BACKGROUND TO THE STUDY

2.1 The study area

This study was conducted in the Kwahu East District, one of the twenty-one districts in Eastern Region, which was created by the Kuffour administration in early 2008. To the north, it shares a boundary with Asante Akim North, where Agogo township is located, to the south with Kwahu South District, Kwahu North District to the east and Fanteakwa District to the south-east. The total land size of the district is approximately 860 square kilometres. Abetifi is the district administrative capital.

Figure 1 Map of Kwahu East



Source: Ghana Statistical Service (GSS), 2014

With regards to vegetation, the district falls within the semi-deciduous rainforest region. There is also a dense forest which covers about three-quarters of the district, the rest of the land having savannah grassland.

Regarding climatic conditions, the study area falls within the wet semi-equatorial climatic zone, which experiences a substantial amount of rainfall, the basis for agriculture and domestic water

use. The District experiences two main seasons: dry and rainy. The dry season, which is referred to as the *harmattan*, starts from November to April and is characterized by dry winds, trees shedding their leaves and water bodies get dried up. The rainy season is of two phases; the first usually begins in May and end in July whereby the heaviest rainfalls are experienced. The second rainy season occurs between September and October. Mean monthly temperature ranges from 30⁰C in the dry season to about 26⁰C in the rainy season.

According to the 2010 Population Census, the human population in the district is 77,125 out of which 37,620 (48.8%) are males, and 39,505 (51.2%) are females. Moreover, 67.1% of the total population are rural dwellers, and the remaining 32.9% live in the urban communities, which indicates primarily the rural nature of the district's population (GSS 2014). The population in each of the three study villages are as follows: Hweehwee (1,906), Oboyan (978) and Dwerebease (1,419). The people in the district is heterogenous regarding ethnicity. The major ethnic group is the Akans, who make up 70% of the total population. Others include Ewes and Ga-Adangbes representing 18% and 5% respectively (GSS 2014). Those in the minority are people from Northern Ghana and the nomadic Fulani herdsmen, who are mostly from Mali, Niger, and Nigeria and whose exact number is unknown. A conflict between Fulani herdsmen and peasant farmers in the district has persisted for years and has diverse consequences on livelihoods farmlands, incomes, food security and education in the district. This study, therefore, explored the causes of the conflict, its effect on food security and commerce, and the policies of the government to resolve it.

2.2 Economic activities and political administration

The economy of the district is agrarian and about 55% of the population are engaged in the agricultural sector which is a miniature of the national economy, where the agricultural sector generates 55% of the country's foreign exchange (GSS 2014). The rest of the economically active population (45%) engages in commerce, which includes wholesale and retail of primary commodities, quarrying, finance, tourism, and services. Most farmers in the district are involved in crop farming, followed by livestock farming, and the least practiced is tree planting and fish farming. The average farm size is about one hectare, so most farmers engage in subsistence

farming, while few are involved in commercial farming. Table 1 shows the distribution of agricultural activities in the district based on household survey.

Table 1 Agricultural activities by households

	Urban		Rural		Total	
	Number	Percent	Number	Percent	Number	Percent
Total households	6,215	100	12,194	100	18,409	100
Households into Agriculture	3,378	54.4	9298	76.3	12,676	68.9
Crop farming	3,111	92.1	8699	93.6	11,810	93.2
Livestock rearing	1,276	37.8	4,795	51.6	6071	47.9
Fish farming	4	0.1	6	0.1	10	0.1
Tree planting	14	0.1	64	0.7	78	0.6

Source: Ghana Statistical Service (GSS), 2014

Table 1.1 shows that 68.9% of households in the district engage in at least one agricultural activity, which accentuates the agrarian nature of the district economy. It also shows that crop farming activities are more predominant in the rural (8,699) than in urban (3,111) communities. Next is livestock farming where 4,795 (51.6%) in the rural and 1,276 (37.8%) in urban areas. Therefore, crop farming and livestock rearing are common in the rural than urban which also explain why the research was conducted in the villages.

The political administration of the district is headed by the District Chief Executive (DCE) who is appointed by the President in accordance with Article 243(1) of the 1992 Constitution. The DCE is, therefore, the chief representative of the central government in the district, who is tasked with performing the day-to-day executive and administrative functions of the district. The DCE is assisted by the District Co-ordinating Director, Presiding Member, 22 elected Assembly Members and other representatives from the central government. To ensure effective local participation, the District has been divided into two Town Councils and six Area Councils. The

Town/Area Councils are further subdivided into Unit Committees that serve as consultative bodies at the grassroots level.

Traditionally, the District is administered and controlled by the Kwahu Traditional Council (KTC) headed by the paramount chief (*Kwahumanhene*). The seat of the paramount chief is in Abene, which is in the District. The paramount chief is assisted by 17 Divisional Chiefs, of whom nine are in the district (KED). During *Akwasidea*³, the Kwahu overlord sits in council with the divisional chiefs to take vital decisions and settle chieftaincy disputes as well as conflicts between individuals. Other functions of the traditional authority include initiation of developmental projects, protecting their subjects, linking the people and the central government, and serving as custodians of lands. The three study villages (Hweehwee, Oboyan, and Dwerebease) are ruled by sub-chiefs who owe allegiance to the *Kwahumanhene*. These sub-chiefs, in turn, have elders at the village level who assist them in the governance of the villages. Even though the traditional authority is not as effective as in the pre-colonial and colonial eras, they are still relevant. Therefore, the modern political authorities need to collaborate with the traditional authorities in the district to ensure efficient administration and development of the district.

2.3 Land tenure system in Ghana and the study area

Land tenure is the system of rights and institutions that govern access to and use of land and its attendant resources (Maxwell and Wiebe 1999). Before the advent of the British (colonial rulers), land administration in Ghana was different from countries where written laws and other documents were central in determining land ownership. Communal ownership of land was practiced, while individual ownership was alien to the culture of Ghanaians. Thus, ownership of vast lands by private individuals for commercial purpose hardly existed. Communal land ownership was regulated through customary laws, which comprises norms, traditions, and customs (unwritten); therefore, the system was flexible (Agbosu et al. 2007). Also, lands were regarded as sacred property by communities, because it served as a link between the living, the dead and the unborn generations. The onus was on the living to protect all lands for the unborn

³ *Akwasidea* is a festival celebrated every six weeks and is always done on Sundays.

generation, and according to traditional beliefs, they would incur the wrath of the dead if they failed in performing that responsibility. This kind of ownership is placed under customary laws but varies from one community to another (Agbosu et al. 2007).

Under the customary law in Ghana, three types of land rights exist, namely: allodial title, usufruct or customary law freehold, and tenancy rights through leasehold. The allodial title is the highest interest in land and is vested in a chief, traditional ruler or *tindana* (earth priest), who serves as the custodian of the lands for the community (Kasanga and Kotey 2001). Therefore, the allodial right to land rests in the hands of the community members, and it is the superior traditional land right from which all other land rights are derived. Next, usufruct or customary law freehold right refers to the rights of individuals or groups of people who are members of a community to hold lands based on the allodial right. Under the customary laws, usufruct right is a recognized estate transferrable from one generation to another (Agbosu et al. 2007).

Immigrants and migrants are also able to secure rights to land use through tenancy agreement such as share-cropping. Individuals with usufruct right can lease their lands to aliens/migrants, but since usufruct right is derived from allodial right, the migrant/alien is obliged to first seek the permission of the chief or earth priest of the community before entering any agreement with the landholder (Kasanga and Kotey 2001). Nevertheless, indigenes' right to land is more secure than that of immigrants.

During the pre-colonial era, land disputes or conflict over land use was minimal, as there was less competition over land use and less land grabbing. This was due to abundant lands with small population size, and the allodial right made all community members co-owners of communal lands (Agbosu et al. 2007). Also, land disputes were uncommon because the land was valuable to the community for its cultural and religious significance apart from its economic and cultivation purpose.

The arrival of Europeans, especially the British colonial rulers, brought about a significant transformation in land tenure administration under the customary laws of the Gold Coast. Through the Legislative and Judicial Councils, the colonial government established a new land tenure system based on English law, while maintaining some parts of the customary land tenure system. The primary intention behind it was to vest most lands in the state and give the state the final authority to settle all land disputes (Agbosu et al. 2007). This transformation by the

Europeans was based on the idea that customary land tenure system caused tenure insecurity, since it did not support absolute individual ownership of land, which the colonial rulers saw as conducive for efficient utilization of land for commercial purposes.

When the colonial administration was instituted, the British attempted to implement the Crown Lands Bill of 1894 and 1897 in Southern Ghana, but this was fiercely opposed by the people, especially the elite. These bills sought to transfer all unoccupied or ‘waste’ lands to the colonial government to manage and control (Nti 2013).

Moreover, the British colonial government (1850–1957) introduced two main policies for accessing land in the southern and northern parts Ghana (previously Gold Coast). In the south, where the colony and the Ashanti Kingdom were located, the policy was compulsory acquisition with compensation, while in the northern part of Ghana, which was regarded as protectorate region, the plan adopted was compulsory acquisition without compensation. It was therefore in the South that chiefs, elites and opinion leaders vehemently opposed the obnoxious Land Bills of 1894 and 1897, and the colonial government consequently withdrew them.

Under the Northern Territories Ordinance (Cap III) 1902, all the lands of the northern protectorate (today comprises of Northern, Upper West and Upper East Regions), whether occupied or not, were put under the control and subjection to the disposition of the Governor to be held and administered for common use and benefit, direct or indirect, of the indigenous population. This policy effectively nationalized all northern lands and gave the colonial administration unfettered access to lands (Kasanga 2002; Larbi et al. 2004). A notice with the inscription ‘taken for government’ was sufficient to vest the land in the crown and to extinguish all existing rights. Nevertheless, Kasanga (2002) has argued that due to the high level of illiteracy among the northern communities, they were ignorant about the new English land laws and therefore continued to adhere to the customary land laws known to them. After independence, Article 257 (3) and (4)⁴ of Ghana’s 1992 Constitution reversed this action by the

⁴ **Article 257 (3)** reads: For the avoidance of doubt, it is hereby declared that all lands in the Northern, Upper East and Upper West Regions of Ghana which immediately before the coming into force of this constitution were vested in the Government of Ghana are not public lands within the meaning of clauses (1) and (2) of this article.

Article 257 (4) reads: Subject to the provisions of this Constitution, all lands referred to in clause (3) of this article shall vest in any person who was the owner of the land before vesting, or in the appropriate skin without further assurance than this clause.

colonial government by re-vesting all Public lands in the rightful owners. In conclusion, the land policy used in the south was more flexible, while the plan adopted in the north was rigid due to the colonial goal of nationalizing those lands to enable complete state takeover.

Under the 1992 Constitution, three distinct land tenure systems are recognized. These are public lands, stool lands, and private freehold lands. Public lands are those which the state has acquired through laid-down procedures and negotiations with the custodians of the lands (chiefs/earth priest) for public use. Stool lands are those held collectively by traditional communities mainly for subsistence cultivation and another communal purpose. Stool lands are held in trust by chiefs and family heads (*abusua payin*). It is estimated that about 80% of all lands in Ghana are under the authority of chiefs or earth priest (*tendana*) and it includes family lands. The remaining 20% are the public lands (Ministry of Lands & Forestry 2003:12). Article 267 (1) of the 1992 Constitution stipulates that all stool lands in Ghana shall be vested in the appropriate stool on behalf of and in trust for the subjects of the stool. With the introduction of elements of English land tenure system during the colonial era, private ownership of land is now recognized by national laws. Individuals can, therefore, own a land through usufruct right, lease, gift and other acceptable ways. This ownership right also covers migrants or non-Ghanaians but is limited by Article 266 (1), which bars non-citizens from having a freehold interest in any land in Ghana.

In the study area (villages), most of the lands cultivated by farmers, used as grazing lands and other purposes, are under the control of *Kwahumanhene* (the paramount chief); at the village level, it is controlled by sub-chiefs and family heads. Various ways of acquiring land exist in the study area but basically, the allocation of lands to indigenes is through the matrilineal leadership, and the same applies to the inheritance of lands. The autochthonous residents (or natives) because their ancestors were the first settlers in these villages hold usufruct land rights which grant them access to lands for cultivation, grazing, building and other purposes. Therefore, native farmers cultivate inherited family lands after the prior approval of the family head. On average, most of the farmers have two or more farmlands, which are scattered at different locations with sizes ranging between 1 to 3 acres (0.4 to 1.2 hectares)⁵. Some migrants or strangers have

⁵ A hectare is a metric unit of area primarily used for the measurement of land. It equals 10,000 square metres or 2.47 acres. Thus, 1 hectare = 2.47 acres. Acre is a measure of land area commonly used in USA, UK, Australia and Canada that equals about 4047 square metres or 0.4047 hectares (klein 2012).

secured land rights through marriage, gifts from usufruct right holders (indigenes), leasehold or share-cropping. The rent or lease agreement can be between a landowner who holds usufruct rights or a chief and a tenant, whereby the tenant (farmer/herder) pays the owner with an agreed amount or harvested crops, or cattle in the case of a herder. In recent times, some native land users also rent farmlands because herders or others have encroached arable lands that are far from their abode. The agreed amount is between \$50-\$60 per acre for one year, which can be reviewed by the landowner when the time is due for renewal, especially when demand is high (Personal Interview 2017).

Strangers (foreigners) can secure land for agriculture purpose through lease or sharecropping, whereby there is an agreement between the landowner and the tenant (farmer). Two significant sharecropping types exist in the study area namely; *abunu* and *abusa*. The *abunu* is where the landowner leases the land to a farmer/tenant and the crop harvested is equally shared between them; under *abusa*, one-third of the farm produce goes to the landlord and two-thirds to the farmer.

The system has created a noble–vassal relationship, as existed under feudalism in the European Middle Ages, which was characterized by social injustice since the vassals had no rights. The uncertainty of the tenancy duration does not encourage the tenant farmers to engage in mechanized farming but rather small-scale farming for subsistence and marketing the excess (Alhassan 2006). However, Blocher (2006) contends that the sharecropping system is now reliable and secured because in most communities the agreement between landlords and tenants are formalized (written down) and enforced at the local courts if any party breaches the contract. Moreover, the system helps to reduce risk since the landlord, and tenant farmer share both losses/gains and can also boost productivity when the right tenant is hired, and continued warm relationships are maintained for longer periods (Blocher 2006).

Regarding Fulani herders, early settlers in the study area also got access to land for cattle grazing through tenancy agreement between five Fulani herdsmen and the late paramount chief of Kwahu, Daasebre Akuamoah Boateng II (Abene Consensus Report 2013: Appendix 1). Other herders got access to land through contact with the first settlers, and herders who were hired by local cattle owners depended on them for pasture lands.

In conclusion, Ghana's land tenure system is now characterized by legal pluralism, where customary and statutory land laws operate side by side with multiple bodies having the authority over land rights and the mandate to settle land disputes (Lavingne-Delville 1998 cited in Agbosu et al. 2007). Nevertheless, there is a process of continuous revision of the land tenure system in Ghana and elsewhere due to dynamism in societies, which includes demographic change, industrialization, land grabbing, monetarization of lands and fragile customary institutions in many communities because of modernization (Kasanga 2001; Knapman et al. 2017). In the study villages, customary land system prevails over statutory land laws therefore sharecropping, renting by landlords, using family lands and leasing are the common and known ways of getting access to land.

2.4 History of Fulani migration to Ghana

The advent of Fulani herders to the pasturelands of present-day Ghana can be traced to the 20th century (Oppong 2002). According to Tonah (2006), they first settled in the northern part of the country with most of them migrating from Burkina Faso, Niger, Mali and other Sahelian areas. The first census conducted in Gold Coast (now Ghana) in 1911 captured some Fulanis in the country. In Lawra-Tumu District, for instance, the Fulani population in 1911 census was 100. This number increased to 300 in 1921 census and then to 784 in the 1931 census (Tonah 2005:15). At the national level, their population increased from 5,500 in the 1950 census to 25,000 in the 1960 census with most of them residing in the northern part of the country (Hill 1970 cited in Tonah 2006:156). Despite these figures, the exact number of Fulanis in Ghana remains unknown since the nature of their activities make it difficult for all to be counted during census. The increase in the population of Fulanis especially the herdsmen in Ghana can be attributed to four factors. First, the availability of abundant greener vegetation for grazing. Secondly, they moved to Ghana in the early 1960s due to the government's policy to meet the demand for meat (food) in the country, especially in the urban centres where domestic livestock production has decreased (Tonah 2003). Thirdly, the colonial government's policy to develop local livestock sector and animal husbandry methods required the use of herders with expertise. Therefore, Fulani herders were encouraged to settle in savanna areas of northern Ghana due to their special knowledge in keeping livestock and they were also motivated to come because of

the job opportunities (Tonah 2002). Lastly, the persistent drought that happened in the Sahelian region of West Africa between 1960s and 1970s forced most herders to flee the region to the south, including Ghana, in search of fodders and water for their animals (Tonah 2005).

Before the advent of the Fulani herdsmen, the herding occupation in Ghana was the preserve of Ghanaian children between the ages of 5 to 15 years, who were either hired by cattle owners or who herded animals that belonged to their families (Abubakari et al. 2014). This was a common practice among three ethnic groups, the Tallensi and the Dagomba in northern Ghana and in the south (Oppong 2002). These local herd boys were trained to protect themselves and the animals from predators and cattle rustlers with the use of clubs, machetes and bows and arrows when they move the animals for grazing (Abubakari et al. 2014). After Ghana's independence in 1957, the government introduced a policy of free education in northern Ghana, which encouraged most parents to send their children to school. The policy resulted in a drastic reduction of the number of local boys available for herding. According to Tonah (2002), the Fulani pastoralists were therefore encouraged by the government to settle in Ghana to sustain and improve the livestock industry based on their exceptional expertise in herding.

Fulani pastoralists entered the southern part of Ghana in the early 1990s particularly Eastern and Ashanti regions (Tonah 2005:16). According to Tonah (2005) most of them settled at forest zone of Agogo and Kwahu Afram Plains during the same period. Some migrated to the Kwahu East District due to the availability of pastures in the area and settled with the help of indigenous cattle owners and chiefs. The exact number of the Fulani ethnic group in the district is unknown since the recent Population, and Housing Census conducted in 2010 did not capture Fulani herdsmen due to their frequent movement (GSS 2014). In recent times, some herders expelled from the Agogo area are reported to have relocated to the Kwahu East District, which was made easier due to a through-way that links the two places (Onyemso to Dwerebease) and the availability of pastures.⁶

Fulani ethnic group in the Kwahu area have established a traditional political system (chieftaincy) with a chief and his elders selected on the basis of their customs and traditions. Their functions include: helping herders to secure pasturelands legally, protecting their members,

⁶ Modern Ghana.com (5 February 2016). Kwahu chiefs angry. Retrieved from: <https://www.modernghana.com/news/673067/kwahu-chiefs-angry.html>. (Accessed on 19/11/2016)

and serving as a link between the Fulanis and traditional authorities in their various host villages/communities. Moreover, most of the Fulani herders in the district are registered members of the Ghana National Association of Cattle Farmers (GNACAF) which, according to their Public Relations Officer was formed because of the frequent conflict between crop farmers and Fulani herders in the Ashanti, Brong-Ahafo and Eastern Regions (Field work 2017).

2.5 Violence in Ghana after independence

Ghana is seen and ranked as one of the most peaceful countries in sub-Saharan Africa⁷ Global Peace Index (GPI) 2016) even though it is surrounded by countries with frequent conflict and violent clashes. The country has also been touted as a beacon of Africa's democracy because since 1990 it has witnessed three successful and peaceful transitions from one democratically elected government to another accepted both domestically and internationally. The country therefore continues to maintain enviable political stability as compared to neighbouring countries such as Togo, Cote d'Ivoire and Nigeria. Ghana also contributed towards the establishment of regional bodies such as the ECOWAS, AU and has also been an active member of the UN.

Nevertheless, the country has not been free from conflict and violent clashes after independence in 1957. There are records of conflicts and violent confrontations in Ghana (Tsikata & Seini 2004), but the difference is that it is arguably on a small scale as compared to similar cases in other countries like Nigeria. Conflicts and violent clashes in Ghana could be linked to political, social, religion, ethnicity and natural resources as being the sources (Tsikata & Seini 2004).

Political violence that erupted were normally triggered by political demonstrations, clashes between party foot soldiers and military coup d'états. For instance, the 'Kume Preko'⁸ demonstration that was staged in 1995 by the opposition pressure group against the Rawlings regime, specifically the VAT policy, resulted in a bloody clash where four people died and several were injured (Langdon 2009; Aye 1997). A recent clash happened between foot soldiers of the two major political parties (NDC & NPP). Before the 2016 general elections, the foot

⁷ The 2016 Global Peace Index report ranked Ghana as 44th most peaceful country in the world and placed 6th in Sub-Saharan Africa (GPI 2016). The rankings are done yearly to show the peaceful nature and environment of states and the world at large.

⁸ 'Kume Preko' literally means kill me now.

soldiers of these two parties organized health walk activities as part of their campaign strategies. Unfortunately on 13th December 2016, they clashed in front of the main opposition leader's residence which resulted in serious fracas and warning shots were fired by some supporters (Myjoyonline.com, 2016)⁹. Also, there have been five coup d'états staged by the military to take over power from elected governments (Tsikata & Seini 2004). The police and personnel from the army combined forces by using guns to topple legitimate governments. The coup makers during their actions physically assaulted some civilians, raped women, killed others and openly trampled upon the rights of most people.

Religiously, there has not been any recorded incident of violence between Christians and Muslims, in contrast to Nigeria, but a religious conflict that has received extensive media attention is that between the Ga Traditionalist and Christian churches in Accra (Tsikata & Seini 2004). Some Christian churches violated the ban on drumming which is a sacred traditional practice observed by the Gas as part of the celebration of their annual Homowo festival (Tsikata & Seini 2004).

Also, ethnicity has been an element of some violent clashes and conflict in Ghana. Ethnic-related conflicts have been confirmed by Tonah (2007) in his book *Ethnicity, Conflict, and Consensus in Ghana*. Tsikata and Seini (2004) also offered a lateral view and argued that the quest to control land and other resources normally ends up in ethnic conflict. Ethnicity has also been the source of some chieftaincy disputes, such as the Dagbon crisis. Examples of ethnic conflicts that have occurred in Ghana include: Nkonya-Alavanyo, Abudus-Andanis, Dagombas and Konkombas and Weija-Oblogo. The Nkonya-Alavanyo ethnic conflict is one of the long-standing feuds which is related to land disputes in the area (Tsikata & Sieni 2004). The conflict still resurfaces because a concrete resolution has not been reached despite a court ruling that the land belongs to the Nkonya people.

Finally, natural resources such as land, water, oil, gold, bauxite, and timber have been the cause of some conflicts in West Africa including Ghana. The reason is that most people in the country depend on natural resources for their livelihood, conflict usually erupts when they grapple to

⁹ Myjoyonline.com (13 November 2016). NDC, NPP clash: Police to investigate allegations. Available at <http://m.myjoyonline.com/marticles/news/ndc-npp-clash-police-to-investigate-allegations->

control and exploit them for economic gains. Such conflicts happen in agrarian communities, between illegal miners (galamsey) and mining companies and Fulani herders and farmers which is the focus of this research. The second quarter of the West Africa Network for Peacebuilding (WANEP) report revealed that the conflict has intensified in Ghana, Nigeria, Burkina Faso and Cote d'Ivoire (WANEP 2016). Per the report, there is high tension in Eastern and Ashanti Regions of Ghana due to Fulani herdsmen and farmers struggles, and the host communities have demanded that the government expel the Fulanis. The protracted conflict between Fulani herdsmen and farmers in Agogo which is linked to competition over arable lands resulted in twelve deaths and sixteen injuries from 2009-2013 (Kusaana & Bukari 2015). In recent times, the skirmishes between the farmers and herders in Kwahu East District resulted in shootings whereby Fulani herdsmen allegedly injured three locals. Due to the timely intervention of the police, the clashes did not escalate into conflict (Modernghana.com 2011)¹⁰.

¹⁰ Modern Ghana (2011). Tension mounts between farmers and murderous Fulani herdsmen. Available at: <https://www.modernghana.com/news/319883/1/tension-mounts-between-farmers-and-murderous-fulan.html>

3. LITERATURE REVIEW

3.1 Conflict, violence and resources

In generic terms, conflict refers to dissension and differences in opinion, fights and grapples among individuals, groups or states. Conflict is part of the social fabric which is arguably intrinsic and inevitable. Therefore, social settings are only complete and meaningful when conflicts exist, because even though it has its disadvantages, but there are merits too (Fisher 2000). Conflict, when it happens, can cause positive changes in government and socio-economic aspects of a society but violent ones are detrimental to the development of communities. After the Cold War, Africa has not been free from conflicts which has been a major contributing factor to underdevelopment within the continent. An example is a conflict in the Great Lakes, the war in Angola, South Sudan conflict and many more. Such conflicts range from the fight against colonialism, coup d'états, ethnic conflicts, natural resource conflicts, civil wars and many more.

Due to the constant dynamics of conflicts, researchers/scholars have different meanings of the term conflict. Whenever new settlements are established, there is a social interaction and further development of conflicts since it's difficult to predict human actions.

In the words of Hocker Wilmot (1985), conflict is the 'interaction of independent people who perceive incompatible goals and interference from each other in achieving goals.' Ron Fisher (1990) also viewed conflict just like Wilmot by defining it as "an incompatibility of goals or values between two or more parties in a relationship combined with attempts to control each other" (Fisher 2000). The incompatibility or difference may exist or may be a delusion with opposing interest being the backdrop. Moreover, the goals might be the same but the approach to achieve the goals might differ which encourages parties to strive and impose their methods to control affairs.

Mmuya & Maundi (2002) also defined conflict as the existence of confrontation or absence of agreement between two or more parties within an organization or society. From this definition, conflict occurs when two or more actors are involved and unable to reach agreement on something or any issue. Therefore it is impossible for conflict to happen in a vacuum. Conflicts, therefore, erupt because of several factors and not a single cause, but one of the reasons may stand out as the primary causal factor. In the words of Ginty and Williams (2009), "conflicts can

have primary causes that take precedence over secondary causes, but the variegated nature of human politics, economics, and society means that a single factor cannot spark conflict in a vacuum.”

It is worth noting that conflict in itself is not violent, but if not managed well and resolved, it has the tendency of assuming a violent nature. Fetherston (2000) argued that the basis of any conflict is interest and such interest requires the application or use of violence for it to be satisfied.

Arguably, violence is sometimes necessary to resolve a conflicting situation since opposing interests are always a big stumbling blocks, which may require force to be eliminated. Violent conflict involves direct physical abuse which often results in severe injuries, lost lives, property, and collapse of communities. Tonah (2006) also explained that violent conflict involves mayhem, the destruction, and killing of persons and livestock, arising from a dispute. Most resource conflicts especially herder–herder conflicts and farmer–herder conflicts nowadays degenerate into physical confrontations and violence. An example is the Konkomba-Fulani pastoralists in Ghana which resulted in the killing of 13 herders, several wounded, cattle rusted and houses and properties belonging to the Fulanis destroyed (Olaniyan 2015).

Moreover, scholars have argued that conflict has different sources and in examining the causes of conflict, Daniel Katz (1965) cited in Fisher (2000) identified three sources: economic conflict, value conflict, and power conflict. According to him, economic conflict erupts or happens because of competition over limited or scarce resources. Groups or individuals get involved in such a conflict with the fundamental objective to gain control over the limited resources through fair or foul means. In the words of Ron Fisher (2000), “each party wants to get the most that it can. Thus the behaviour and emotions of each party are directed towards maximizing its gains.” Land, minerals, water, forest, pastures, and oil are among the scarce resources which can cause economic conflict. Scarcity may cause the economic conflict, due to increased population, unequal distribution of resources, inadequate supply of resources and many more (Percival and Homer-Dixon 1998).

Moreover, value conflict is concerned with the various preferences, principles and ideologies that people have. Conflicts driven by this factor are demonstrated in wars wherein separate parties have sets of beliefs that they assert vehemently. The Cold War which was indirectly fought between US and Soviet Union was due to their economic and political differences. Muslim–

Christian conflict in Nigeria, ethnic conflict, and religious conflicts are all examples of value conflicts.

Lastly, power conflict occurs when the parties involved intend to maximize what influence or power they wield in the social setting. Such a situation can happen among individuals, groups or even nations. Power also permeates through most if not all conflicts since parties in conflict always fight to gain control over the other. In power conflict, the actors struggle ends in victory, defeat or a 'stand-off' whereby the tension between the parties linger on (Fisher 2000). From the above explanations, it can be argued that conflicts are triggered by a combination of sources and it is rare to have a conflict with a single source. For instance, farmer–herder conflict arguably has both economic and power conflict sources. The reason is that farmer–herder conflict involves the fight over arable land for farming or grazing and each party wants to have the power to control and determine the use of scarce lands.

Natural resource conflict occurs when there is a dispute over access to, control over and the use of natural resources. Freshwater, forest, lands, minerals, and pastures are some of the natural resources which individuals and groups battle over. According to Schweithelm et al. (2006), natural resource conflict is when “allocation, management or use of natural resources results in violence, human rights abuses or denial of access to nature to the extent that significantly diminishes human welfare.” Therefore, when individuals whose livelihood depends on natural resources face challenges over access and loses control, they intend to fight back which results in violent conflict. Thompson and Kanaan (2003) cited in Schweithelm et al. (2006) classified natural resource conflicts into Type I and Type II. Type I conflict involves a situation whereby armed conflict is financed or sustained through sale or extra-legal taxation of natural resources. Le Billon (2001) also argued that armed conflicts and natural resources can be related in the sense that resources are integrated into financing armed conflicts. For instance, during the conflict diamonds in Angola and Sierra Leone, rebel groups, the National Union for the Total Independence of Angola (UNITA) and the Revolutionary United Front (RUF) activities were funded by the sale of diamonds (Levy, 2003). The illicit trade of diamonds in these two countries helped to prolong the conflicts since rebels had enough to purchase arms as well as supporting members. Type II conflict occurs due to competition over resources among individuals or

various groups in the society. Such conflict includes pastoralist–pastoralist conflict and farmer–herder conflicts over land and water.

3.2 Land conflict and food security

Wehrmann (2008:9) defined land conflict as a “social fact in which at least two parties are involved, the roots of which are different interests over the property rights to land; the right to use the land, to manage the land, to generate an income from the land, to exclude others from the land, to transfer it and the right to compensation for it”. It implies that even where there is communal land, individuals use the land for different purposes such as pastures, cultivation, building, and reserves et cetera, and the land tenure system also has marginalized some people thereby denying them of land right. McNeish (2010) has argued that resource conflict such as land conflict is not a new phenomenon, especially in Africa where most people depend on land for their survival or livelihood. Wehrmann (2008) grouped land conflicts into two; 1. Land conflict that involves single parties (individuals from the same family or community) such as land inheritance conflict between two families or siblings and dispute over a piece of the plot which is common in the urban centers in Ghana where chiefs sometimes sell land to multiple people. 2. The second is the land conflict that involves two or more groups who have a different use for the land. The first type in most cases is non-violent and easily resolved but the second type usually is violent and results in loss of lives. An example is a conflict between farmers and herders. In other words, the second type can be described as ‘armed conflict’ which involves the use of weapons by parties which can result in injury, death, destruction of property, displacement of people and many more. Werhmann (2008) noted that any land conflicts (violent/non-violent) negatively affect the social, economic and political lives of people. Therefore, he views conflict as dysfunction in every society but Karl Marx (1901) cited in Coser (1957) sees conflict as positive for the society, since it helps to transform the entire social system and result in positive changes.

Farmer–herder conflicts, particularly those that occur in Africa, are presented by some scholars as being driven by environmental scarcity (Homer-Dixon). The primary underlying factor which has made such conflict a recurrent one is that humans that depend on land for livelihood population keep increasing while land remain static thereby causing heavy pressure on the available but limited arable lands (Moritz, 2012). History shows that, countries like Rwanda,

Nigeria, Tanzania, Ghana, Mali and Kenya with such two groups (farmers and herders) have been engaging in violent conflicts. Most of such conflicts have ended up in loss of lives, displacement of people, destruction of property and turning the areas into war zones, since the parties try to grab and control the right to use land (Benjaminsen 2009).

Studies have shown that there is a positive relationship between violent conflict and food insecurity and the reverse has also been presented by some researchers as positive (Brinkman and Hendix 2011). It has been emphasized that violent conflicts, especially resource use conflicts, can have a negative effect on crop and livestock production. The reason being that when violent conflict erupts, it affects farmers' ability to produce, market their surpluses, negatively affecting individuals' ability to access food (UN 1993; Jeanty and Hitzhusen 2006). FAO (2000) also indicated that internal or communal conflicts negatively affect agricultural production and investment in several ways. For instance, violent conflict between farmers and herders may disrupt the supply and distribution of farm inputs such as fertilizers, because the government injects more resources into maintaining peace by cutting down its spending on vaccines for livestock, fertilizers and other agrochemicals for crop farmers. The result is food insecurity due to low yields or no production in conflict areas, leading to higher food prices.

In a study from Uganda, Castagnini & Deininger (2004) concluded that rural households experience small-scale land conflicts with relatives, neighbours, landlords or local governments and that such small conflicts have the tendency to affect their agricultural productivity negatively. They estimated a 5 to 11 percent reduction in crop production due to land conflicts in Uganda. Also, Messer et al. (1998) estimated that during periods of conflict, agrarian production dropped by an average of 12 percent each year.

A recent study in Northern Uganda shows that land conflict results in reduced farm production, causing food insecurity among smallholder farmers who farm for subsistence (Auma 2016). When this happens, food availability and access are negatively affected, and women, children and the aged are the most affected in developing countries such as Uganda, Ghana and Kenya (USAID 2011 cited in Simmons 2013). Brinkman and Hendrik (2011) have argued that refugees and internally displaced people are worst hit by acute food insecurity, whenever there is violent conflict over resource use, for example in the Darfur conflict, which involved herders and sedentary farmers.

When land conflict between farmers and herders turn into violence, there are killings (humans and cattle), others get injured and farm produce are damaged. Also, such violence results in internal displacement and farm labourers migrate from the farming communities to the urban areas for different opportunities and sometimes return after the planting season is over which negatively affect farm activities. Women who remain behind abandon their farms for fear of being attacked by the opposing members (herders). The effect is a reduction in agricultural labour force resulting in food insecurity.

Moreover, Adisa (2012) studied the impact of farmer–herder conflict on agricultural and rural development in Kwara State, Nigeria. His results show that farmers and herders involved in such conflict suffer reduction in income, production death and injury of members. Respondents who were farmers’ income loss was 91%, yield loss 85% and 23% loss in stored products but herdsman claimed to have suffered losses of 14.3%, which were income, yields, and stored products respectively (Adisa 2012:107). The research shows that even though both parties involved in the conflict suffered losses, comparatively losses were high for farmers and low for herders. Therefore, there may be a shortage of crop produce leading to difficulty in physical availability and access especially for the marginalized group and the outcome will be short/long term food insecurity.

In conclusion, it is imperative to note that land conflict or resource use conflict has a direct or indirect effect on the lives and livelihoods of the actors. They tend to disrupt and threaten the sustainability of agriculture and pastoral production in West Africa including Ghana (Moritz 2010), thereby causing food insecurity.

3.3 Relationship between farmers and herders.

Farming and pastoralism have existed side by side in many West and East African countries and for this reason farmers and herders have been together in most communities. Mostly, herders settle and build their homes in the outskirts of the communities, while the farmers live inside or at the center of the towns (Tonah 2006). Due to the distance and cultural differences, it was difficult for farmers and herders to have the kind of social interaction which is common in most traditional communities in Africa (Tonah 2006). Despite this, an interdependent relationship has

been built between the two groups named as host–stranger relationship, where in most cases farmers are the host and herders are the strangers, since they often migrate to where there are enough pastures to feed their stock (Tonah 2006; Moritz 2010). The symbiotic relationship starts with mutual co-operation and benefits which include exchange of cow milk for vegetables and then later land/cattle exchange. Moritz (2010) argued that this host–stranger relationship is a good preparation ground to integrate migrant/transhumant herders into farming communities with fewer challenges to boost livestock rearing while supporting crop farming as well. Tonah (2003) stated that Ivory Coast government in the early 1960s adopted the policy of integrating Fulani herders which help them to boost beef production and solve farmer–herder conflict to some extent as there were still pockets of conflict between the two groups. Tonah (2003:96) further reveals that from 1950 till the end of 1960, the relationship between farmers and Fulani herders in Ghana and Ivory Coast was characterized by co-operation and mutual economic benefits. Fulani herders were hired by local farmers to herd their cattle, and sometimes herders with their cattle sell to locals during special occasions such as naming ceremony, marriage or festivals. Moreover, Fulani herders use their animals to plough and manure farmlands for farmers while the cattle feed on crop residues. Tonah (2006) also shows that in the Volta Basin in Ghana symbiotic relationship existed between the two groups.

Unfortunately, the interdependent relationship between farmers and herders in Ghana has been marred by frequent violent clashes since mid-1970 (Tonah 2003:96). One element is that hired Fulani herders were accused of stealing the cattle under their care, when they reported that the cattle went missing or were attacked by predators in the bush. Crop destruction by cattle also led farmers to physically attack cattle and kill, them which often results in violent clashes between the two groups, thereby destroying their warm relationship. Moritz (2010) also identified that farmers encroaching on grazing route and lands due to increased population as contributing to the breakdown of the symbiotic relationship.

In conclusion, the literature reviewed shows that the cordial and peaceful relationship has transformed to a conflict relation linked to competition over land, cattle rustling, crop destruction, cases of robbery, cases of rape, destruction of property among others.

3.4. Review of farmer–herder conflict in some African countries.

A case study conducted by Benjaminsen et al. (2009) in Kilosa District, Tanzania focused on the political ecology of farmer–herder conflict. The researchers argue that the issue should not be limited to resource scarcity but that other historical and political factors must be included in the analysis to completely understand such conflicts. The researchers acknowledged that competition over scarce resources sparked such conflicts but concluded that two key factors fueled the violent conflict between the groups.

First, Tanzania policies changed to favour agricultural production and marginalize pastoralism by making access to pastures and water difficult for herders. Also, the government established ‘pastoral villages’ to facilitate the practice of sedentary instead of mobile pastoralism. Apart from that, pastoralists argued that farmers encroached on the wetlands (in Twatwatwa village) they use for pastures during the dry season while farmers contended that herders allowed their animals to feed on their farms.

Secondly, corruption on the part of government officials and other stakeholders played a role. Local government officials, security personnel, and judges who could solve the conflict are easily bribed by pastoralists and cattle owners to be on their side. This has resulted in the loss of trust in such officials, leading actors involved in the conflict to employ force or violence to secure their interest or address their concerns (Benjaminsen et al. 2009). In similar research conducted in the Niger Delta of Mali, the researchers found that agricultural modernization policy has resulted in the marginalization of pastoralists and corruption was an impediment for government officials to resolve the conflict between farmers and herders (Benjaminsen and Ba 2009; Benjaminsen et al. 2012).

Abbass (2014) showed that farmer–herder conflict in Northern Nigeria is widespread and on the rise. The conflict erupts mainly because of competition over natural resources, especially water and land along the plains that have enough water during the dry season. Population increase has resulted in high demand for food and therefore crop production has been expanded by the encroachment of grazing lands or routes. According to Abbass (2014:337) a Ministry of Agriculture report from 2009 pointed out that 4,125 grazing reserves exist in Nigeria, but only one third is being utilized by pastoralists while 270 have been converted into farming areas.

Abbass (2014) concluded that the lack of pastoralist rights to own land, the continuous farming throughout the year along fertile floodplains and river valleys, and failure of security personnel and the justice system to resolve the conflict have all contributed to the escalation of the conflict.

Moreover, other studies have identified that one major cause of farmer–herder conflict is crop destruction (Okoli & Atelhe 2014; Ofuoku & Isife 2009; Tonah 2006). Okoli & Atelhe in the study showed that farmer–herder conflict in Nasarawa State, Nigeria mostly occur due to crop destruction. They explained that when crops are damaged by cattle, farmers harbour hatred about herders which later result in attacks and counter-attacks. This supports the findings of Turner et al. (2006) in Agro-pastoral zone in Niger.

Finally, Okoli & Atelhe (2014:85) posited that in Nasarawa State, Nigeria conflicts between herders and farmers have created ‘tense and volatile inter-group relations among various groups’. This has resulted in killing of 130 herders and farmers from 2011 to 2013 (Okoli & Atelhe 2014:84). Ofuoku & Isife (2009:39) explain that in Delta State when there is cattle rustling, the thieves caught by herders are killed which causes host communities to revenge.

3.4.1 Cases of farmer–herder conflict in Ghana.

Dary et al. (2017) studied triggers of farmer–herder conflicts in the Upper West Region of Ghana, using qualitative methods to collect data and non-parametric statistical techniques in their analysis. The study revealed that there are 14 triggers of farmer-herder conflict which include: destruction of crops by cattle, competition over water and scarce land, false accusations against Fulani herdsmen and vice-versa, and farming on cattle routes. Among all the fourteen triggers, destruction of crops in storage and on farms was ranked as the key causal factor of farmer-herder conflict in the area (Dary et al. 2017). They show that there is only one planting season per year and the conflict has resulted in the loss of investments, reduced income, destruction of crops, lower cattle and milk production. In effect, the conflict has worsened food security for farmers, herders, and non-farmers. They recommended that the opinions, efforts, and cooperation of all stakeholders including the marginalized group(s) must be involved in conflict resolution measures and policies geared towards ending such conflicts over land use.

Ayee et al. (2004) studied a dispute between natives and migrants, herders and farmers and chiefs and settlers in Kwahu Afram Plains. The conflict centers on access to land, land ownership and pasture for herders. They argue that that in Ekyem Amanfrom (a village in the district), the main reasons for the dispute over land were discriminatory and unfair conditions governing land acquisition, land use problems and illegal or unregulated activities of pastoralists. They cite an example of a man was shot dead by a herdsman over a land dispute in the Ewe community in 2002 (Ayee et al. 2004). According to Ayee et al. (2004,) traditional rulers get enormous benefits when they issue out lands to herdsman rather than farmers, therefore more lands are given to herders and more support for their activities. Traditional rulers' support and engagement with herdsman has also been documented by Olaniyan et al. (2015) in Agogo and by Tonah (2006) in the Volta Basin.

Tonah (2006) shows that conflict over land in the Volta Basin exists despite abundant land and low population in the area. Chiefs and landowners lease out vast and arable lands to Fulani cattle owners at the expense of smallholders. The reason is that herders and cattle owners can make high payments of two or more cattle to chiefs, whereas farmers are unable to pay so large amounts and in some cases, nothing. The youth groups who are into farming are also unable to compete with Fulani herders, due to the latter's ability to pay high rent. Therefore, the youth engage herders in a conflict, which result in violence including the death of a herder and destruction of crops and property in May 2000 (Tonah 2006). Again, Tonah (2006) indicated that the enormous benefits chiefs and landowners get from Fulani herders has resulted in fierce competition between them with regards to hosting migrant Fulani herders. What sparks the conflict yearly is the usage of the basin during dry seasons. This results in clashes with herders when farms are turned into cattle pathways and farmers accusing herders of allowing their animals to enter farms and destroy crops.

Lastly, Bukari (2017) found that recurrent land conflict in Agogo mostly occurs between farmers and Fulani herders and he argues that there are three reasons for this: Firstly, farmers claim that Fulani herdsman are strangers and therefore do not have rights to own lands, especially communal lands. Therefore, any Fulani cattle owner who acquires land or is seen using land is perceived as unlawful by autochthonous, which results in attacks on them and counter-attacks by Fulani herders. Secondly, there is frequent seizure of grazing lands by local farmers for

expansion of agriculture activities especially commercial farming, even if the Fulani herder acquired the land legally thereby resulting in insecurity for them. Since they have paid for the leasing of the land, it often results in conflicts. Also, cattle rustling, killing cattle and raping of women in Agogo were identified as among the causes of the frequent violent clashes between the two groups. In 2003, the wife of a farmer was raped in his presence by a Fulani herder at gunpoint around Kwame Danso in Asante Akyem District, which infuriated residents in the area for them to retaliate (ModernGhana.com 2003)¹¹. Lastly, Bukari (2017) found that most lands acquired by Fulanis for their activities are through informal means and their failure to register the lands to formalize the process after the acquisition is part of causes of land conflict between farmers and herders. He recommended that there should be proper common property management in communities and that a bottom-up approach should be adopted in resolving such conflicts instead of a top-down approach (Bukari 2017).

3.4.2 Consequences of farmer–herder conflict in Ghana

The socio-economic effects of farmer–herder conflict is mostly adverse and range from loss of lives, properties, reduced production, displacement of people, school dropouts among others. The ramifications of the conflict can be grouped into humanitarian, economic, social and security consequences.

First, the conflict results in humanitarian consequences such as loss of lives injuries and forced displacements. Studies have revealed that farmer–herder conflict recently involves physical force and violence. This often ends in death and severe injuries. For instance, the conflict between Konkomba and Fulani herders in Gushiegu, Ghana left thirteen herders dead and eleven injured (Olaniyan 2015:335; Abubakari & Longi 2014:103). Also, the findings of Bukari (2017) indicated that since 2001, forty farmers from Agogo have lost their lives due to the violent clashes between farmers and herders. The conflict in some cases results in the destruction of properties including houses which renders affected individuals and families homeless. A typical example is that after the Konkomba¹² and herders conflict, herders who survived were made

¹¹ ModernGhana.com (16 January 2003). Woman, 40, raped by Fulani herdsman. Available at: <https://www.modernghana.com/news/30043/1/woman-40-raped-by-fulani-herdsman.html> (Accessed on 10/4/2017).

¹² Konkomba is an ethnic group in the Northern part of Ghana.

homeless, so the government (local authority) had to move them to the Disable Resource Centre in Gushiegu (Olaniyan 2015).

Regarding social consequences, Tonah (2006) argued that resource-use conflict creates tension and bad blood between users such as farmers and herders in the Volta basin of Ghana. Tonah (2006) further explained that herders and farmers see themselves as enemies since they struggle over control and use of resources for their livelihood. The tension often increases when the government tries to use force to evict herders to the advantage of farmers. This finding is consistent with the research conducted by Okoli & Atelhe (2014) in Nigeria.

Moreover, the economic impacts of farmer–herder conflicts in Ghana is well documented by studies (Bukari 2017; Mensah et al. 2016; Abubakari & Longi 2014; Tonah 2006). The economic effects normally suffered by farmers include damage to farmlands and harvested crops at the farm gate. Nevertheless, cattle are also killed through physical attacks or poisoning by farmers as revenge (Mensah et al. 2016). Destruction of crops and killing of cattle result in low production which affects the income of both parties thereby threatening their source of livelihood and food security. Tonah (2006:169) also added that such conflicts have a negative impact on agricultural production such that, farmers find it difficult to hire cattle for ploughing, pay for farm preparation and weeding of farmlands and to transport harvested crops to the market. The reason is that the low income they receive because of crop destruction affects their creditworthiness. Mensah et al. (2016:47) added that female traders are even compelled to hire private security at the cost of GHC 250 (US\$67) per day for protection against being killed or attacked by herders. This extra cost is transferred to the customers thereby making foodstuffs expensive for urban dwellers. It implies that access to food will be threatened especially for the poor in an urban center as most of them depend on food sold in markets.

Finally, the conflict also threatens the peace and security of the people or host communities where such conflict is a recurrent phenomenon. In Agogo, there are has been several agitations, protests, and demonstrations organized by the youth and local farmers against traditional and local government authorities because they believe that Fulani herders are still in their communities due to the support of traditional authorities and some local government officials. Demonstrators sometimes clash with security personnel which results in disturbances. (Graphiconline.com 2015: Olaniyan et al. 2015).

3.5 Ghana's policy on farmer–herder conflict.

After skimming through most literature, there seem to be no specific Acts of Parliament that details how pastoralism should be regulated in Ghana. The Ghana Livestock Development Policy and Strategy¹³ for 2016 till 2027 did not include policies, laws, and regulation towards finding a lasting solution to this recurrent conflict. The policy barely talks about a new method of grazing to replace the open grazing method used to raise cattle in Ghana. In contrast, countries like Mali, Chad, Niger, and Mauritius have enacted pastoral laws which regulate livestock mobility, land tenure for pastoralists and others (Dayer 2008). Nevertheless, Ghana complies with the ECOWAS Charter on transhumance and the free movement of persons and goods across borders in West Africa. The Charter ensures that nomads can enjoy grazing rights in Ghana just like other ECOWAS countries, but Kwasi Aning has argued that Ghana government does not adhere to the Charter due to the ill-treatment of Fulani nomads by authorities and citizens (IRIN 2010). On the other hand, Bukari (2017) has stated that it has been difficult for the law enforcement agencies in Ghana to efficiently implement the ECOWAS Charter on transhumance which remains same since 1998 and therefore needs a review that focuses on measures to resolve it or curb the menace

With regards to farmer-herder conflict resolution, the policy that is used mostly is the expulsion policy or Operation Cow leg which seeks to drive all Fulani herders in violent areas away and bar them from returning to the country. In the next topic, I will briefly discuss when and how the policy started in Ghana and whether it has achieved its intended purpose. Some government policies on food security will also be discussed.

3.5.1 The policy of expelling Fulani herders from Ghana.

The policy of expelling immigrants or foreigners from Ghana dates back to the late 1960s when Ghanaians sent several petitions and mounted pressure on the government to deport migrants. For the government to win widespread support and confidence of the masses, the government led by Kofi Abrefa Busia passed the Alien Compliance Order. The 'Order' was meant to deport immigrants especially illegal ones from the country within fourteen days if they fail to secure

¹³ <https://www.scribd.com/document/369347742/Ghana-Livestock-Development-Policy-and-Strategy-Final>

residence permit. The reasons for this action include; (1) the influx of migrants has resulted in economic difficulties (2) employ the increasing unemployed Ghanaian youth and (3) check lawlessness and rising crime rate (Tonah, 2002; Aremu & Ajayi 2014; Olaniyan et al. 2015). The expulsion policy affected migrants especially those from Togo, Burkina Faso, Ivory Coast, Nigeria, among others. In 1983, Nigeria's government also carried out a similar exercise of forceful deportation of foreigners which other countries including Ivory Coast, Senegal, Liberia, Mauritania, Lybia among others followed suit (Tonah 2002:2; Olaniyan 2015:54). According to Tonah (2002), economic crisis and increased crime rate were the two main reasons cited by these governments for their actions.

The policy of expulsion has also been used against Fulani herders with the main reason being the conflict that happens between them and their host communities especially farmers. This strategy has been used by some West African countries such as Ghana, Sierra-Leone, and Senegal to end the conflict or find lasting solutions to it. In Sierra-Leone, Fulani migrants from Guinea were evicted from the country due to economic difficulties and the government of Senegal also executed a similar policy in 1989 because of the violent clashes between Fulani herders and farmers (Tonah 2002).

In Ghana, there have been two nationwide expulsions of Fulani herders organized by both central and local government authorities. The first deportation of Fulani herders happened in 1988 under the PNDC¹⁴ government led by J.J. Rawlings and was carried out in April 1988, but due to the intensity of the conflict, it was extended to 1989 (Tonah 2005). This policy became necessary after several clashes between Fulani herders and their host communities whereby the media and authorities blamed the herders only for the conflicts. They were also accused of destroying farms and the environment (Tonah 2002). The second eviction of Fulani herders which was carried out nationwide happened after ten years and was carried out in 1999 and the exercise was extended until the year 2000 (July 1999 and June 2000) (Tonah 2000; 2005). Before the policy was carried out, there were several reports of farmer–herder clashes by the media in Atebubu, Agogo, Nkoranza Districts among others. They (Fulani herders) were accused of destroying the environment with their activities which include overgrazing, destruction of farmlands, pollution

¹⁴ Provisional National Defence Council (PNDC) overthrew the elected government under Hilla Limann on 31 December 1981 and formed government until 7th January 1993.

of water bodies and others (Tonah 2002). The government then instructed all local authorities to expel all migrant Fulani herders under Operation Cow Leg (OCL) with the chief aim of protecting farmers and natives. Those working for indigenous cattle owners were spared, others had prior knowledge and ran to areas they couldn't be traced, and some were driven out of the country with their cattle (Tonah 2002). Aside these two significant operations, Bukari and Schareika (2015) have indicated that a similar expulsion policy was executed in 2010 and 2015 in Ghana.

The main motive for carrying out this exercise by central and local authorities is to find an end to the conflict between farmers and herders, but the exercise has often not yielded its intended results despite the huge amount government spend on such activity (Tonah 2002; Moritz 2006). The failure of the policy is because landlords, chiefs, indigenous cattle owners, influential people in business, politicians and other locals whose livelihood depends on and benefit from the cattle sector do not endorse expulsion and have been an impediment to the success of the policy (Tonah 2002). Finally, it has become apparent that the use of excessive force by police and military personnel tasked to solve the conflict rather deepens the hatred and struggles between the two actors (Tonah 2002; Mwamfupe 2015). The reason is that the operation has become an annual ritual as the conflict erupts especially in the dry season of every year. For instance, in Agogo, Ghana, there was expulsion on the 26 December 2017 despite several eviction exercises carried out in previous years which implies that the policy has not helped to solve the conflict entirely.

3.5.2 National agriculture policy on food security.

In Ghana, the Ministry of Food and Agriculture is responsible or mandated to initiate and implement policies and programs to ensure constant food security. In recent years, policies towards improving agriculture and ensuring food security have been designed by MoFA, the national government, and other institutions. Some of the policies include; the Ghana Poverty Reduction Strategy (GPRS), the Food and Agriculture Sector Development Policy (FASDEP), the Ghana School Feeding Program (GSFP) and Savannah Accelerated Development Authority (SADA). The GPRS policy was meant to tackle the prevailing poverty situation in the country between 2002 and 2004 (GPRS 1) and from 2006–2009 (GPRS II). The main objective of the policy about agriculture was “to accelerate the modernization of agriculture and ensure its

linkage with industry through the application of science, technology, and innovation” (IMF 2012:9). It is worth noting that in 2002 FASDEP I was also formulated to provide support for modernizing agriculture and making it a tool to ensure rural transformation in line with the goal set for agriculture under the GPRS. However, it was found by poverty and social impact analysis (PSIA) of FASDEP I that it will be difficult to achieve the intended impact on poverty if the policies are used. For this reason, FASDEP II was formulated by the ministry in 2007 with the chief aim of giving equal opportunity to all farmers especially smallholders (MOFA 2007).

In 2005, the Government of Ghana with MOFA, Netherland government, WFP and other partners implemented the Ghana School Feeding Program (GSFP). The program which is still running has three main objectives which are; (1) increase school enrolment and attendance (2) reduce hunger and malnutrition (3) boost local food production. The program ensures that children in basic public schools are served with one local meal prepared from domestic foodstuffs produced by smallholders every school day (ECASARD 2009). The policy was a strategy to achieve food security especially at the household level which agreed with the MDG goal 1 (eradicating poverty and hunger).

Lastly, in 2010 the initiated the Savannah Accelerated Development Authority (SADA), a policy designed to address the existing development gap between the south and northern parts of Ghana. With regards to food security, people in the three northern regions (Northern, Upper East, and Upper West) are food insecure compared to those in the southern part. Due to this, the goal of agriculture under SADA is to modernize agriculture in northern Ghana and make it viable for commercial market (SADA 2016). With modernized farming, farmers will adopt practices such as irrigation, fertilizer application, use of crop varieties, proper planting methods among others. But Darfour and Rosentrater (2016) argued that these modern practices are difficult for smallholders to adopt since it demands high financial muscles.

Despite these policies, a recent report by MoFA (2015) revealed that about 5% of Ghana’s population are still food insecure. Also, a report by the World Food Program (WFP) in 2009 showed that about 453,000 people in Ghana are food insecure with 34% residing in Upper West, 15% in Upper East and 10% in the Northern region. However, food insecurity is low in the southern part of Ghana where 3% of the population in the Greater Accra region are food insecure and only 1% in the Western region (Biederlack and Rivers 2009:14). Food insecurity can be

attributed to high dependence on rain-fed agriculture, inadequate storage facilities during bumper harvest, adverse climate conditions, bushfires, farmer–herder, among others.

4. THEORETICAL APPROACH

A theoretical framework provides a tool for researchers to use in understanding and explaining a phenomenon. In this research, environmental security (eco-violence) and food security theories/concepts will be used to explain and analyse the conflict.

4.1 Environmental security theory

Environmental security is defined as “the freedom from environmental destruction and resource scarcity” (Gleditsch 2001 cited in Van de Giessen 2005). Environmental security theory can be traced to the argument raised by Thomas Malthus in his famous book, *Essay on the Principle of Population* (1798). According to Malthus, the population will grow exponentially, and if unchecked, there would be more pressure on scarce resources which will lead to violence or war. He further argues that food insecurity will be high, as food production cannot match the rapid population growth in the world. Paul Ehrlich expressed similar arguments in his book, *Population Bomb* (1970).

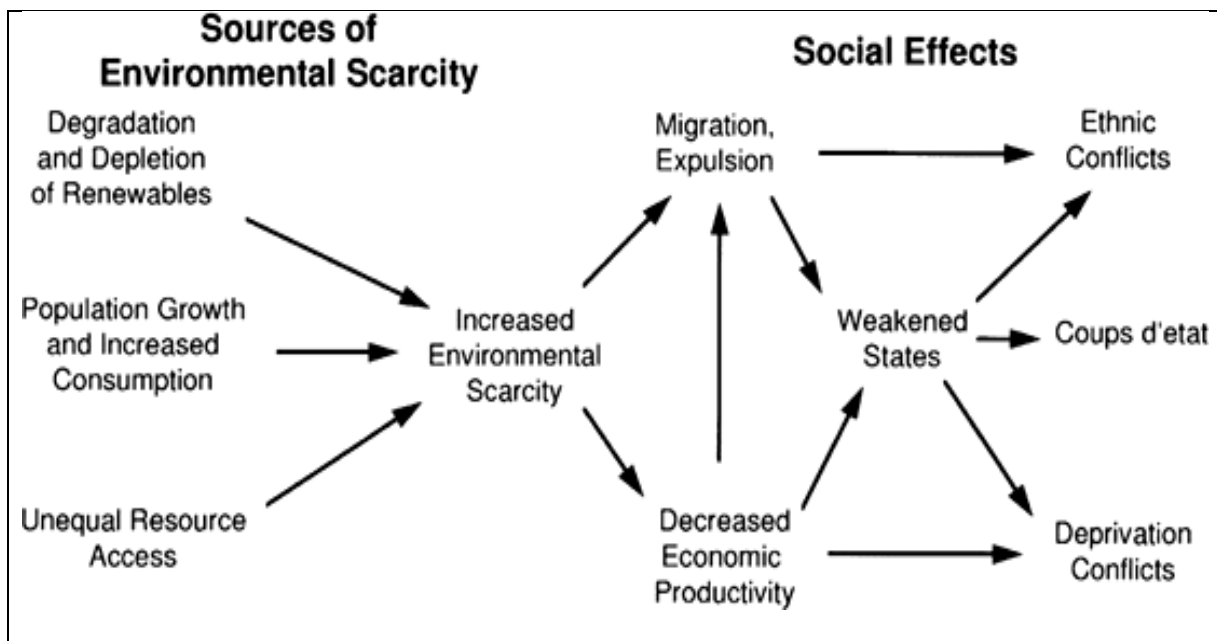
Moreover, Ronnfeldt (1997) has stated that research on the environment and security nexus has been categorized into three generations. The first generation emerged in the early 1980s, and they argued that environmental issues must be considered or included in any security analysis or the concept of security. At the beginning of the 1990s, the second generation emerged as a critique of the work of the first generation. The Toronto Group led by Homer-Dixon conducted the research. Their primary objective was to shift environmental-security researchers from focusing on “conceptual polemic and to base research on firm empirical ground” (Ronnfeldt, 1997). In short, their work was more empirical as compared to the first-generation group, and it was based on case studies to establish the causal links between environmental scarcity and conflict. Lastly, in the mid-1990s, the third generation emerged as a critique of the approach by the Toronto Group’s research including their methodology. They also argued that several dependent variables should be included, if not, problems such as cases of cooperation in environmental-security investigations and inter-state conflict can erupt because of environmental issues (Ronnfeldt, 1997).

According to Homer Dixon, environmental scarcity is about depletion or degradation of renewable resources such as cropland, fresh water, and forest. For this work, I will define it as

shortage or scarcity of farmland and grazing lands. One key influential group in the scarcity debate is the ‘Toronto Group’ under the leadership of Homer-Dixon. Their findings championed the scarcity-conflict argument. They found out that, decreased in quality and quantity of renewable resources, population growth and resource access combine in various ways to produce scarcity of arable land, water supplies, forests, grazing lands and fish stock. Influential people in the community may, therefore, capture and control the scarce resources, resulting in unequal access for the poor and least powerful groups. It can reduce the economic productivity of the affected weaker or poorer group, who may, therefore, be forced to move in search of new arable lands for farming/pastures (Homer-Dixon 1994;1999b).

Those who migrate to new lands may face opposition from the indigenes, which can result in ethnic conflict (since they are seen as aliens), coup d’états or deprivation conflicts (this may happen when groups/individuals draw from a limited pool of resources) (Homer-Dixon 1994). An example is a Sahelian drought in years, which caused the movement of Fulani herders to other West African countries in search of fodder and water for their cattle. The movement/migration resulted in population growth and competition over shrinking natural resources and therefore rampant herder–farmer conflict in most West African countries. The diagram below summarizes the work of the Toronto Group (Figure 4.1).

Figure 2 Summary of environmental scarcity argument



Source: Homer-Dixon, T. (1999b).

Percival and Homer-Dixon (1998) further explained that there are three types of environmental scarcity; supply induced scarcity, demand-induced scarcity and structural scarcity due to unequal distribution of natural resources. Supply-induced scarcity occurs when there is not an adequate supply of resources because of land degradation, depletion, and deforestation. Moreover, demand-induced scarcity arises when population increases, and it does not increase in tandem with natural resources so there will be high demand as against low supply which will result in scarcity. Lastly, structural scarcity happens when the artificial shortage is created by elite or most powerful groups in the society when they anticipate that shortage is inevitable (Homer-Dixon 1994). Using South Africa as a case study, Percival and Homer-Dixon (1998) found out that, the causal factors of South Africa's pre-election conflict were land degradation, water scarcity and high population pressure on resources. In sum, their analysis concentrates on renewable resources that are important for food production such as cropland, freshwater, and forest.

Most countries in Africa notably Sub-Sahara have recorded frequent conflicts after the Cold War, which several scholars, such as Homer-Dixon (1999), have linked it to environmental issues. According to Clinton, former President of the US, 'civil wars in Africa are caused not only by historic conflicts but also by ... deterioration of not only the economy but the environment in which people live' (De Soysa 2002:3). The UNEP (2007) report also attributed the Darfur conflict in Sudan to climate change. According to UNEP (2007), the war broke out due to deforestation, land degradation and drought caused by climate change. The report also asserted that high population growth within the area exerted pressure on the existing natural resources, resulting in land degradation, deforestation, and desertification, which caused the conflict and food insecurity. Therefore the report shows empirically, a consistent relationship between conflicts and environmental resource scarcity in Africa, especially about violent conflict as in this case study.

4.2 Counter-arguments

Despite the environmental scarcity argument that, there is a strong positive relationship between population increase and conflict, it has also been met with sharp criticism from Gleditsch, Levy, Boserup and political ecologists such as Tor Benjaminen. Boserup (2011) also offers a counter-

argument that increased population will instead promote innovation such as irrigation, intensification, better seeds which will translate into efficient use of land. The innovation will lead to higher food production that will match the exponential population increase as oppose to Malthusian view on population growth. Therefore, she argues that population increase will cause changes in technology which will promote agricultural development rather than conflict as expressed by the scarcity theorist. Simply put, her point is that Homer-Dixon and his team overstated their findings since humans can adapt to land and water scarcity.

Nils Petter Gleditsch, a senior researcher at the Peace Research Institute Oslo (PRIO), has also offered a well-known article that criticizes environmental scarcity-conflict argument. Gleditsch (1998) argued that there is lack of clarity over what is meant by “environment conflict,” that environmental security researchers engage in polemics rather than analysis. Gleditsch (1998) further argues that the critical setback of Homer-Dixon’s environment thesis is the focus on only one variable (environmental scarcity) while neglecting political, economic and cultural variables. Levy (1995) also supported this by arguing that, environmental factors combine with different variables to spawn violent conflict and therefore challenging to accept environmental degradation as the independent causal link. Also, Gleditsch (1998) criticized Homer-Dixon for devoting too much time explaining potential violence likely to happen in future without supporting it with empirical evidence.

Moreover, Levy (1995) contends that it is poverty in the South that creates the risk of conflict instead of environmental scarcity. According to Levy (1995), it is:

Difficult to imagine not being able to find conflicts in developing countries involving renewable resources. Developing country elites fight over renewable resources for the same reason that Willy Sutton robbed banks: that is where the money is (Levy 1995:55-57).

Gleditsch (1998) also supported this argument when he stated that poverty might be the cause of environmental conflict since there exists resource scarcity in developed countries but such scarcities do not create violent conflicts. Therefore, Gleditsch and Levy both agree that environmental scarcity cannot be the sole cause of environmental conflict which is arguably the most significant weakness of Homer-Dixon eco-violence theory and that other factors including political economic factors must be also considered.

Also, political ecologists have opposed to the arguments espoused by Homer-Dixon and his team. For instance, Benjaminsen (2008) research on the conflict between the Songhaay rice farmers and Tuareg pastoralists in Mali showed that supply induced scarcity was not the immediate cause even though the 1970s and 1980s droughts played a significant role in the conflict. According to Benjaminsen (2008), pastoralists were marginalized due to government policies favouring modernization and sedentary farming. Also, embezzlement of international drought relief funds by government officials in Bamako fuelled the anger of the youth who mobilized themselves to fight the state. Most of the actors in the conflict were far from the Niger River, and those who depended on lands along the river for their livelihoods never joined the conflict (Benjaminsen 2008). The finding also flawed demand induced conflict expounded by Homer-Dixon (1998) as it did not play an essential role in the conflict.

Moreover, De Bruijn and van Diyk (2005) findings show that in Hayre (Mali) there is high resource scarcity coupled with low rainfall, but farmers and herders hardly engage in violent conflict. They instead cooperate and co-exist than fight over natural resources they use in their activities. It is, therefore, appropriate to ask a question about whether scarcity is the chief cause of increased conflict between farmers and herders. Homer-Dixon (1994) posited that to be able to link scarcity or environmental change to violent conflicts without challenges, one must be able to establish and know the origins of resource scarcity and its consequences before.

Finally, the abundance and conflict perspective scholars have refuted the arguments over scarcity to claim that abundance of resources is rather the cause of civil violence, insurgency, and war. They contended that individuals or groups fight because of the existence of abundant natural resources such as arable lands, diamonds, gold and oil which De Soysa (2002) referred to as 'honey pot.' According to Collier and Hoeffler (2004) 'looting rebels model,' abundant resources will breed conflict because it is an incentive for rebels to loot to maintain their organizations financially because of greed. Conflicts that happen through greed motive are frequent in countries with weak economic growth since such states lack the strength to distribute resources equally and to raise a strong army to counter/suppress the activities of rebels whose goal is to control abundant resources through conflict (Collier and Hoeffler 2004).

In summary, critics of scarcity–conflict nexus believe that in explaining causes of resource conflict, it should not be narrowed to scarcity since there is the high possibility of other

contributing factors. Therefore, a holistic outlook must be adopted in analysing resource-related conflict than using individual/single cause.

4.3 Food Security

The right to food is among the fundamental human rights which are championed by most national governments, regional and international organizations, especially in war-torn areas. Food rights are therefore explicit in Article 25(1) of the Universal Declaration of Human Rights which state that “Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food...” (Assembly 1948). The right to food was intended to ensure food security and the UN ensures that this is achieved through their policies and plans such as MDGs and SDGs. For instance, goal 1 of the MDGs talks about halving hunger in the world and goal 2 of the SDGs also touches on food security.

Food security as a concept cropped up during the world food crisis between 1972-1974 which called for the first World Food Conference (Maxwell and Smith 1992). The meaning of the concept of food security has changed over time since scholars, and other organizations/agencies do not agree on one way of achieving food security. Smith et al. (1993) cited in Maxwell (1996) pointed out that there are nearly 200 hundred different definitions of the concept which has shifted from the Malthusian idea of supply to access by individuals championed by Sen’s work in 1981. When the concept first emerged in 1974, it was defined as “availability at all times of adequate world supplies of basic foodstuffs” (Maxwell 2001 cited in Jarosz 2014). Therefore, the focus then was on availability and adequate supply to meet increasing world population demands. The availability was basically about nations/states producing more food so that supply will even exceed demand for people to have enough to eat.

In the 1980s, there was a shift from focusing on only adequate supply (availability) to involve access when Sen (1981) put forward his *entitlement approach* concept. Sen’s work influenced international organization like FAO, World Bank, and UN to review their definitions to include access to individuals and households. According to Jarosz (2014), the World Bank in 1986 redefined the concept to include ‘*access to enough food at all times for an active and healthy life.*’ Moreover, FAO (1983) defined food security as “Ensuring that all people at all times have

both physical and economic access to the basic food that they need' (Burchi and De Muro 2016). The UN World Food Summit (1996) also stated that “food security exists when all people, at all times have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.”

From the above definitions, much emphasis is placed on access (economic/physical) because, despite abundant food supply, some individuals/group of people are food insecure because they are unable to afford or do not have the means to produce food. The focus was shifted from supplies of enough food to access and from national to individuals and families. This supports the argument of Sen (1981) that starvation is the result of people not having enough access and not about low availability.

4.4. Elements of food security

From the above definitions, it has been accepted that there are four main elements of food security namely: availability, access, utilization, and stability. For this study, I will focus on availability and access. It is worth noting that *access and utilization* highly depend on availability dimension.

4.4.1. Availability of food:

The World Food Programme defines availability as “The amount of food that is present in a country or area through all forms of domestic production, imports, food stocks and food aid’ (WFP 2009). Availability implies the physical presence of food in large quantities for the consumption of a population in a territory. Availability was used as the yardstick for measuring food security in the 1970s which focused on producing/supplying more food at the national/local level (macro) and not an individual or household level (micro). It, therefore, deals with the supply side where agricultural production is increased at the national level to meet demands of the entire population. At the national level, food availability can be realized through increased domestic food production, commercial food imports/exports, and local food store. At the household/individual level, availability is derived from one’s own production or brought from local/nearby markets. However, conflict whether short/long negatively affects food availability. Violent conflicts have the potential of decreasing food production since it distracts the activities

and operations of farming and herding (Simmons 2013). Farmers (especially women), herders and young laborers may abandon agricultural activities for fear of attacks/ death thereby leading to low production which affects food availability. For instance, Rockmore (2012) cited in Simmons (2013) stated that livestock farmers shifted from cattle rearing to small ruminants thereby reducing meat production.

4.4.2. Access to food

Access is another dimension of food security which originated from the idea of Sen (1981) when he put forward his 'Entitlement Approach.' Since then, access (physical/economic) to food has become a central pivot in determining whether individuals/households are food secured or not. According to Simmons (2013), access means that "consumers have both the physical and economic ability to acquire the food they need." Physical access can be realized through one's own production while economic access is dependent on income and prices of food on the market. Therefore, supply or production of enough food is not sufficient to ensure secured food for all households, especially in developing countries. The reason is that despite food aid, importation of food and commercial farming hunger remains a problem especially in Sub-Saharan Africa, Asia and some part of South America. Poverty is named as the cause since the poor are unable to afford food or produce their own due to lack of resources such as land, farm tools and others (Clover 2003). Therefore, national governments and international organizations efforts in tackling hunger should focus on accessibility with regards to individuals and households. Conflict usually affect physical and economic access to food since individuals are unable to harvest food from their farms and income reduces as people are unable to sell on markets due to instability.

4.4.3. Utilization:

The third element of food security is utilization. It means actual consumption of food by individuals: how it is stored, prepared and consumed and the nutritional benefits that individual gains from eating food. There are two types of utilization: physical and biological utilization. Physical utilization is concerned with the ability of a household to have all the physical means to use available food. The physical means includes cooking facilities, family structure, knowledge, cultural regulated feeding hierarchies and many more. Biological utilization is also concerned with the ability of the body to efficiently break down and uses the nutrients once the food is

consumed. This will translate into energy for daily use or stored for future use. Therefore, utilization is the connection between food and nutrition.

4.4.4. Stability:

The fourth dimension of food security is ensuring that availability, access, and utilization remain stable to avoid any temporary or short-term food insecurity. USAID (1992) defined stability as “The ability to access and utilize appropriate levels of nutritious food over time.” In most definitions of food security, there is the presence of “at all times” which implies stability. Therefore, stability cannot be ignored when measuring food security. Stability can be guaranteed when supply is constant to meet demands, access improved and food appropriately utilized by all. However, stability can be affected by natural disasters or through human-made activities. Natural disasters may include; flood, low rainfall due to climate change and earthquake whereas human-made activities include violent conflict, political instability, land degradation, use of harmful chemicals and over-use of farmlands.

4.5. Entitlement approach and food security

Entitlement approach as a theory was propounded by Sen (1981) in his book “Poverty and Famines: An Essay on Entitlements and Deprivation.” Entitlements are defined as “the set of alternative commodity bundles that a person can command in a society using the totality of rights and opportunities that he or she faces” (Sen 1984 cited in Devereux 2001). The entitlement approach has been categorized into three main areas: 1. The endowment set, 2. The entitlement set and 3. The entitlement mapping.

The endowment set is the combination of all those resources owned by a person which is by rules governing the society he/she resides. Thus, the resources must be lawfully acquired. According to Osmani (1993), such resources include tangible (land, cattle, sheep, equipment such as farm tools) and intangible resources (knowledge, skills, labour). The entitlement set refers to all the different types of goods and services that an individual can lawfully acquire with the use of his “endowment set” resources (Osmani 1993; Devereux 2001). For example, a farmer can either sell or lease out his/her land to a pastoralist for money or exchange it with cows. Similarly, a herder can exchange his animal for foodstuffs from crop farmers on the market. It

implies that for an individual to obtain final goods and services, his/her resources can be used for the actual production, exchange or transfer. Lastly, the entitlement mapping or E-mapping refers to how the endowment set resources can be changed into goods and services in the entitlement set bracket. Thus, it is the relationship that exists between endowment set and entitlement set (Osmani 1993).

Amartya Sen's main contribution towards food security was a shift from the Malthusian idea of enough food supply/production (availability) to individuals having the ability to get food (access). He distinguishes between food availability and the relationship that exist between a person and food available. Sen (1981) contended that, an individual's 'ability to command food...depends on the entitlement relations that govern the possession and use of that society.' To him, entitlement to food is based on four main things; food production, trade (purchasing power), own-labour (ability to work for food) and transfer or inheritance of food (Sen 1981 cited in Devereux 2001). Therefore, an individual can have access to food by making use of one or two of the four categories mentioned above. Sen, therefore, opines that; unavailability of food does not result in food insecurity but rather the inability to establish entitlement to command enough food (Sen 1981). Due to Sen's argument, policies and plans in the 1980s towards ensuring food security concentrated on individuals and households instead of the earlier focus on the states.

In conclusion, Sen's work added the element of access to food security since most people starve amidst abundant food supply in their village, community or country. Access is possible through own production, purchasing from the market, exchanging one's labour for food or food aid. These can be distracted if the land is scarce, violent conflict happens, political instability, economic downturn (resulting in poverty) and natural disasters.

5. RESEARCH METHODOLOGY

According to Kothari (2004), research methodology is a systematic approach to solve the research problem. It, therefore, helps the researcher to know and explain the ‘logic behind’ the methods/techniques employed by the researcher (Kothari 2004:8). In this study, qualitative methodology was used, and case study design was appropriate since a specific conflict in some selected communities was the focus of this research.

5.1 Research strategy and design

In this study, I adopted mainly qualitative method. Qualitative research ‘emphasizes words rather than quantification in the collection and analysis of data’ (Bryman 2008:366). It was relevant to use this method since the study deals with social and human behaviour and it has been argued that it is difficult to express and understand some human actions with numbers (Berg and Lune 2012). Moreover, qualitative research regards participants’ perspectives as necessary, which limits the imposition of ideas on participants and contributes to an in-depth study for richer information and understanding of human experience and action (Bryman 2008).

Social research needs design or a structure before data collection and analysis can follow. Therefore, research design is different from the method/strategy by which data are collected. Research design can be understood as a plan that directs how the study is to be conducted. Bryman (2008:31) also argued that research design ‘provides the framework for the collection and analysis of data.’ A case study is one of the five different types of research designs treated by Bryman (2008), and this research is regarded as a case study since it focuses on conflict in specific communities/villages. Yin defined case study as “an empirical inquiry that investigates a contemporary phenomenon in-depth and within its real-world context” (Yin 2017). The case can be about individuals, a family, organizations, institutions or events such as conflict over renewable resources (Yin 2017). Moreover, Bryman (2008:52) reaffirms the fact that case study “entails the detailed and intensive analysis of a specific case.” Therefore, the main reason why case study was used is that it helped to provide all the detailed information I needed and delve deep into the conflict. Case studies are most often associated with qualitative research method where interview is used to gather data. One key drawback of case studies is that it is difficult to generalize the findings of a case study since it is only limited to the population under study. But Yin (2017) has opined that case studies are “generalizable to theoretical propositions and not to

populations or universe.” It implies that case studies are generalizable only when the findings are meant to prove/disprove a theory. Also, Williams (2000) cited in Bryman (2008) contended that research involving case studies could be generalized when the researcher compares his/her findings with other case study research by different scholars. The central theory to prove or disprove is the environmental security theory, and the results will be compared to other similar studies conducted in Agogo and the Northern part of Ghana.

5.2 Methods of data collection

The study employed two main methods of data collection, that is, primary and secondary sources. Nonetheless, the key source of data will be the primary source gathered from respondents through the semi-structured interview (individual and group). The secondary sources of information were also relevant to the study as they helped to complement the primary sources. These include books, magazines, journals, newspapers, unpublished thesis work, internet sources, and others.

5.2.1 Sampling Approach

In doing social science research, it is difficult for the researcher to observe or study the entire population. Therefore, small units of the population are used by the researcher, referred to as sample (Field et al. 2012). Sampling is basically about selecting part of a population to obtain information from them due to time constraint. In qualitative research, sampling is complicated since it mostly deals with the study of the social world. Those who have the chance of being selected from the population for the study constitute the sample frame (Fowler 2009). Population refers to the entire group of people or subjects under study and for this study, they constitute; farmers, Fulani herdsmen, chiefs, youth leaders, cattle owners and others.

Probability and non-probability sampling are the two types of sampling approach where the former is used in quantitative research and the latter used in qualitative research. Convenience sampling which is a type of non-probability sampling was employed to select the sample for this study. This technique allows the researcher to use the most accessible or available subjects for

the study (Bryman 2008), this saves time, money and energy. Non-probability sampling does not employ the random technique of selection since the researcher selects subjects relevant to the study.

I took the sample from three (3) villages in KED where the activities of farmers and Fulani herdsmen have resulted in conflict between them. With qualitative research, the sample size is expected to be small for rich and in-depth investigation to be possible. Some characteristics considered for the sample are farmers, cattle owners, youth leaders, chiefs, Fulani herdsmen, the leadership of Fulani cattle owners, opinion leaders and other individuals affected by the contest. Table 5.1 below shows those interviewed and their numbers.

Table 2 Breakdown of respondents

Respondents	Number
Local government member (Planning officer)	1
MOFA Officials including a veterinary officer	3
Police Officers (DCOP and CID)	2
Youth leaders	2
Traditional leaders	4
Framers	45
Fulani herders and cattle owners	18
Fulani chief of the area	1
GNACAF members	2

Source: Fieldwork, 2017

Apart from the above respondents, 19 households were sampled based on convenience sampling to know the impact of the conflict on food security in households.

The research was carried out wholly in the Kwahu East District due to my familiarity with the area, and the selected villages for the study were; Hweehwee, Oboyan, and Dwerebease.

Moreover, I established contacts with some few indigenes, opinion leaders and the Planning Officer for the district which made access to key stakeholders easier.

5.2.2. Research Interviews

Interview is one of the methods I employed for gathering my primary data which is a common tool for doing qualitative research. Interviews refer to the face-to-face conversation between the researcher and the respondent where the respondent is made to answer some questions. There are three types of interview: unstructured, structured and semi-structured. Semi-structured interview in collecting the information needed for this study.

A semi-structured interview is where the researcher has pre-determined questions (interview guide), but flexibility is allowed in the approach of the interview (Bryman 2008). It implies that the interviewer has the freedom to ask further questions outside the interview guide. One advantage of the semi-structured interview is that it ensures that the researcher asks well-prepared questions in an organized manner (Berg and Lune 2012). Interviews with key informants were conducted on an individual basis which was tape-recorded to get all relevant information secured. Individual or group interview will be used wherever appropriate and necessary for obtaining the needed data for this study. A group interview was also organized for some Fulanis on the 18th February 2017. The group included herdsmen, cattle owners, Vice President and PRO of Ghana National Association of Cattle Farmers (GNACAF). It became necessary because of the activities of the Fulani herdsmen, and a conflict was on-going during the fieldwork. A research assistant (interpreter) was employed because most of the Fulanis could not speak/understand the local dialect in the area. Also at Dwerebease, another group interview was organized for some farmers on the 26th February 2017 with 6 participants.



Figure 3 Fulani leaders and herdsmen after a group interview Source: Author

5.2.3. Data Analysis.

Data analysis is fundamentally about making sense out of the raw data collected which begins with the management of the data, interpretation and presenting it finally (Yin 2003). In doing the analysis, interviews recorded were transcribed and organized into text form. Also, field notes and observations have been reviewed and written well. Moreover, the theories explained under theoretical framework were used to analyse the findings. Table coding approach was employed for sorting and organizing the data into themes to provide a summary of the primary data. The method helped to answer the research questions appropriately.

5.3. Ethics

In relations to *ethical considerations*, a good strategy was adopted in researching to avoid flouting any ethics. Miller et al., (2012) have argued that consent is very critical in doing research and often raises unresolved questions. For this reason, informed consent will be sought to ensure that all participants are briefed on the purpose of the study and the consequences of taking part. The identity of participants will remain anonymous in the work and data collected would be kept confidential for academic purpose only. For this reason, pictures used were those that participants agreed that the researcher could use them. These are necessary to protect the

privacy and rights of individual participants. Also, the confidentiality was essential because conflict issues are very sensitive and can be a dangerous area for both the respondents and the researcher. Caution was also taken to avoid any action that would fuel the conflict. Other ethics that would be adhered to include; being honest, transparent and giving credit to all academic sources that would be used, just to mention but few.

5.4. Plans for security purpose

Since the study area is prone to conflict or violent clashes between farmers and herders, the following security measures were taken before and during the field study to avert any injury and death as well as protection from any unfortunate incident that would happen.

First, I reported to the District Police station in Abetifi when I arrived in the study area, disclosed the purpose for coming to the area and declared my daily activities to the police. The contact for the station and security posts within the study area was given to me to phone them quickly for their assistance when needed.

Also, I arranged for two research assistants who dwell in the district, know the terrain and are abreast with the issues. Informed consent which is one relevance of research ethics was strictly adhered to especially when taking any videos/pictures while observing or conducting interviews to avoid any suspicions and unpleasant confrontations between participants especially the Fulani herdsman.

Lastly, I avoided highly volatile areas and got two persons (Fulani and local person) to accompany me when moving to remote pasture lands and farmlands for observations. It was an advice from the security officers in the area.

5.5. Limitations of the study

There were some challenges I encountered during the fieldwork. First, scholarly works on the two groups (farmers and Fulani herdsman) in Kwahu area is scanty even though there are comprehensive studies about this topical issue in Ghana, the concentration has been on the Northern Region and Ashanti Region respectively.

Moreover, language barrier was a problem since most of the Fulani herdsmen are unable to speak and understand the common local language. For this reason, the service of an interpreter was employed, and this prevented me from getting first-hand information. Also, there is the possibility of distortion in translating the interview into English by the interpreter.

Furthermore, it was difficult to get some of the respondents to interview since they suspected I was a security person trying to gather some evidence because as I mentioned earlier, there was an on-going conflict during my fieldwork. Other important informants were initially reluctant to grant me audience and held some relevant information because they thought I was a journalist working for one of the local radio stations.

Also, getting appointments to have a face-to-face interview with some key stakeholders such as District Planning Officer, District Chief Commander of Police, MOFA Officer and traditional authorities was difficult due to their busy schedules. I was turned down several times which delayed the work.

Lastly, since most of the farmers in the villages are uneducated, they could not give accurate data on annual yields but the farmers stated that if they are able to cultivate several plots of lands then their harvest increase. For this reason, the number of farms a farmer could cultivate was used to determine increase or reduction in production. In future research, a better food security implication may be ascertained by looking at all the indicators of food security and probably using quantitative method. Despite this, the focus of this study was on availability and access of food amidst the conflict which getting the results using qualitative method was good.

6. PRESENTATION AND DISCUSSION OF FINDINGS

This chapter presents the findings of the study along with discussions. The results represent an extensive six-weeks period of field data collection from three villages (Hweehwee, Oboyan, and Dwerebease) in the Kwahu East District (KED), Ghana. These communities are predominantly agrarian, but most of the farmers keep livestock such as sheep and goat. The study villages are places within the KED where violent clashes between farmers and herders often occur. As mentioned earlier, qualitative research methods were employed to gather the data. The findings are based on individual interviews, group interviews, observations and field notes taken. The results will be presented in accordance with the research objectives stated below:

- To understand the relationship between farmers and herders in the area with emphasis on the causes of increased conflict.
- To be able to show and understand the impact of farmer–herder conflict on food security including how different actors perceive this.
- To document and understand the policy and actions by the state in addressing farmer – herder conflict.

Following the above objectives, significant findings include how the Fulani herdsmen came to Kwahu East District, the actors involved in the conflict, the causes of these conflicts and its consequences as gathered from the fieldwork. The chapter discusses empirical results on the relationship between farmers and herders in the study villages and how it affects various aspects of their lives. Keeping in mind the theoretical approach adopted for this study, the chapter shows an analysis of a plausible positive relationship between environmental resource scarcity and conflict, outlining the major factors in the summary.

6.1 Migration of Fulani herdsmen to Kwahu East District

A written document about the migration of Fulani herdsmen to the study villages was not available so this section relied on the account by some chiefs and elders interviewed. Cattle keeping in the study area has been in existence since before colonialism but was not as widespread as in recent times. Only a few wealthy farmers could rear cattle, but the number was only between 5 to 20 cattle per head (Field interview, 2017). The cattle owners as explained by a respondent from Oboyan, were locals who had their kraals at their backyards and hired the

services of local herdsmen, who were mainly migrants from the northern part of Ghana. This corroborates the literature on traditional herding in Ghana before the advent of Fulani pastoralists (Abubakari & Longi 2014). The cattle were mostly fed with grasses cut from the bush, plantain and cassava peels and taken to the bush twice or thrice in a week for more food and for the animals to get medicinal plants to feed on, as they do selective grazing. Since cattle owners were settled in the communities and most of them were also crop farmers, they grazed their cattle in areas where there were no farming activities, which helped to avoid crop destruction. Therefore, nomadism was alien to the people, since cattle were kept like other ruminants, that is goat and sheep. A 58-year-old man who is a resident of Dwerebease narrated that:

He is a native of Sandema and his parents relocated to Onyemso and later to Dwerebease the cattle of one local farmer. As a young boy, I used to accompany my father to the bush to cut grasses for the animals. Also, we [including his siblings] filled buckets with water for the animals. On Wednesdays and Saturdays, we took them for grazing and led them back to the kraals. There was no reported case of farm destructions against us. We never slept in the bush with the animals or took them to graze in the night as it's being done now. (Field interview 2017)

On the other hand, an 80-year-old woman in Hweehwee recounted:

When I was a young lady, sheep and goat were the animals kept by people within the locality. Cattle rearing was uncommon and those who reared cattle were rich and revered in the community. Since their animals were few, they hardly slaughtered them unless there was an important occasion like festivals, marriage ceremonies or naming ceremonies. In fact, cattle were valued like a cocoa farm. The herdsman I knew here was called Bawa from the North.

In short, cattle rearing is not new to the people in the district. One respondent (autochthonous) revealed that by the early 1970s cattle rearing was in the area but was not common. Nevertheless, the findings show that in the early 1990s, Fulani herdsmen came to settle in the study area with their cattle. They were few and established their homesteads in the outskirts of the communities, where there were no farm activities. This was mainly because there were vast unused lands due to the sparse population, but they were family lands and stool lands. This corresponds with the findings by Tonah (2006) that herders usually establish their kraals and houses at the outskirts of

their host communities, making social contact somewhat limited. An informant, a 53-year-old man who is a farmer and a hunter from Oboyan, noted that:

These Fulani herders have been here for more than 20 years now. I quite remember when I got married (26 years ago), I first met one Fulani called Haruna on my way to the farm with my wife. He became my friend, because I often meet him with his cattle in the bush when I go to hunt.

Another respondent said:

When I relocated from Nkwatia to Dwerebease in 1995, these Fulani herdsmen were already here with their cattle. They were only a few, and you could easily identify them, but now their number has increased in this village and they are present in almost all the surrounding villages.

Also, the study revealed that five Fulani cattle owners entered into a tenancy contract with the former paramount chief, Dasabere Akuamoah Boateng (Report by KEDA, 2015, Appendix 1). This contract between the Chief and the Fulanis helped to legitimize their stay within the area and made it easy for their friends, colleagues, and relatives to join them, thereby increasing their number in the study area. This confirms the observation by Olaniyan et al. (2015) that traditional rulers played a crucial role in assisting Fulani herdsmen in settling in the South, including the Afram Plains. They also cited an example of the leasing of land to Alhaji Grusah and other Fulanis by the Agogo Paramount Chief, Nana Akuoku Sarpong, to support their claim. During a field interview in Dwerebease, one farmer said:

These Fulanis are strangers, so how do they get lands? The lands are given to them by higher authorities within the Kwahu traditional area and we [autochthonous] are all afraid to question them. As for the Odikro [village chief] here, I can even confront him if anyone alleges that he has leased out lands to Fulani herders/cattle owners (Field interview, 2017).

A former planning officer of KED recounted that:

On 28 April 2012, the youth from three neighbouring communities (Aboam, Nkwadua, and Demano) demonstrated against the paramountcy in Abene (traditional capital of

Kwahu). Some of them destroyed properties of the Krontihene and the Okyeame [linguist] of the paramount chief. They alleged that the traditional authorities are behind leasing of land to Fulani herdsmen and cattle owners and supporting their activities.

From the above narratives, it can be deduced that the settlement of Fulani herdsmen was made easy by chiefs through leasing of lands to them. This confirms the literature by Tonah (2005) that those who are important to Fulanis are traditional landowners and local government officials.

Moreover, their numbers have increased in recent times because of the easy route from Asante Akyem North District (AAND) through Onyemso to the study area. Many Fulanis have settled in Asante Akyem Agogo because of the contract between four Fulanis (Alhaji Karim Grusah, Alhaji Ali Mamudu, Alhaji Fuseni Hassan and Alhaji Dauda Kassim) and the paramount chief (Olaniyan et al. 2015). The veterinary officer for Dwerebease Area Council stated that whenever conflict ensues between crop farmers and Fulani herders in AAND, they move to Onyemso, Dwerebease and other surrounding villages within the KED. A case in point is that in 2012 when the conflict was high in AAND especially, authorities evacuated them to Onyemso, Abotriansa and Asumesu, which are all surrounding villages to the study communities (Field interview, 2017). One of the herdsmen who live outskirts of Hweehwee said that he first settled at Bebuso village within AAND but due to the nature of the conflict within the area he decided to relocate to Hweehwee in 2010. All these have contributed to the influx of Fulani herdsmen to Dwerebesae, Oboyan, Hweehwee and surrounding villages.

Finally, the fieldwork revealed that the above-discussed movement or migration of Fulani to the study area is because of availability of fresh pastures, water bodies, vast land available for leasing and the absence of tsetse fly that can attack the animals (Interview with veterinary officer, 2017). This corroborates the findings of Tonah, (2005) and Olaniyan (2015) that Fulanis migrated to the southern part of Ghana because of the reasons above.

6.2 Relationship that exists between farmers and herders

The relationship that exists between farmers and herders in the study area can be grouped into two folds; when they first settled in the area and now. When they first settled in the area, the relationship that existed between the two groups was friendly and warm type just like ‘tenant-

landlord' relationship. With regards to a political relationship, they were not allowed to participate in any political activities since they were regarded as 'aliens.' This is acceptable because 1992 Constitution of Ghana bars foreigners from engaging in active politics and occupying political positions which includes Fulanis. Despite this, those who could speak the local language discuss issues relating to politics with farmers and other inhabitants of their host communities. With regards to a social relationship, since they (Fulani herders) live far from the villages studied or outskirts of the host villages because that is where they can find enough fodder and water for their animals, they are unable to integrate smoothly. Despite this, they could come to the villages without fear and even dine with indigenes. Due to the warm relationship that existed, some farmers gave out parts of their land to those who wanted to farm alongside herding. Some respondents expressed the following to show the relationship that existed between them. A farmer at Dwerebease said:

At first Fulani herdsmen could come to you while on the farm to ask for water to drink and even if you have cooked food, they will sit, eat and chat with you before they would return to their kraals. There was no tension between us.

In a separate interview, one farmer said:

Those days these Fulani herders were harmless. They came here to buy foodstuffs from me, and I called any of them Abotchie [Sir], and they also called me by the same name. Sometimes when they came, they gave me fresh milk for free.

A Fulani herder who is 82-year-old confirmed the warm relationship that existed by revealing that when he first settled in Dwerebease, a local farmer offered him free accommodation for his wife and children in the village, but he had turned it down because he needed his whole family by him. Farmers allowed herds to feed on farm residues after harvest, which helped the farmlands to regain its fertility faster. This helped Fulani herders to get enough and varied feed for their animals, especially in the dry season. One farmer explained further that when the herders were few, farmers arranged with them in advance before harvest for the cattle to graze on the crop residues and improve the lands fertility with the cow dungs. Due to this, herders guided their animals so that they would not enter farmlands when crops were still on the land.

Nonetheless, the warm and peaceful relationship has transformed into distrust and conflict, because of competition between the two groups over arable land and water is also on the rise. This has resulted in frequent and fierce conflict, in which farmers accuse herders of destroying their crops on the field as well as harvested ones. Herders also accuse the farmers of killing their animals by shooting at them or by poisoning them with chemicals they spray on their crops. In the worse cases, the conflict leads to loss of lives and injuries. Therefore, the two groups now live in constant fear of each other as any of them can attack the other unexpectedly. A youth leader in Oboyan remarked:

Nowadays, you cannot go to the farm alone and work for 15 minutes without raising your head to look around. So, for me, I go to my farm early in the morning 6 am and return home by 10 am. This is because during these hours the herders have returned to their kraals and by 11 am they will take them for grazing again.

Due to the conflict, one settled herder in Hweehwee informed the researcher that their wards are unable to get a formal education because the indigenes do not want their children to have any contact with children of Fulani herders. Another herder said:

Only last year, I went to see the headmistress for the primary school about enrolling my kids, and she told me there is no vacancy for them. I reported the case to the Assemblyman [representative of the local assembly], but nothing has been done about it. I have seven kids here, and they are always in the house.

Despite this cold relationship, their economic relationship is still good. Farmers buy beef and cow milk in the market or directly from herders, and Fulani herders also buy foodstuff from the market. Therefore, they see each as “customers” and treat each other well when it comes to trading. Traditional authorities also prefer to allocate land to them because, they charge them high fees for rent/lease, which farmers are unable to pay, thereby maintaining a good relationship with herders. Moreover, farmers occasionally purchase cow(s) for important ceremonies such naming ceremony, marriage, funerals and rituals for smaller gods.

Politically, most of the Fulani are still prevented from taking part in politics of the locality. Even those born and raised in the area are still seen as aliens and therefore prevented from registering as party agents. They often protest against their lack of citizenship status.

In summary, the two groups have had a good relationship before, expressed in the sharing of food, eating from the same pot, co-existing without problems until the arrival of more herders, increased cattle rearing, which has increased the quantity of feed required for these herds. However, the comfort of the herders is now believed to be the discomfort for farmers in the study villages, for example, the farmers allege that herders lead their cattle to destroy their crops including harvested crops. Tensions keep rising, the struggle between the two parties continue irrespective of the efforts made by traditional and local government authorities to resolve it. This confirms the findings of Tonah (2006) in the Volta Basin, Ghana, that the relationship between farmers and herders has transformed from a symbiotic relationship to one of distrust and conflict.

6.3 The nature of the conflict in the study area.

To be able to discuss any linkage between resource scarcity and the conflict, respondents in group and individual interviews expressed different opinions as to what the conflict can be specifically linked to. My findings show that several factors account for the conflict between farmers and herders in the study area. Environmental scarcity theory mainly provides the understanding that population growth will result in a scarcity of environmental resources. The study shows that one of the leading causes of the conflict is resource scarcity. Increasing population in the KED (Ghana Statistical Service 2010) has affected natural resources (lands and water bodies), making it difficult for farmers to get enough arable lands for farming and for herders to find enough pastures for their livestock. Thus, the nature of the conflict in the study villages is steadily aggravated by the increase in cattle and human population in the KED. The field interviews reveal that most of the indigenes are appalled that lands have been leased to Fulani herders without their knowledge. Some farmers now hire lands for farming. The DPO stated that the population in the area keep increasing¹⁵ and argued that migration is one major factor aside birth. He further explained that since the lands are not increasing in proportion to the population and due to lack of grazing reserves in the district, farmers and herders often fight over the available lands for their activities (Personal Interview 2017).

¹⁵ The 2010 Population and Housing Census indicate that the population in the district has increased from 67,498 in the year 2000 to 77, 125 (KEDA, 2015).

Moreover, it was observed that arable lands and some farmlands had been taken over by herders for grazing in the study villages. These are mostly land remote from the villages and those left for fallowing. A 56-year-old woman, a farmer in Dwerebease, said

The cattle destroyed my cassava and plantain farm. After the issue was settled at home, the Fulani herder paid compensation of GHS800 instead of GHS1800. Since then, the herder has been taking his cattle to graze on my farm every day, as if I have sold the land to him. So, I do not go there again, I am doing petty trading.

According to farmers who have received compensation due to farm destruction, the herders ultimately take over the lands as though it has been rented or leased to them for grazing. Also, in some areas the herdsmen have gone beyond their boundaries of lands cattle owners have rented for grazing and entered farmlands. The District Director for MoFA described the situation as follows:

In this district, we have part been Savannah and part been forest zone. The herders are mostly in the Savannah area where there are many kinds of grass. Unfortunately, they feed the animals with the wild and do not develop any pastures. In the dry season, when the wild cannot sustain the animals, they move to the forest zone where most farming activities are going on. When they get to the forest zone, and they cannot find any grass to feed the animals, they fall on crops on farmlands.

One informant suggested that there are ethnic traits relating to the conflict. She explained that there are a few Ghanaians from the northern part of Ghana who also tend cattle in the study area but are not ‘hated’ and attacked like the Fulani herders. A Fulani herder stated that some locals in the study area detest the name Fulani and people of Fulani descent. He narrated how his wards are in the house without schooling because they are Fulanis so some school administrators do not want to admit them.

In conclusion, the above narratives corroborate the scarcity–conflict argument in the environmental security theory used in the analysis of this study (Olaniyan 2015, Okoli & Atelhe 2014, Turner 2004, Homer-Dixon 1999). Nonetheless, other factors such as ethnicity also play a role in the conflict.

6.4 The actors in the conflict and the roles they play.

The conflict between herders and farmers is a recurrent problem in the study area since it happens every year and become intensive during the harmattan season. The conflict is dynamic, having many causes with different actors involved. Farmers and herders are the main actors in the conflict but the findings showed that there are five additional actors: cattle owners, traditional authorities, local government authorities, security officers, task force and youth groups. In this section, I will present the actors and the different roles they play.

6.4.1. Farmers

The mainstay in the study area is agriculture, and over 55% of the population is engaged in farming (GSS, 2014). The farmers are of two groups, the autochthon farmers and the settled immigrant who have acquired land in the study area more recently and who mostly hail from the northern part of Ghana and Volta Region. Due to the conflict, most farmers are unable to farm on lands that are remote from the villages and therefore compelled to rent farmlands nearer to the villages. Cassava, maize, yam, plantain, groundnut, tomatoes and other vegetables are the crops grown by farmers within the study area. Both the autochthon and immigrant farmers are affected by the activities of Fulani herders and therefore are together as a group in the conflict. Even though there is lack of a vibrant farmer organization in the district, farmers in the study villages are each brothers' keeper. A farmer said:

When I go to my farm, and I see cattle on the farm of my neighbour, I will drive them away. In case I realize that I cannot do that alone, I will go back to the community and inform the owner of the farm and other farmers to come and help. I have done this on three occasions. (Field interview, Oboyan, 2017).

6.4.2. Pastoralists (Fulani herders).

Pastoralists are individuals whose livelihood depends on raising and herding of livestock such as cattle. Most of the pastoralists in the study area are from the Fulani ethnic group. There are settled herders and transhumant (or nomadic) herders who come to the terrain in the dry season. Apart from those who migrate from Nigeria, Mali, Burkina Faso, Niger and Ivory Coast, others

come from Agogo to stay temporarily when the conflict is intensive there. Many original inhabitants of the study villages regard Fulani herders as strangers even though some are Ghanaians. The Public Relations Officer (PRO) of Ghana National Association of Cattle Farmers (GNACAF) said:

I am a Fulani and a proud Ghanaian contrary to what some of the Ghanaians think, namely that all Fulanis are aliens. That is not true because my grandfather fought in the First World War and his two brothers died in the Second World War. So you cannot see their children and call them aliens and the constitution in Ghana give us the right to become a Ghanaian either by marriage, birth or naturalization (Field interview 2017).

This confirms the argument by Tonah (2002) that Fulanis are frequently regarded as ‘aliens,’ even those who were born and raised in the country. The settled and transhumant herders are a major group involved in the conflict. The settled herders have established their kraals and homes far from the villages or outskirts. Most Fulani herders are field hands who work for cattle owners (mostly natives) due to their expertise in caring for cattle. They feed their animals in the wild, since there are no proper fodder banks in the study area. Farmers and other indigenes accuse them of carrying weapons such as AK47 rifles, cutlasses, bows and arrow, and clubs. The District Commander of Police stated that:

I cannot confidently say all Fulani herders here use guns or sophisticated weapons. However, early this year, we arrested two of them who were transporting firearms to where they live in the bush. They are before the Abetifi [district capital] court now because these guns are not registered (Field interview, 2017).

Nevertheless, a herdsman stated that they possess such weapons for the protection of their livestock and themselves.

Figure 4 After an interview with a herder



Source: Author

6.4.3. Cattle owners

Cattle owners are businessmen who have invested in cattle rearing and include Fulanis, chiefs, natives, politicians, and others. The cattle owners employ the services of Fulani herdsmen, who have the expertise and skills to tend their animals. The herder is paid in cash or with some of the animals. Although it is a lucrative business, cattle owners prefer that herders rear their animals with natural fodders and water from nearby rivers, thereby reducing cost. This has contributed to the continuous use of open grazing method in raising cattle in Ghana. An Agricultural Extension officer noted:

Cattle owners do not want to spend more in the business they are engaged in. I think if they store food and water for the animals during the lean season, herdsmen would not go about destroying farms (Field interview 2017).

Moreover, farmers alleged that cattle owners supply the Fulani herdsmen with sophisticated weapons and accuse them of bribing traditional rulers, security officers, and government officials so that their employees, the Fulani herdsmen, can go about their legal and illegal activities without any restrictions. Cattle owners who are new in the villages are usually confronted or attacked by farmers whose farms or produce have been damaged and in the worst scenario arrested by police. The DCOP confirmed this but viewed it as wrong, since cattle owners are not the actual perpetrators.

6.4.4. Traditional and local government authorities.

The traditional authorities govern on the basis of customary laws. They are revered by many people who see them as leaders ordained by God. The paramount chief is the overlord of the entire Kwahu area, while every village has an Odikro (village chief) who rules the people but is accountable to the paramount chief. This applies to the three study villages. As custodians of community lands, the paramount chief can rent or lease lands to the herders for their activities. In the study area, the paramount chief leased out land to five cattle owners. Due to this some youth from three villages demonstrated against the paramount chief and vandalized property belonging to two of his sub-chiefs in Abene. Farmers and other informants alleged that chiefs take bribes from cattle owners and Fulani herders to grant them the resources and protection needed to carry out their activities. This reaffirms the observation by Tonah (2005) that Fulani herdsmen present traditional authorities with gifts to obtain favour from them.

Local government authorities are the representatives of the national government at the local level. Politically, they are in-charge of the day-to-day activities of the district. They make bye-laws for regulating the activities of individuals including pastoralists and farmers. They implement policies to support crop and livestock farmers to ensure food security. With regard to the conflict, they act as mediators to find solutions to the problem. They do this through holding stakeholder meetings to set out strategies and through using the police and district task forces. Some respondents accused local government staffs of not performing their duties to solve the problem, since they benefit from the recurrent conflict between the two groups. The Deputy chairman of GNACAF said during a group interview with other Fulanis that, ‘There are elements like chiefs, farmers, security men, government officials and ordinary people who have interest anytime the case come up, so they do not want a lasting solution at all’ (Field interview 2017).

6.4.5. Security officers, task forces and youth groups

Security officials (police and soldiers) are important actors who also play different roles in the conflict between farmers and herders in the study area. Their main role in the district is to maintain law and order, which includes protecting lives and property of farmers and pastoralists. They carry out patrols and operations whenever the conflict arises in order to restore peace and prevent the conflict from escalating. The police also revealed that they are not interested in arresting perpetrators and prosecuting them but rather try to create an opportunity for conflicting

individuals to negotiate and iron out their differences before it becomes severe. They also educate the public, especially farmers and herders, about the need to co-exist in peace and to report cases of wrongdoings to the police rather than retaliating. I found that the Abetifi Police station is the only station in the study area and serves more than 24 villages including Hweehwee, Oboyan, and Dwerebease. Due to this whenever the conflict is intensive, officers are deployed from the Divisional and Regional Security Council to help the district officers to ensure peace. The DCOP explained that the number of officers at the district is not sufficient to provide peace when the conflict becomes intensive. Also, the police are responsible for carrying out the 'Operation Cow Leg,' a government policy meant to evacuate Fulani herdsmen from the study area. Despite these roles, farmers accused police officers of colluding with the Fulanis, since the herdsmen are wealthy and can bribe the police. A farmer who doubles as a trader in Hweehwee told that when the Police come, they stay at Hweehwee and do not move to the bush where the Fulanis have settled. But the DCOP refuted this allegation but admitted that they sometimes find it difficult to arrest Fulani herders who destroy crops. However, in several cases when they are unable to arrest a Fulani for such an act, they track the cattle owner and arrest him or her.

Apart from the police and soldiers, who are called upon to restore peace anytime the conflict erupts, task forces are set up in every village. The task forces are made up of mainly the youth, and comprise assemblymen and women of the area, farmer representatives, herder representatives, representatives of the traditional rulers and a government official. The primary duty of the task force is to liaise with the police in order to maintain peace in the various villages. Other responsibilities are to 1) Prevent confrontation between farmers and herders; 2) Provide security to farmers to go about their activities without fear or intimidation; and 3) Serve as a rapid response team whenever the conflict erupts. Nevertheless, I found that the task forces are inactive because they lack the necessary logistics to undertake their responsibilities. Some farmer respondents indicated that they do not have confidence in the task forces to solve the conflict.

Finally, the youth groups are also formed by young, energetic individuals who have come together in the various villages. Most of them are engaged in farming, and others are drivers, carpenters and masons. Their primary role is to protect indigenous farmers and fight against Fulani herders who cause harm in a village. Youth Groups are usually the first point of contact

when a farm is damaged, and farmers want to retaliate. They usually blow the alarm if an indigene is shot. Some of these youths are also part of the task force.

6.5 Manifestations or triggers of conflict

Farmers and herders explained the recurrent and ongoing conflict between them in different ways. Seven manifestations or immediate causes (triggers) of conflict are seen in the study area:

1. Competition over land; 2. Destruction of crops; 3. Killing and rustling of cattle; 4. Spraying of weedicide and pesticide by crop farmers; 5. Violence against women; 6. Pollution of water bodies and burning of grasses. 7. Framing close to grazing lands, kraals and cattle route.

6.5.1. Competition over land

A major cause, both as a trigger and underlying factor, of the conflict is competition for arable land. While farmers need land for growing their crops, herders demand the same land for grazing their animals. Cattle are raised in the district through the open grazing method, grazing in the open and drinking from public streams and boreholes. There are no fodder banks within the study villages (one in the district accommodates less than 500 cattle) and no ranches (Field Interview, 2017). Herdsmen feed their cattle in the wild or acquire land from landowners, especially traditional authorities. The Public Relations Officer of GNACAF asserted:

The problem is that most of our members [Fulani herders] are uneducated, so some unscrupulous landowners lease out lands to them without any formal contract but only enter into verbal agreements. The actual owners [farmers] later show up, when they realize the land has become more productive due to cow dung, and demand their land for farming, which usually results in conflict.

From the above narration, herders/cattle owners are able to secure lands for their activities, which are often the same lands used for crop farming. This usually happens at the expense of crop farmers, because cattle owners pay larger amounts to secure land from chiefs in the villages than farmers are unable to pay, as also found by Olaniyan et al. (2015) and Tonah (2006). This situation sparks a struggle between crop farmers and herders, since farmers believe that they are autochthonous and that ‘strangers’ must not be given priority with regards to land leasing.

Also, farmers compete among themselves for arable lands to grow their crops, because many nearby farms they used to cultivate have been converted to settlements. This has forced most farmers to relocate to different places that were initially occupied by herders only. These farmers argued that the herders are ‘strangers’ and must therefore vacate lands they have acquired legally. This has contributed to the conflict, as herders are unwilling to relinquish the area, because they have established their kraals and homes there and enjoy easy access to pastures and water.

This finding corroborates the works of Dary et al. (2017) and Ayee et al. (2004) that a key trigger and underlying cause of farmer–herder conflict is competition over land and water. Since herders’ access to land is constrained, depletion of the grass (overgrazing) typically sets in, which forces them to go beyond their boundaries in search of pastures and water. During the dry season, it becomes more difficult for herders to find grasses and water for their cattle and they move to savannah areas where farmers also move to farm. The two groups then fight to control limited land in the savannah areas, which leads to violent conflict.

6.5.2. Destruction of Crops

Field research showed that one of the primary triggers of conflict and continuous tension between farmers and herders is the destruction of harvested crops and crops on farmlands. Farmers in the three villages complained that cattle of Fulani herders often damage their crops on the field, and that this act often takes place in the night or at dawn when they are in their homes, which makes it difficult for them to stop or prevent the animals. An informant asserted that the herders sometimes deliberately cut down crops such as maize, plantain, and cassava to feed their animals, particularly when the harmattan is extreme.

The Assembly Member of Dwerebease-Onyemso Electoral Area recounted an incident where cattle fed on harvested crops:

On 24 December 2014, a trader purchased plantain from the farm gate and got it loaded in a Kia truck. As she was waiting for the driver to convey the plantain to Accra, unexpectedly cattle invaded the place and started eating the plantain at the full glare of the herders. Since the herders were armed, no one could ward off the animals, because people were afraid the herders would shoot them or that they would be attacked by the

animals. It is alleged that Fulani herders have a 'charm' that they could command the animals to attack you.

A herder admitted that farm destruction by cattle happens but quickly added that in most cases it is not intentional but because it is difficult to control hungry cattle. Nevertheless, he posited that some Fulani herders consciously allow the animals to destroy farms or harvested crops and remain unconcerned, because cattle owners do not provide them with food, clothes, boots and other essential things needed to do their work. In a group interview with Fulani herders, one respondent also accepted the allegations of farm destruction levelled against them and added that the main problem between them and farmers is farm destruction. However, he shifted the blame on nomads or migrating pastoralists by explaining that:

The bypassers (nomads) stay for a short period, and they have nothing to lose unlike we, the settlers. So, they feed their animals with anything including crops, but when the farmers find out that their crops have been destroyed, they come straight to us and since they are angry, they will not listen to any explanations.



Figure 5 Maize and cassava farms destroyed by cattle in Dwerebease. Source: MOFA, KED, 2017.

The finding corroborates the works of Tonah (2006) and Abubakari & Longi (2014) who have attribute crop destructions by cattle as the main direct cause of farmer–herder conflicts in the Volta Basin and Northern Region of Ghana. The result is also consistent with the findings of Turner et al. (2006) who added that grazing of crop residues not sanctioned by the farmers contributes to crop damage.

6.5.3. Killing and rustling of cattle

Cattle owners and herdsmen argued that the conflict erupts because farmers and other indigenes kill and steal their cattle from the kraals, especially the calf and weak cows they leave behind for grazing. Mostly cattle rustlers transport the animals to other regions and sell them or rear them. A CID officer in the district confirmed that in 2017 there has been two such cases in Oboyan but added that cases of cattle rustling sometimes involve Fulani herdsmen. He stated that herdsmen who steal cattle sell them to butchers or relocate to raise the animals themselves. He also pointed out that there were two natives behind bars under investigations for alleged stealing of cattle at the time I interviewed him.

Furthermore, herdsmen and cattle owners claimed that when farmers find cattle on their farms, in some cases they shoot them on sight, wound the animals with sharp cutlasses or wood, which may lead to the death of the affected cattle. A former Assembly Member of Dwerebease-Onyeamsa electoral area told that any time there is Operation Cow Leg, Fulani herdsmen cattle are killed: so, when the dust settles and they return, they come to revenge, resulting in clashes and brawls between farmers and herdsmen. This finding agrees with the study by Turner et al. (2006) that cattle rustling causes farmer–herder conflicts in Niger.

6.5.4. Spraying of weedicides and pesticide by crop farmers

Because labour is expensive, some farmers use weedicides to clear unwanted plants and pesticides to prevent or kill pests on the farm with the aim of increasing yields. Herdsmen view such chemicals as harmful to their animals, thereby limiting their access to pastures. Some

herders accused the farmers of deliberately spraying poisonous substance on their crops to kill their cattle. A herder in Oboyan recounted his experience as follows:

Last two years, I took my cattle for grazing and along the way I lost control, and 5 of the animals entered a farm to eat some maize plants. Three days after that incident the animals started excreting some unusual saliva and were also weak. I informed the cattle owner, and we got a veterinary doctor from Nkawkaw to check the animals, and he confirmed that the animals had been poisoned. A few days later the animals died.

This narrative confirms the allegations by the herders, but farmers in the study area contested it and claimed that the chemicals they use are to protect their crops and not harmful to mammals.

6.5.5. Violence against women.

Most of the respondent farmers claimed that violence to women, including rape by Fulani herdsmen, is one of the most serious aspects of the conflict. Farmers accused Fulani herdsmen of harassing women in their farms sexually, including cases of rape. A 70-year-old woman in Oboyan indicated that she and her other friends used to carry foodstuffs by foot to Hweehwee during market days and return home in the evening without fears. Now, because of the Fulani herders, they had to go with *aboboyaa* or Kia truck or taxi. The DCOP confirmed the accusation but was quick to add that since the creation of the District Police Station, there have been no such cases reported. In the study area, stigma is associated with any woman who is raped by a Fulani herder, which might drive prospective partners away from the woman if she is unmarried. For this reason, victims may not report such cases to the police or any leader in the village but instead cover up the harassment, unless it demands medical attention. Describing an incident whereby a woman was sexually harassed on her farm, a former Assembly Member of Dwerebease Electoral Area recounted that:

In 2014 one woman (I do not want to reveal her identity to you) was returning from her farmland, and unfortunately for her, she met two herdsmen. They physically pressured her to sleep with them. As they were in the process, the woman was screaming so she

was lucky some other farmers returning from their farms came to rescue her, but the Fulani herdsmen bolted.

Questioned about this accusation, the accused Fulani herdsmen refuted it and argued that other herdsmen from different countries may have committed such crimes. A herdsman in Hweehwee said that, 'I am a Muslim with three wives here so why will I go and have sex with another woman? If I want more women, I can marry more and have more sex [sic]' (Personal Interview 2017).

6.5.6. Pollution of water bodies and burning of grass

The pollution of water bodies was also identified as a trigger of the on-going conflict between herdsmen and farmers in the villages studied. Farmers claimed that water bodies that they depend on are now contaminated by cattle using them as their source of drinking water. Despite the existence of boreholes in the villages, it is not sufficient, especially in the dry season, so the rivers are used by most of the farmers and other residents. However, due to pollution by cattle, the rivers are unsafe for drinking and cooking. A 62-year-old farmer at Oboyan shared his view on the issue:

Nowadays, if you are going to the farm, you must buy pure water [sachet water] because you cannot use the rivers in the bush any more. They are full of cattle urine and faeces. When I was a kid, all those rivers were suitable for drinking and cooking, so when we went to the farm our parents had empty pots in the farm, so we just filled them and used it. There was no need to carry water from home, and we barely felt sick.

Another farmer in Dwerebease indicated that the pollution of water had increased the cost of farming for him. He recounted that:

... last year I spent GHC350 on sachet water I purchased for the labourers who worked on my farms. Also, I transported some water for irrigation on my vegetable farm, since the rivers I used previously are now contaminated and cannot be used for the vegetables. It cost me 500 Ghana cedis.

When the Fulani herdsmen were questioned about this allegation by the farmers, they admitted that the livestock drank from rivers but argued that this only happens during severe harmattan,

when most of the rivers dry up and leave them with no option. A cattle owner who resides in Nkawkaw conceded that the problem exists but added that he and other cattle owners in the area discussed constructing boreholes nearer to the kraals. They realized that it would cost them GHC80,000, which he found very expensive, so most of them have lost interest in constructing boreholes for their cattle to use.

Burning of grasslands is another contributing factor in the conflict between farmers and Fulani herdsmen in the study area. To get fresh fodder to feed the cattle in the lean season, herders burn dried grasses to make way for newer pastures, an old method used by herders since they depend exclusively on the wild to feed their animals. The farmers are of the view that the Fulani herders set the fire in the night and are unable to control it, so that it spreads to unintended areas including their farms. In a group interview, Fulani herders dismissed this allegation and stated that during the dry season the animals grow lean due to lack of enough pastures. For this reason, it would be unwise to burn the little pasture available and starve the livestock while waiting for green fodder.

In summary pollution of drinking water and frequent burning of grasses by cattle and herders respectively spark the conflict between the two groups. Turner et al. (2006) also found that struggle over access to watering points caused such conflicts in Niger.

6.5.7. Farming close to grazing lands, kraals and cattle routes

Fulani herdsmen also revealed that farming close to kraals and cattle routes fuel the conflict. Herdsmen and cattle owners accused the farmers of deliberately doing that because farmers know that cow dung fertilizes the soil thereby increasing plant production on such lands. Cattle owners argued that when lands remote from farmlands are acquired legally for grazing, farmers encroach such areas after some years with the main argument that all lands belong to community members and that no 'foreigners' have a share in it. Farmers who encroach the grazing lands often farm along and around routes used by grazing cattle. Herders claim that it is hard to prevent the animals from feeding on such crops, sparking conflict, and that farmers plant close to kraals and cattle routes with a deliberate intention to make money by claiming large compensation for damaged crops.

Some farmers admitted that they sometimes farm close to kraals and cattle routes but reject that it is a deliberate act by them to make money from herders and cattle owners, explaining that they move from one farm plot to another every year for the land to regain its fertility during a fallow period. For this reason, the activities of herders will not limit them to farm continuously on same plot every year. This cause ascertained by the researcher is in line with the observation by Dary et al. (2017) that conflict often breaks out when farmers farm along cattle routes. The result also corroborates the findings of Turner et al. (2006).

6.6. Consequences of the conflict

This section answers the research questions under the second objective: To understand the broader consequences of the conflict. From the data gathered, it is clear that the conflict has affected the main actors in different ways and the ramifications have been presented in two folds, that is economic consequences and other consequences. The economic impacts will be presented first, and the other effects will follow.

6.6.1. ECONNOMIC CONSEQUENCES

Arguably, violent conflict over resources such as farmer–herder conflict has an unwelcome result on the economic fortunes of individuals, directly and indirectly, involved in the conflict. With regards to this study, I will look at effects of the conflict on the livelihood of the parties involved which include joblessness, income reduction because of low production, shortage of labour and the ability of parties to secure loan facilities to expand their production.

6.6.1.1. Unemployment

The chief support of the economy in KED is agriculture, and for this reason, most of the indigenes and settlers in the villages studied are engaged in farming or other agriculture activities. According to Population and Housing Census (2010), 55% of the working population is into agriculture, and from observations, during the fieldwork, almost every household is engaged in agriculture activity for subsistence or commercial purpose. Unfortunately, the destruction of crops by cattle, burning of farms, encroaching of farmlands by herders have cause most farmers especially the youth to abandon farming. Threats and fear of being attacked by armed herders have also cause aged farmers to either cease farming or are unable to visit their

farms regularly after planting which result in low output. Due to these, there are dwindling job opportunities for the farmers in the study area which indirectly affect their dependents since farming is the primary source of income for them. In an interview with the youth leader of Oboyan, he shared the following with the researcher.

I have not started farming this year because I fear to start and lose all the money I will reinvest. You can even go around and check from other people in this village. I can say no one has started new farms even though the preparation period is now. You might think we (youth) are lazy, but that is not the case. During our (youth group) last meeting most of the youth hinted of their preparedness to relocate to urban centres since the farming is now very risky (if your crops are not destroyed, you can lose your life) venture in the area.

In a separate interview, another farmer also narrated his story as follows:

My neighbour's son was shot and injured by two Fulani herdsmen on 8th January 2015 whilst he was returning from their farm. He was admitted at Koforidua Government hospital for treatment. When he recovered and came back to the village, you can see he is not strong anymore to do physically demanding work like farming. I learnt he has relocated to Abetifi this year (2017) to search for a different job.

Most of the respondents (farmers) revealed that the activities of Fulani herders are pushing them away from the only occupation their forefathers left them. They also added that the situation has the tendency of increasing social vices because in the quest to survive people may engage in illegal activities.

Nonetheless, the Fulani herders also revealed that the conflict has rendered most of their colleagues redundant since cattle owners are compelled to sell some of their animals to keep a small number of herds that can quickly be fed and controlled. Others also stated that there some herdsmen who are jobless because, during OCL in 2015, security men killed most of their animals, others were stolen, and some got lost. Therefore, the livelihood of Fulani herders is under threat due to the recurrent conflict between them and farmers in the study areas.

6.6.1.2. Reduction in crop and cattle production

Another economic effect of the conflict in the study area and the district at large is a reduction in agriculture produce and beef on the market. After the fieldwork, it was evident that some farmers lose the whole year's fortune when their matured or growing crops are destroyed and what is left are unable to recover due to the unfavourable conditions of the harmattan. Some farmers are compelled to farm on the same land every year because of the fear of crop destruction by cattle when they cultivate on lands which are remote from settlements, and this has resulted in low production since the lands are overused thereby losing most of its nutrients. Encroachment of farmlands by herdsmen have also prevented farmers from expanding their farms or cultivating on a large scale. All these have caused a decline in yields thereby reducing farmers proceeds as well. In an interview with a farmer at Hweehwee, she narrated her experience as;

At first, I use to cultivate 5 acres of groundnut and can harvest 54 bags or more which after sales I usually get between GHC9,000- GHC12,000, but because of Fulani herders and their cattle, I now cultivate only 2 acres whereby I can harvest 18/19 bags. After sales, I get GHC 4,500 – GHC5,000. 'Me de3 mesuro bank ka o!' (am afraid of defaulting bank loans) (Personal Interview 2017).

The Director of MOFA in the district also admitted that production of farmers is gradually declining because of the conflict between farmers and herders. He also cautions that if measures are not taken to find a lasting solution to the problem, it will affect the economy of the district since they depend heavily on agriculture and this might as well affect the nation.

On the other hand, cattle owners revealed that killing of cattle by individuals especially farmers and security officers who carry out OCL has resulted in the reduction of the number of their animals. Also, cattle owners alleged that some indigenes and Fulani herders they hire steal some of their animals thereby causing a decline in the number of the animals. This, in the long run, affects their expected revenue negatively.

6.6.1.3. Difficult to secure credit facility

Another economic challenge in the study area is that the conflict has made it difficult for farmers to secure credit facilities for commercial production of food. Farmers who engage in commercial farming usually seek loans from Kwahu Rural Bank, Kwahu Praso Bank, and private credit

unions to foot their expenses. Unfortunately, the conflict has caused some of these farmers to lose lands that they often use as collaterals to secure loans. Also, the battle between farmers and herders threatens land security tenure of those who own vast lands, therefore, making it difficult to be used as collaterals for bank loans. Notwithstanding this, some farmers can secure loans but often face the problem whereby their crops on the field are destroyed by cattle or through bush burning, therefore, losing their investments. Such farmers are made to pay their loans with the agreed interest without defaulting. The fieldwork revealed that most farmers in such a situation are unable to pay back their loans which result in the confiscation of their collaterals such as house, land and many more. Others are also put behind bars until the repayment of their loans. In an interview with a 63-year-old retired teacher who is also a farmer in Oboyan describe his experience as follows;

A pensioner who want to farm on my father's farm, so I do not become ideal. I secured a loan of GHC12,000 from my bank (GCB Bank) in 2013 and invested GHC8,000 into planting maize, groundnut, and tomatoes. However, unfortunately, this 'devil animals' destroyed almost all the crops which were not yet matured. The Fulani herder whose animals cause the destruction could pay GHC1,200 as compensation. I had to pay the rest with my own money, and I will finish by the close of this year (2017).

Due to this, there is no incentive for farmers to seek credit facilities to increase their production or enter commercial farming to sustain food security. Also, due to the destruction of crops on the field and harvested crops, it has tainted the creditworthiness of most farmers in the area which has made securing a substantial loan a herculean task. A migrant farmer of Hweehwee, she has this to say;

Am not strong, so it is my two brothers who are into farming. Last year (2016), I gave them GHC2,000 from my savings because I did not want them to go for bank/government loans. Could you believe that the animals destroyed almost half of the tomatoes farm they cultivated? Since it was a bumper harvest, the few they could harvest were purchased at a low price by traders. In fact, we gain nothing. So, look at us oo! If they took a loan like by now, they are behind bars because am weak now and cannot work to repay any loan (Personal Interview 2017).

The study ascertained that some farmers have resorted to sharecropping whereby they get support from regarding land and money as well as share profit and losses. Others have form groups whereby they contribute money to support each instead of going to banks. Finally, the inability of farmers to secure loans has negatively affected individual and household incomes as well as making them susceptible to food insecurity.

6.6.1.4. Loss of revenue and shortage of labour

Cows usually destroy crops that are harvested by farmers. The destruction causes farmers to lose their income or reduce their estimated income drastically. It also has the possibility of causing a decline in the Internal Generated Revenue (IGR) of the district because one of their internal revenue sources is market tolls and tolls from drivers who transport farm produce to the market. Also, due to threats and fear of being killed or injured by ‘wild’ herders, some farmers are unable to harvest their farm produce on time and get destroyed by insects, weevils, armyworm and other pests. Moreover, there has been the destruction of harvested crops on the farm gate meant to be transported to the market at Hweehwee and Accra market. An instance is the destruction of a Kia truckload of plantain on the 24/12/2014 at Dwerebease farm gate which cost the trader GHC7,000. This also contributes to a reduction in crop production as well as a threat to food security. Another farmer called Mr. Kennedy Baah maize, tomatoes, groundnut and cassava farms were damaged at Dwerebease and after assessment and valuation by some personnel from MOFA office in the district, the farmer loss a total of GHC33,738 (Appendix 3)

On the other hand, farmers claim that there is a shortage of labour for farming activities. During the field research, it came to light that most of the aged farmers hire the services of people especially the youth to work on their farms because they are financially strong to afford expensive farm machines like tractors. Most of such workers have to abandon farm works because they fear to lose their lives and the high risk involved in doing such job amidst the on-going conflict. In an interview with one of the youths who is a farmer and doubles as a labourer, he shared his view as:

... I have been working on people's farm when I was in Junior High School because I lost my father when I was six years old. That is what I do for a living, but nowadays the job is precarious because if you are not lucky, the herders can attack you and butcher or

kill you. You cannot work continuously for 5 minutes without raising your head to check around. So is either you team up with other colleagues or stay home.

On the part of cattle owners, they claim that it is difficult to get Fulani herders to hire permanently because they complain that they are always harassed and threatened by village folks especially the youth. For this reason, a single herder may handle many cattle which makes it difficult for him to control easily.

6.6.2. Other effects of the conflict

6.6.2.1. Loss of lives.

There has been a lot of killings and injuries because of the conflict. The report from the District Police Office during the fieldwork shows that herdsmen have killed indigenes and injured others in the three villages the research was conducted. In an interview with the DCOP, he revealed that there had been reprisal killings of Fulani herdsmen and some cattle by host villages. Also, there is instance whereby the aged and children of both actors are severely injured as result of the conflict between the two groups. A farmer in Oboyan, narrated his encounter with a Fulani herder who shot him and still feels that there are some remains of the bullets in his right leg. He narrated his story as follows;

On the 15th February 2015, around 5:00 pm when I was returning from my farm, I met one Fulani herder. I called him 'Abotchie,' and he responded 'Abotchie.' We had a good conversation on our way even though I was afraid because he was holding a gun, but I thought he was joining his brothers in the bush, so it's reasonable. On our way, I told him that, I will be farming on new land which I pointed to him so he should not allow his animals to destroy my farm when I start. I think he was not happy with that so when we were parting ways, he threw light on my face, and the next thing I could hear was a gunshot which landed on my left thigh. I was hospitalized for six months, and I spent more than GHC5,000 on surgery and other hospital bills. Now my left leg is not good and strong anymore [sic] (Personal Interview, 3/3/2017).

The farmers interviewed also alleged that Fulani herdsmen carry out their activities in the bush with deadly weapons like pump action gun, AK47, sharp cutlasses, and clubs. They claimed that the herders use the weapons whenever there is misunderstanding or confrontation between a

farmer and herder, especially in the bush when a farmer tries to prevent cattle from feeding on crops.

The District Commander confirmed the allegations by the farmers and added that early this year (2017) they arrested two herdsmen in Abetifi transporting guns to the villages where they reside. Nonetheless, he revealed that there have always been counter attacks by farmers or the local youth group anytime one of them is attack by Fulani herder(s). He also stated that it is difficult sometimes to bring the perpetrators to book since most of the killings happen in the bush or the farms at night. The assembly member of Hweehwee also asserted that he receives a report from taxi drivers that when they pick Fulani herders, they see guns on them.

The early part of 2017, four people were killed due to the intensity of the conflict in the area. It was confirmed by the Police that, two were locals and two Fulani herdsmen. He also added that a 20-year-old young man was shot dead at Mmepemasem a village near Hweehwee (Personal Interview with DCOP, 2017). In October, the same year nine people (six Fulani herders and three local farmers) were reported dead in Dwerebease, Hweehwee, and Oboyan during a four-day gun battle between locals and Fulani herders. This shows that the conflict becomes very intensive during the dry/harmattan season whereby it is difficult to get water and pastures, so the two groups clash in their quest for water and land.

From the findings, it became evident that people are killed who are not parties to the conflict. These killings have caused some women (farmers and Fulanis) to be widows, some parents losing their only child and other homes losing the breadwinner. In certain circumstances where women lose their husbands, farmlands are taken from them if their husbands were farming on family lands. This affect the production capacity of such women (smallholders) since they must rent lands if they are not indigenes. Moreover, the study reveals that the fear of being killed or injured has compelled most farm labourers to relocate to other farming communities or cities thereby making it expensive to hire the few ones available. Aside from that, the killings cause households to lose workforce for farming activities. The situation is also same with the hired Fulani herders as some of them are fleeing the area for fear of losing their lives.

6.6.2.2. Forced displacement of people

The conflict has forced both farmers and herders to relocate or migrate to other communities for safety reasons. In the Dwerebease area, some farmers revealed that there are herders who migrate from Agogo to the area whenever the conflict is intensive and vice-versa. This allegation was confirmed by settled Fulani herders in the area but added that most of such herders are nomads without a permanent settlement. Farmers indicated in an interview that most of their colleagues and other indigenes in the study villages are forced to relocate to other communities for safety because of the impasse. After my third visit to Oboyan (1), I observed that the village is almost desolate as about 5-10 indigenes are the only people still living in the village whilst several buildings are empty. Some farmers who are still living in Oboyan (1) revealed that they have abandon farms remote from the village for fear of attacks. Besides Oboyan (1), other villages in the KED which were initially vibrant and full of activities are also virtually empty if not dead. Amongst them are Boadikrom, Yaw Marfo, Nsawie and Alhaji Akura. In Hweehwee, some farmers have been relocated to the place from Mmepesem and Asumesu (villages near Hweehwee) by the Member of Parliament of the area, Mr. Bryan Acheampong because of killings and attacks by both sides. Some of the houses of the displaced farmers and other indigenes were allegedly burnt down and others raided by Fulani herders. Such farmers are unable to access their farms to harvest food and therefore must depend on other farmers in Hweehwee for food as well as support from the local government.

Figure 6 A house burnt down by herders at Hweehwee area



Source: Police

Figure 7 Photo showing emptiness of Oboyan (1)



Source: Author

This has also threatened the food security of most of the affected people. The Assemblyman for Hweehwee Electoral area, Mr. Solomon Aboagye added that a similar case happened in Hweehwee where he stated that, Fulanis ransacked some rooms in Hweehwee and made away with stuff including monies. He further claims that after the incident, they had to supply victims with food and water for close to a month because they were left with nothing.

The study also demonstrated that those who are displaced often migrate to neighbouring villages without any preparedness and with no doubt are faced with several challenges in new environments including accommodation and getting food. The problem of displaced farmers aggravates since they do not get lands to farm on and even struggle to secure a source of livelihood. Also, they become a burden on their host which in the long run affect the food security of households that host such displaced people because their food production remains same without increment. Herders who are forced to leave the area due to the conflict also face similar challenges especially securing pasturelands because wherever they relocate to, indigenes often fear that they might transfer the conflict to the place. This confirms the argument that conflict over resources like land often forces the ‘weaker groups’ to move in search of new arable lands for their activities (Homer-Dixon, 1994; 1999a). He further emphasized that those

who migrate to new lands are likely to face opposition from indigenes/autochthonous which may also spark a conflict. Nevertheless, the findings show that not all host villages for displaced people including Fulani herders are hostile to them but was established that they suffer economic challenges which negatively impact on their household needs especially food.

6.6.2.3. Loss of property

Another implication of farmer-herder conflict in the study area is a loss of property. During a personal interview with some farmers, cattle owners and the group interview with Fulani herders, they lamented the loss of personal properties due to the conflict. The farmers, especially the middle-aged people claim that whenever the conflict becomes intensive, and they move to other nearby villages and towns for safety, the herders come to ransack their houses and loot their valuable belongings. In the worst case, houses found empty is burnt down by the herders. In an interview with one farmer, he recounted how he returned from his farm to meet his room empty. His television, motorbike, bicycle, mattress and other belongings were stolen. In relation to this, some farmers argued that their only property is their farmland, but the lands have been encroached and completely taken over by Fulani herders for grazing their cattle. Others alleged that the lands are sold out to the Fulani by village chiefs, and for that matter, they have resorted to begging neighbours for food since they do not have the financial strength to hire lands close to home for farming.

On the part of the Fulani herders, they admitted that out of pain and anger some of their members overreacted but added that they believe some unscrupulous people cause some theft cases within the villages. Fulani herders also indicated that their homes and other belongings are sometimes demolished and burnt anytime Operation Cow leg is carried out. Also, the youth of the village sometimes demolish their homestead and steal the calf they leave behind when they go for grazing.

From the above narratives, those who lose their properties find it difficult to make ends meet as they do not have any alternative means of survival. Verpooten (2003) asserted that the destruction or loss of physical asset affect the ability of households to produce especially women while men are engaged in conflict. With regards to this study, the findings show that smallholder

farmers who are mostly women in the study area find it difficult to produce food when they lose their lands to herders. It, therefore, affects the food security of affected household since they depend solely on farming for survival.

6.6.2.4. Education of farmers' wards affected

According to the farmers, the conflict has negatively impacted the education of their children. From the fieldwork, it was ascertained that the conflict has led to the closure of seven schools serving 15 communities in the district which include Dwerebease and Oboyan. The Planning Officer of the district revealed that the closure was necessary because the scarcity of fodders have caused herders to encroach on school lands to graze their cattle and the infrequent shootings in the communities made the place unsafe. He added that over one thousand pupils had been affected including final year Junior High School students. Teachers and pupils affected communities have abandoned their schools in fear of possible attacks. During an interview with the headmaster for Oboyan, he describes the situation as

The animals come as close to the school bungalow to graze. Sometimes I wake up in the morning to find their faeces in front of the house. The school served about five (5) surrounding villages and pupils trek to school through the bush which is very dangerous, so parents do not allow their wards to come for fear of being killed or injured by a herder. A teacher can go to class, and out of thirty-five pupils, only seven are present. We the teachers to our lives are in danger, so some have travelled back to their hometowns.

From the field observation, the closure of schools happened in February despite constant police patrol in the various communities as it is done ending and beginning of every year (harmattan season). When the DCOP was interviewed about the situation, he declined to having knowledge about the closure of schools' due to security threats and added that he would consult the

Figure 8 Primary school in Oboyan closed from February to April 2017



Source: Author

District Chief Executive to strengthen police patrol and surveillance. Nevertheless, farmers are of the view that the police have failed in protecting them and their children from attacks of the Fulani herders. Also, they are of the view that Fulani herders do not have their kids enrolled in the schools, so it is a deliberate attempt to prevent their children from getting a formal education.

6.7. Farming activities in the study area

From the fieldwork, I found out that two main types of farming system are practiced in the three villages that is subsistence and commercial farming. Out of the 59 farmers interviewed, 42 are smallholders, and 7 are commercial farmers. Crops mainly cultivated in the study villages include maize, plantain, groundnut, vegetables such as tomatoes, pepper. Farmland is acquired through inheritance, renting or sharecropping. My findings revealed that renting farmland cost between GHC 80–100 per acre which is determined by the proximity of the farmland to the village due to crop destruction by cattle. Despite the price, most farmers have 2-4 farmlands to grow different crops every planting season. The findings revealed that farm workers charge GHC15-30 per day depending on the distance to the farm and whether the farm is in early preparing stage or final stage. Some of the smallholders revealed that they sell some of their harvests to raise money for other expenses such as paying fees, buying clothes, paying hospital bills and others. In an interview with a farmer in Hweehwee, she has this to say

Am a single mother so to get books and school uniform for my children, I sell some of my cassava and plantain during market days. As for food, I do not purchase any.

In conclusion, most farmers in the study villages are smallholders who cultivate staple foods mainly to feed their family but sell surpluses to raise money for other expenses. Those who are affected by the conflict depend on their neighbors, relatives, purchase food on market days and support from the local government, the Member of Parliament and the central government.

6.7.1 Effects of the conflict on household food security.

In all, nineteen households were interviewed in the three study villages to assess the threat of the conflict on household food security. I interviewed household heads who revealed that they depend on own production, purchased food and free food from their neighbours or friends. Even though farming is the mainstay in the three villages, respondents indicated that it is necessary to purchase food from the market to meet food demand by household members especially during the dry season when the conflict is intensive. Respondents, particularly smallholders mentioned that foods are purchased with monies gained from selling surplus produce. Some of the food items purchased by households include maize, rice, yam, plantain, gari and cassava, fish, beef, and oil. The table below shows the distribution of the household interviewed.

Table 3 Household data

Number of people	Number of households
5-10	9
11-20	7
21-30	3
Total	19

Source: Fieldwork, 2017.

The research revealed that conflict between farmers and herders have negatively affected food production (crop farming) which is a threat to household food security. The reason is that the conflict has caused the following problems: encroachment on farmlands by herders, reduced production, killing of cattle and lands losing it arable nature.

6.7.1.1 Encroachment of farmlands by herders

In the three study villages, it was observed that arable lands and some farms had been taken over by herders for grazing. The study also found out that these mostly land remote from the villages and those left for fallowing. In an interview with a 56-year-old female farmer in Dwerebease, she said

The cattle destroyed my cassava and plantain farm. After the issue was settled at home, the Fulani herder paid compensation of GHS800 instead of GHS1800. Since then, the herder takes his cattle to graze on my farm every day as if I have sold the land to him. So, I do not go there again, am doing petty trading.

According to respondents (farmers) who have received compensation due to farm destruction, the herders have taken over the lands as though it has been rented or leased out to them for grazing. This finding is in contrast with Benjaminsen et al. (2012) and Benjaminsen et al. (2009) who states that pastoral lands have been encroached for agricultural activities. Herders who are guilty of such acts reported that the amount of compensation they pay is too substantial such that it can equal the price for land leasing or rental. Also in some areas, the herdsmen have gone beyond their boundaries (lands cattle owners have rented to graze their animals) and entered farmlands. In an interview with the District Director for MOFA, he describes the situation as follows:

In this district, we have part been Savannah and part been forest zone. The herders are mostly in the Savannah area where there are many kinds of grass. Unfortunately, they feed the animals with the wild and do not develop any pastures. In the dry season, whereby the wild cannot sustain the animals, they move to the forest zone where most farming activities are on-going. When they get to the forest zone, and they cannot find any grass to feed the animals, they fall on crops on farmlands.

Those whose farmlands are encroached and taken over for grazing, especially women, often stay away from their farms because they fear any confrontation by herdsmen. For this reason, they are unable to access/harvest their matured crops on the field thereby affecting household food supply. To survive, some affected farmers depend on the benevolence of neighbours, relatives, and friends for support especially their daily bread. This is what Sen (1981) refer to as transfer or inheritance of food which is a means of getting access to food by individuals. Others also depend on foods they receive from relatives or friends as a supplement to what they can purchase from

the market. For instance, one woman who has lost her farmland to herders explained to me that her entire family used to eat rice and gari for almost two moons because that is what her husband could afford until a friend started giving them some foods for free. This example reveals that individuals can get access to food through different ways which Sen (1981) argued that access to food can be gain through making use of own production, buying from the market, receiving from others or selling one's labour for food. During the conflict between farmers and herders in the study villages, affected farmers and non-farmers make use of either one or a combination of two or three means as espoused by Sen (19981) to access food. Nevertheless, I can emphatically state that large families that suffer from the conflict find it challenging to utilize only one of such means thereby making them more vulnerable to food insecurity.

6.7.1.2. Reduced production

Another effect of the conflict on food security is a decline in crop production by farmers. Most of the farmers who were interviewed indicated that they have cut down their production level since they fear cattle will destroy it. A farmer in Hweehwee stated that he used to farm on five separate plots of land every year, but due to the activities of the herders in the area, nowadays he cultivates two/three plots so he can visit them regularly and ward off any cattle found around. Also, during the fieldwork, it was found that farmers who want to expand their farms fear to go for loans because they claim that crop destruction is rampant in the area. This has caused the farmers to produce on a small scale so that in case there is destruction; the cost will not be much. In an interview with the Assembly Member in Hweehwee, he said: *“if daybreak and you do not hear of any farm destruction then it means it is a sacred day and nobody is supposed to go to the bush/farm.”* This tends to affect food availability of household members since there is a reduction in production. Despite this, 2015 and 2016 records from MOFA office in the district shows that crop production has been stable as indicated in the table below.

6.7.1.3. Lands losing their arable nature.

The study also found out that, the activities of the herders have caused some arable lands in the three villages to lose its arability. Some of the farmers interviewed were of the view that where the animals graze often, the lands are no more suitable for crop production. The lands have become bear and prone to erosion. They also indicated that the soil has become 'hard' (compact)

and therefore difficult to prepare the land for farming using workforce. The Agricultural Extension Officer of the area described the situation as below:

...Because of the large numbers of cattle and their heavyweight, when they continuously use a place (land), the soil becomes compact. When the soil becomes compact, it loses its arable features and eventually unable to support crop production. It implies that if a farmer had a big holding, it is gradually reducing to a smaller size.

The Assembly member for Dwerebease electoral area also opines that the activities of the Fulani herders have gradually cause overgrazing because they depend on the wild (natural grasses) throughout the year which has compelled some farmers to leave their farmlands. According to him, when that happens, the herders completely takeover and it becomes land that they can always bring their animals to graze. *Don't you think this will affect food on the market and in homes?* He quizzed.

In conclusion, activities of the herders gradually cause the lands to lose its fertility and therefore unable to support plant and farmers will not be able to harvest enough when used for farming.



Figure 9 Cattle on barren land

Source: Author

6.7.2. Stakeholders perception on food security

The research also gathered the views of some key stakeholders with regards food security in the study villages. These include farmers, herders, DPO and MOFA personnel (Agricultural Extension Officer and the Director). Their perception of food security amidst the conflict has been presented in this section.

Responses elicited from most of the farmers indicate that their farmlands are gradually reducing due to the activities of herders. They pointed out that lands taken over by herders for grazing later becomes 'hard' and not suitable for crop farming. Also, the migration of other farmers to the study area due to similar conflicts has caused an increase in the competition for farmlands especially lands close to the villages. The competition has caused landlords to rent farmlands at a high price making it difficult for smallholders especially women to secure enough lands to produce food that can feed his/her household. This has caused most of them to produce less thereby forcing them to either exchange what they have for what they need or buy from the market which is most expensive unless only market days (Fridays) at Hweehwee. Sen (1981) refer to this as *entitlement set* whereby an individual utilizes his/her *endowment set* to acquire what he/she needs legally. In an interview with a farmer, she explained that she has stopped cultivating her farmland because cattle graze close to the land now farm on a small portion of his brother's farmland therefore unable to produce enough to cater for her household

A farmer said this about food security:

Since I relocated to this village, I feed my family with my produce until the year 2015. In February 2015, I was shot by a Fulani when returning from my farm. So, from March 2015 I was hospitalized and unable to work so well-wishers frequently visited me with foodstuffs and my wife buys some items from the market. Since I was not working and the huge hospital bills were also draining my account, so there was not enough money to purchase food.

From the above narratives, most farmers interviewed perceive the presence of herders in the study villages have caused a reduction in crop production. For this reason, there is a low supply of food to the local markets thereby causing relatively high food prices. The effect is that the poor farmers and other residents will not be able to afford their preferred foodstuffs on the market. Sen (1981) in his Entitlement Approach echoed that availability of food is not enough grounds to secure food, but instead, economic/physical access should also be possible. In conclusion, what most farmers perceived is likely food insecurity in their household if the problem continues unabated.

Moreover, Fulani herdsmen views concerning food security was also elicited. The findings show that most of the herders are unable to go to the market to purchase foodstuffs as they used to

because of the conflict. Some herders explained to the researcher that they often must travel to Nkawkaw to buy foods which is an increased cost for them in getting access to food or intermediaries (those who sell their cattle to locals) assist them to secure basic needs including food from the Hweehwee market at a fee. In an interview with Abdul, a herder, he stated that most of the cattle owners do not help them to get access to food but only come to visit them when they (herders) report of cattle rustling/killing. He argued that since access is difficult for them, their food security is not stable. Most herders asserted that due to the breakdown of the warm relationship that existed between them and farmers, it hard for them to get free food from farmers. Nevertheless, from my observations, some herders' wives cultivate crops like maize, cassava, plantain, and others at their backyards but herders I interviewed stated that such farms are unable to meet the food needs of their households. Due to this, those who have cows either sell or exchange them for foodstuffs from crop farmers. In doing this, it confirms the Sen's argument that individuals can utilize their *endowment set* (land, cattle or sheep) to acquire goods or services they need which include food.

Also, the District Planning Officer (DPO) revealed that lands for farming are reducing since there is an increase in indigenous population. Therefore, lands close to the villages which used to be farmlands have been converted to settlements. He also revealed that often herders relocate to the study area when the conflict between farmers and herders becomes violent and bloody in Agogo, therefore, causing scarcity of arable lands to produce sufficient food. Moreover, the youth who are farmers and farm laborers are migrating to cities for fear of their lives which has affected farming activities as aged farmers who are left behind are unable to produce more (Interview with the DPO, 2017). Nevertheless, he pointed out that food insecurity is not imminent since the district always supports people in need of food especially those affected by the conflict. He added that farmers from conflict-free villages are encouraged to produce more and sell some of their surplus harvest in the study area to help control prices of foodstuffs.

Finally, some MoFA officers were interviewed with regards to their perception of food security amidst the conflict. According to MOFA director for KED despite the recurrent conflict annual yields have been stable especially staple crops like maize, cassava, and plantain. He stated that

data obtained by MOFA from the field in 2015 and 2016 (Table 6¹⁶) shows that there is no reduction in food production in the district and have projected an increment this year (2017) (Appendix 2).

Table 4 Crop yields in Kwahu East District

Yields of main crops (tons per hectare)	2015	2016	2017 (projection)
Maize	1.8	1.8	2.0
Rice	2.6	2.6	2.8
Cassava	19.3	19.3	22.0
Plantain	9.5	9.5	9.7

Source: MOFA Office, KED, 2017 (Appendix 2).

Also, the MOFA field officer posited that the study area continues to be part of the food security hub for the district and the nation at large. He further stated that feasible policies had been initiated by the government to help tackle any food security threat which includes subsidizing fertilizers, employing more extension officers who will educate farmers to use modern techniques for farming. Aside these, more youth are encouraged to go into agriculture to receive financial support from the government which will all contribute to boosting crop production thereby ensuring food security whiles finding a lasting solution to the conflict. Despite policies laid down for crop farmers, he also argued that there should be a well-established fodder bank at Dwerebease to be used by herders within the study villages. This will also ensure fattening of cattle to help produce sufficient beef for consumption since most local restaurants and households depend on these herders for the supply of meat.

In conclusion, farmers and herders hold the view that there is looming food insecurity as they (farmers) complain of a reduction in their production due to competition for farmland and most herders' main problem is about access. On the other hand, the DPO and MoFA officers contended that food security is not a challenge amidst the conflict because policies are in place to boost food production as well as resolve the conflict.

¹⁶ Table 6 is the summary of data collected by MOFA Office to assess crop yields by farmers in the entire district. Based on that they are able to make future predictions thus whether there will be low or high yields.

6.7.3. Government policies on food security.

The issue of food security is a nationwide concern, although it is the poor that are most vulnerable in cases of food insecurity. In Ghana, it is evident that food insecurity is high in the three northern regions compared to those in the south because they are poorly endowed with natural resources and don't have enough rains to support crop production all year round. This has been confirmed in the work of Biederlack, and Rivers (2009). However, in recent times conflict between farmers–herders in the south has cause some affected individuals to be food insecure. An example is the case of KED. Aside from finding a lasting solution to the conflict, the local government in collaboration with traditional authorities *directly supply food* to help victims of the ongoing conflict. However, to ensure long-term food security, the central government through the local government (KED) have implemented the following policies:

1. Ghana School Feeding Program (GSFP)
2. Research and Extension Linkage Committee (RELC)
3. Planting for Food and Jobs (PFJ)

6.7.3.1 Direct supply of food

The findings indicate that to ensure food security, individuals displaced and affected by the conflict receive foodstuffs and other needed support from the MP of the area as well as the local government. During the fieldwork, farmers and other residents of Mpemasem who have been evacuated to Hweehwee informed the researcher that the MP has been providing them with cooked and uncooked food for almost four weeks as well as the temporary rented houses (Fieldwork 2017). Aside from that, the local government through the assembly representatives always present food items to affected communities whenever the conflict becomes violent and farmers unable to harvest their produce. Lastly, the MoFA officer added that the national government through National Disaster Management Organization (NADMO) usually donate relief items to victims of the conflict especially displaced women and children. The relief items usually include mattress, bedsheets, clothes, cooking utensils and most importantly food items

like maize, beans, yam, and plantain. The direct food transfer to the victims also helps to ensure that they remain food secure. Also, farmers have been advised to have backyard garden to depend on it when the conflict is intensive such that they cannot harvest from their main farms to eat. The study found out that sharing of food¹⁷ is a common practice by community members (households). For this reason, farmers who are affected by the conflict (destruction of crops/farmlands encroached by cattle) get assistance regarding food from their neighbors and relatives. With no doubt, this practice has helped to sustain food security in households. In Sen (1981) entitlement to food, it represents the transfer of food. Unfortunately, herders reported that they do not receive such support from the government or the Member of Parliament for the area.

6.7.3.2. Ghana School Feeding Program (GSFP).

The Ghana School Feeding Program is one of the policies implemented by the Government of Ghana to increase school enrollment, tackle hunger and malnutrition and boost local food production. The program started in 2005 under Ex-President Kuffour's government in collaboration with Netherlands government. In the three study villages, the basic school pupils receive one meal every school day with the aim of encouraging pupils to be punctual, increase enrollment and tackle hunger (ECASARD, 2009). The Planning Officer stated that more than 350 pupils in the three villages benefit from the school feeding program. Since most of the herders' children are not in school, they do not benefit from this policy compared to farmers' children. The MOFA Director for the district also added that the policy is meant to ensure food security at the household level since most of the foodstuffs used are purchased from the villages which encourages farmers including smallholders to produce more.

Notwithstanding this, some farmers interviewed were not aware of the program, and some of them who knew about the program claimed that when they produce more their foods are bought cheap and cannot confirm whether local government officials purchase their foodstuffs for the school feeding program.

6.7.3.3. Research and Extension Linkage Committee (RELC)

¹⁷ In the study villages one important moral norm is that when women cook, they prepare in excess to make room for unexpected guests or neighbours.

Another government policy is Research and Extension Linkage Committee (RELC). The Agricultural Extension Officer explained that is where the research department of MOFA will do their research, come up with their findings and extension officers on the field will relay these findings to the farmers. The research is mostly about pests and diseases that attack crops which farmers have no antidote. According to him, researchers, farmers and extension officers are brought on board by the efforts of the central government through the local government. On that platform, farmers are made to present their challenges; researchers will provide solutions and extension agents disseminate the information. The extension agents make farmers understand any research findings and direct them to adopt new knowledge (methods) to improve their production. According to the District Planning Officer, to make this work easy, the district has recruited fifteen individuals they are training to deploy as extension officers to increase the strength of extension officers on the field, especially in the three study villages. He also revealed that plans are in place to visit farmers in their homes and on their farmers weekly to educate them on new technologies and other important stuff to help farmers increase their production.

6.7.3.4. Planting for Food and Jobs (PFJ).

The new government has introduced a new policy geared towards arresting food insecurity and tackling unemployment among the youth. The policy is to be rolled out in all the 216 districts in the country including the Kwahu East District. The plan is meant to boost production of staple foods like maize, soybean, rice, plantain, cassava, and sorghum. According to the MOFA director for the district, when the program is rolled out in April this year (2017), some farmers will be selected and supported with farm resources which include high yielding and improved seedlings. Also, the most used fertilizers by farmers will be cut down to ensure that all farmers will be able to purchase to improve and increase food production. According to the officer of MOFA subsidies of fertilizers was re-introduced in 2016 by the previous government and NPK fertilizer with a market price of GHC125.00 and the subsidized price was GHC85.00 for farmers while ammonia with a market price of GHC90 was sold at a subsidized price of GHC80.00. He further revealed that under the new policy (PFJ), NPK fertilizers and urea would be subsidized by the government to make it affordable for farmers. In an interview with the MOFA Director, he stated that the NPK fertilizers will now be sold at GHC57.50 and the urea at a subsidized

price of GHC47.50. The building of storage facilities to store harvested crops during bumper harvest.

In an interview with the PRO of GNACAF, he stated that the program failed to look at securing food holistically by ignoring the cattle production. Despite this, he stated that previously the government carry out yearly vaccination exercise for cattle farmers nationwide without any fee but not anymore. He also revealed that GNACAF had started the Contagious Bovine Pleuropneumonia (CBPP) vaccination for its members nationwide at a subsidized cost of GHC3 per cow and one drug can be used to vaccinate hundred cattle, so it is sold at GHC300. Aside the vaccination, the government has created fodder banks for cattle farmers in Kwahu Afram Plains but most of the Fulani herders are not using it because it's only a demarcated place which the animals will feed on the wild and no veterinary officer to check the animals to prevent and avoid the spread of diseases (Personal Interview, 2017). Finally, it is evident that government policies and interventions towards food security only consider farmers and the locals while the herders are mostly ignored.

6.8. Actions and policies to resolve the conflict

The government in collaboration with other stakeholders have taken steps to end the feud between the two groups. These include stakeholder meetings, registration of cattle and owners, the establishment of a fodder bank and the policy of expulsion.

First, one of the strategies of the local government is to seek to resolve the conflict through regular **stakeholder meetings**. The DPO indicated that every month, key stakeholders (leaders of herders and farmers, DCOP, assembly members, traditional authorities and government representatives, the press) meet to address issues relating to the conflict and make plans to prevent future occurrences. Through this meeting, community task forces have been established in almost all the villages to quickly respond to any confrontation between the two groups in order to prevent it from escalating. Also, since 2015 the police command in the area has been upgraded to District Police through the efforts of the stakeholders. According to the DCOP of KED, this has strengthened the police regarding materials and personnel. He also emphasized that patrol and surveillance have been intensified, especially in the dry season, in order to control and prevent violent confrontations between the two groups.

Another action is the **registration of cattle and cattle owners in the KED**. The study revealed that the local government in collaboration with the Kwahu Traditional Council (KTC) had registered cattle and cattle owners in the district including those in the study villages. According to the District Planning Officer, about 24,000 cattle and 230 cattle owners¹⁸ have been registered since the beginning of the year (2017). The DPO added that the data includes the location of the animals and that the data would inform the government about the need to expand existing fodder banks in the Kwahu area to be able to contain all the cattle in the area including the study villages. The DCOP stated that the data would help track and identify the specific location of cattle and owners to be able to hold them responsible for crop destruction and other offences.

Thirdly, the national government has **established fodder banks** at Wawase, Forifori, Mem Fremkye and Amankwa, all in Kwahu Afram Plains. The fodder banks are to serve as ranches to be used for cattle rearing. All cattle owners within the KED have been asked to relocate their animals and herders to the fodder banks and utilize the facility. According to the MOFA officer, the fodder bank at Wawase can contain 5,000 cattle, and there are proposals written to the national government to create another four, including one in the Dwerebease area, to be used by herders in the KED. The DPO stated that the use of fodder banks by herders would help control the feud between indigenous farmers and Fulani herdsmen, since cattle can be easily controlled inside the fodder bank and prevent farm destruction. However, most herders have not relocated to the fodder banks. When the Public Relations Officer of GNACAF and some herders were asked why they are still in the area, they indicated that the fodder banks could not accommodate all the cattle in Kwahu area (the fodder banks serve all the four districts in Kwahu). Moreover, they stated that there are no measures in place to control and prevent diseases as well as grow pastures for their animals, especially in the dry season.

Finally, **the policy of expulsion (Operation Cow Leg, OCL) is used in attempting to resolve the conflict**. When the above methods are used, and peace does not prevail, the District Assembly with the help of the central government deploys security personnel to the villages. This policy is used by the government of Ghana since April 1988 to end violent conflict between farmers and herders. In the study villages, OCL was first used in early 2000 and then in 2005

¹⁸ The DPO explained that there is difficult now in getting the accurate of cattle in the district because some cattle owners initially under declared. The reason being that they thought the exercise was for taxation.

when the villages were under Kwahu South District (Interview, DPO 2017). Nevertheless, the expulsion policy has now become an annual occurrence (every harmattan season), since the KED was created in 2008 (Interview, DCOP 2017). The policy is usually used as the last resort when a conflict escalates and becomes ferocious. The DISEC in collaboration with the REGSEC is tasked to deploy more police and military officers to control and end the conflict under OCL. As discussed in Chapter 3, OCL requires the security officers to evict Fulani herders and their cattle with force. A CID officer asserted that the OCL has been useful because, in his view, without it most of the villages in the district would have been desolate and more death and injuries would have occurred. Nonetheless, most respondents (farmers) claimed that some security officers (especially police officers) collude with the herders and do not carry out the operation efficiently. Moreover, the DCOP stated that the Abetifi police station with less than 18 personnel serve more than 20 villages, including the study villages, and lack adequate resources to respond to all issues as they are expected to. All these have affected the execution of the policy. As indicated earlier, Tonah (2002) observes that the use of OCL often worsens the farmer–herder conflict instead of solving it. He argues that whenever Fulani herdsman are evicted from a conflict area, they return stronger to fight after some months. From January–March 2017, there was police patrols and surveillance in the study villages as a yearly ritual but a few months after they left the area, the conflict re-occurred and nine people were reported dead by the media in Dwerebease and Oboyan¹⁹. The veterinary officer for the study area stated that Fulani herders value the life of their cows more than their own lives, so when their animals are killed during OCL, they return and retaliate with brute force. These confirm the argument that the use of OCL since 1988 by the government has not helped to end the conflict. The expulsion policy has been a failure in the study area due to four main reasons. First, Fulani herders have strong ties with some traditional rulers and landlords, who see each other as business partners with regards to land. They (traditional rulers) host and protect them in return for cash and gifts such as a cow for festivals and other celebrations. Herders often get information/tip-offs from these traditional rulers about any OCL plans, which help them to take safe positions. Secondly, most of the cattle tended by Fulani herders are owned by indigenous, Ghanaian businessmen, chiefs, politicians and other influential members of the community. These influential people are the same people who have

¹⁹Citifmonline.com (29 October 2017). 9 dead after Fulani herdsman and farmers clash. Available at: <http://citifmonline.com/2017/10/29/9-dead-after-fulani-herdsman-and-farmers-clash/>

the power to evict the Fulani herders. In effect, when OCL teams have evicted Fulani herders, most of the cattle remain behind. When the dust settles, these 'big men' aid their return to cater for their cattle. Thirdly, security officers who are deployed to undertake such exercises are sometimes bribed by cattle owners, so they favour some herders or intentionally do not carry out the operation well. The findings also revealed there is not sufficient logistical resources for the police to carry out the exercise efficiently, so they are unable to go deep to the hideouts (in the bush) of Fulani herders, since the herders also wield sophisticated weapons. Finally, the ECOWAS protocol on free movement, which allows people and goods across member states, makes it difficult to evict nomads from other countries and bar them from entering again. This protocol therefore limits the implementation of OCL.

6.9. Internal measures used for conflict resolution

Glowacki and Gönc (2013) argue that to achieve sustainable peace when there is a conflict between resource users, internal traditions and customs must be exploited. They found that in resolving a conflict among pastoralists in Kenya and Ethiopia methods used include engaging traditional rulers, changing cultural norms, educating actors and signing a peace treaty. The results show that internal measures may be used in managing and resolving the conflict apart from government policies and actions. These include negotiation between actors, engagement of elected assembly representatives and involvement of traditional authorities.

When conflict breaks out, the first step to resolve it is that the actors involved (herders and farmers) try to find an amicable solution. For instance, if a farm is destroyed by cattle, the farmer and the cattle owner and or herder meet for dialogues and negotiations in a bid to resolve the destruction. When an agreement is reached, the cattle owner pays an agreed amount as compensation to the farmer and refrains from entering the farm with cattle until crops are harvested. Secondly, if the first method fails, the case is referred to elected district assembly representative(s) and unit committee members who act as mediators for the conflicting parties. They listen to the case of both parties and settle the matter, whereby in most cases the wrongdoer is asked to pay compensation, which is ensured by the assembly representatives and unit committee members. Lastly, if these methods fail, another way of resolving the conflict at the

village level is the engagement of chiefs and community elders. In the villages, traditional courts are established to settle minor disputes between locals. This court is used when farmer–herder conflict is referred to traditional authorities for adjudication. The chief sit with his elders in the traditional court to mediate and adjudicate conflicts brought before them. The individual who is found guilty by the traditional court is ordered to pay compensation to the innocent party (farmer or herder), who may ask for a reduction or flexible terms of payment. Besides, when chiefs and elders get information about plans to attack Fulani herders and vice-versa, they can avert it through a mediation process. In Dwerebease, Oboyan and Hweehwee, traditional rulers have played a vital role in managing and resolving the conflict since both parties involved in the conflict reveres them. Nonetheless, this study found that most conflicting parties, especially farmers, believe that chiefs are in bed with cattle owners and Fulani herders, farmers alleging that chiefs lease lands to them to make money. Moreover, chiefs have lost many powers and functions due to the establishment of modern government and institutions such as District Assemblies and churches (Abotchie, 2006) making many farmers prefer using modern courts, the police or other institutions.

7. CONCLUSIONS AND IMPLICATIONS

The research findings and their correlation to the objectives of the study are summed up in this chapter: the nature of the conflict and answering of the research questions will be presented in this section. Finally, recommendations on how to address the recurrent conflict between farmers and herders are made.

7.1 Nature of the conflict: Environmental scarcity theory

Scarcity of resources may be a major concern among people who have natural resources as their primary source of livelihood. Homer-Dixon (1999a) argued that there is high risk of conflict when lands are scarce and that people who migrate to other areas due to scarcity will face opposition from the indigenes, leading to battles for survival and control. Percival and Homer-Dixon (1998) classified a situation where population creates pressure on renewable resources as demand-induced scarcity.

The manifestations of conflict in the study area include clashes over access to land, destruction of crops, killing and rustling of cattle, spraying of weedicides and pesticide by farmers, violence to women, water pollution and burning of grasses and farming close to grazing lands. This confirms the findings by Okoli & Atelhe (2014) in Nigeria and Olaniyan (2015) in Agogo, Ghana which was discussed in chapter 3. The results also agree with most of the causes outlined in the Stakeholders' Meeting Report issued on 13/1/2015 (Appendix 1).

Nevertheless, my findings indicate that a major cause of conflict between farmers and herders in the study area is competition over scarce land and water for livelihood activities. Growth in human population, increase in cattle business and commercial farming and immigration of herders from neighboring countries have contributed to scarcity of land in the study area. During the dry season, when grasses and most water bodies used to feed cattle dry up, herdsmen from different parts of the country and adjoining countries migrate with their cattle to the south particularly Agogo, Afram Plains and the study area. Therefore, the cattle population in the study area increases, causing farmers and herders to compete for land and water. Since farms are scattered in the study area, including the innermost part of the forest where cattle rearing is conducive, they are liable to being used by herders and their cattle. Most respondents across the three farming villages asserted that scarce land and water, especially in the dry season, ignite the

conflict. Herders migrate in search of pasture and water for their cattle while the sedentary farmers see themselves as autochthons and seek to prevent newcomers from owning land.

Lastly, my findings also suggest that leasing of vast lands to cattle owners, population growth and contrasting goals of farmers and herders have exacerbated scarcity and therefore conflict over land. My assessment is in line with causes of the conflict outlined in the stakeholder meeting report from January 2015 (see Appendix 1).

7.2. Answering the research questions

To achieve the primary objective of this research, in this section, I will provide answers to the research questions based on my findings. The questions will be answered according to the sequence it follows in Chapter 1.

7.2.1. Who are the parties involved in the conflict?

As mentioned in Chapter 6, the conflict is between two groups, that is; farmers (native, migrants and immigrants) and Fulani herders (settled and transhumant). From the findings, the two groups often clash over the use of land and water, especially in the dry season. Apart from the two groups, other parties who play different roles either directly or indirectly in the conflict include cattle owners, traditional authorities, local government authorities, security officers, community task force and youth groups. Cattle owners are mostly natives who employ Fulani herders to tend their cattle through open grazing method which is not compatible with farming system practiced in the study villages. Traditional authorities are the custodians of the lands who usually lease lands to cattle owners and herders for their activities. They have a good relationship with herders, and most of them support their activities. Local government authorities, security officers, and community task force are those who try to prevent, control and resolve the conflict entirely. They do this through dialogue, mediation, court settlement and other means such as expulsion.

7.2.2. What relationship exists between farmers and herders in the study area?

Regarding relationship, the struggle over resources has destroyed the warm and peaceful relationship that existed between the two groups. Currently, the friendly relationship has changed

to friction or conflictual relationship between farmers and herders as each group seeks to gain access and control land/water especially in the dry season for their activities and survival. The conflictual relationship has led to frequent violent clashes, loss of lives and scores injured. Nevertheless, they have maintained a good economic relationship as herders' purchase foodstuffs from the market or directly from the farmers at the farm gate, and farmers also depend on herders for fresh cow milk and cheap beef.

7.2.3. What factors have triggered the conflict among the main parties involved?

Most of the respondents across the three villages indicated that scarce land and water, especially in the dry season, always ignite the conflict. In an attempt by both sides to secure enough lands to operate, they usually clash resulting in conflict. This echoes the argument that people who migrate to other areas due to scarcity face opposition from the indigenes. In this study, Fulani herders are those who have relocated to the study villages in search of pastures and water for their cattle while farmers are the autochthons.

Also, the method of cattle rearing (pastoralism) is unharmonious with the kind of farming system practiced in the study villages, hence, secondary cause to the conflict. The pastoral practice of rearing cattle demands that cattle be guided through the forest to feed (open grazing method), in the process, they destroy farm produce and crops on the field which instigate farmers also to attack herders and their cattle. Due to the battle for survival, these Fulani herdsmen in the course of protecting their animals mostly 'even the score' by counter-attacking farmers, some farmers and herders die as a result and others are injured since it often becomes violent. The youth group and other indigenes are stimulated to join which aggravate the conflict.

Moreover, the findings revealed that for cattle to survive during the dry season, most herders practice burning and saltation of grass. This ensures that fresh pastures grow for cattle to feed on it. However, this practice is not suitable for farmers since it often leads to burning of their farms and degradation of soil fertility. Farmers, on the other hand, apply chemicals such as weedicides and pesticides when embarking on commercial farming which is also incompatible to the pastoral system of rearing cattle since most of these chemicals are lethal to the health of the herds. All these sparks the conflict between the two groups.

In sum, the causes of conflict include; competition over lands, destruction of crops, killing and rustling of cattle, spraying of weedicides and pesticide by farmers, violence to women, water pollution and burning of grasses and farming close to grazing lands.

7.2.4. What are the effects of the conflict on economic activities, particularly agriculture in the study area?

The economic effects ascertained from the fieldwork include increased unemployment rate, especially among the youth, fall in the quantity of agricultural and cattle production, loss of revenue and shortage of workforce. The destruction of crops has caused affected farmers to lose income which in effect have affected their ability to meet other household consumption and expenses such as fees of their wards, health bills, and electricity bills. Due to the hostile attitude of the host villages, some herders/cattle owners are forced to sell out their cattle to avoid been killed during OCL which has caused a reduction in cattle production. The findings also revealed that most farm laborers especially the youth have relocated to the towns and cities in search of new opportunities due to the volatile security of the area.

7.2.5 What are the other effects of the conflict?

Other consequences of the conflict include loss of lives, displacement of people, destruction of properties and formal education of children negatively affected. The research findings demonstrate that household properties such as houses, farm tools, trucks, etc. are often targeted and destroyed by opposing parties in the conflict. The destruction affects the ability of farmers and herders to execute their daily activities. In severe cases, farmers/herders whose houses are destroyed are displaced and sometimes seek refuge in other villages. Also, the research shows that the conflict often becomes violent and bloody especially in the dry season. Therefore, some members of both parties in the conflict are killed. Finally, with regards to education, the study findings indicate that schools have been shut down temporarily due to security threats as some school children from neighbouring villages trek to the school in the study area through the bush, and therefore parents fear they can be harm. Lastly, information gathered indicate that the conflict has caused an increase in possession of weapons such as guns by members of parties involved in the conflict.

7.2.6. What is the effect of the conflict on food security in the area, including how different actors perceive this?

The research sought to look at availability and access to food amidst the conflict. Regarding availability, most farmers have reduced their production because; 1. they are unable to secure loans to expand their farms due to the constant destruction of crops and 2. to manage and protect their farms from cattle destruction by regular visits. Also, the competition with herders for land has caused a reduction in farmlands causing a decrease in agriculturalists production. Regarding access to food, the conflict has made it difficult for female farmers with farms in remote areas to harvest their crops for fear of being attacked or killed. For this reason, they purchase food from the market or depend on neighbours, relatives or support from the local government to meet their food needs. Unfortunately, the local government had reduced resources towards services that help food security and diverted it to solve the conflict. The situation has also affected the food security of households that offer support to affected farmers. Moreover, displaced farmers' farms are left untended and crop unharvested since they have relocated, and the poor ones among them lack funds to purchase food. In sum, the conflict has affected people able to produce/increase production, transfer and trade food the way they do when there is no conflict in the area.

Furthermore, farmers perception on food security is that production of food will continue to decline while the conflict lasts which will negatively affect food availability soon. This will cause demand for food to exceed supply, therefore, an increase in the market price of foodstuffs. Herders were of the view that access to food has been a challenge due to the conflict thereby affecting food availability in their households. The MOFA personnel and the DPO were optimistic that despite the conflict, food insecurity would be prevented due to the policies and programs such as Ghana School Feeding Program, Planting for food and Jobs implemented by the government towards ensuring stable food security in the area.

7.2.7. What has been the government's policies/interventions in controlling and resolving the conflict?

To resolve the conflict, four key actions have been taken by the government (local and national). First, dialogue/stakeholders meeting is held every month at Abetifi to address issues and plans taken to forestall future occurrence. Secondly, task forces have been set up (not well resource) in the various villages to respond quickly to any confrontations in the villages before alerting the

police. Moreover, fodder banks have been created by the national government at Kwahu Afram Plains for the herders to move their animals there and practice ranching. Lastly, the policy of expulsion (OCL) is used by the government when the conflict becomes intensive and violent. It is always used as the last resort to drive herders away by the joint action of military and police personnel.

7.2.8. What policies and measures have the government taken to affect food security in the area?

Three key policies have been put forward by the government to prevent food insecurity. First, school children in public schools are the villages are given a balanced meal every school day under the GSFP to help solve hunger among children in the area. Most of the foodstuffs used for the program are purchased from local farmers to encourage them to increase production to ensure food security. Secondly, the PFJ program implemented by the current regime is to encourage and support farmers especially the youth to return to the villages and start commercial farming to boost food production. This will also help reduce prices of foodstuffs on the market. Under the PFJ program, the government is subsidizing fertilizers, modern agricultural tools, giving farmers loans, seeds that can withstand climate change, among others to support agricultural production. Lastly, more Agric extension officers have been employed to educate farmers about modern methods farming and how to control pests and diseases. Also, under the RLC researchers help to cure new diseases and find out how to control dangerous pests fall armyworm that disturbs farmers. Aside the policies, individuals or victims receive direct supply of food from their neighbours, the MP and donation of food items from NADMO to support affected households. The policies do not favour herders since they do not benefit directly like farmers and other locals.

7.3 Implications of the study findings

This study has evaluated the issue and in the following presents recommendations towards conflict resolution and improved food security in the study area.

7.3.1 Conflict Mediation Committee

In the interim, the KED should enact a by-law to establish a conflict mediation committee in the study villages. The committee should comprise of leaders of key stakeholders thus: farmers, herders, cattle owners, traditional authorities, security officers, assembly representatives and youth groups. First, the committee should be tasked to meet biweekly especially in the dry season to map up strategies to obviate any conflict and discuss issues related to killings, shootings or physical attacks. Again, all grievances reported to them must be addressed before it degenerates into conflict during their biweekly meetings which will help reduce the frequency of conflict. Finally, they should be given the mandate to settle farmer– herder conflict at the village level and compensations paid in their presence if it involves farm destruction or cattle rustling/killing. This will help solve complaints by herders that farmers overstate compensation claims which the study uncovered. The composition of the committee will also help to build confidence and trust, which is a crucial instrument in mediation and conflict resolution process.

7.3.2 The need to address institutional failures

It is evident from the findings that the police in the district is under resourced and no police station is in the study villages to maintain law and order. The findings indicate that the police station in Abetifi is the only station with 8-10 personnel that serve the three villages and more than seventeen villages which is a challenge to security in the area. Therefore, it is imperative to establish a station at Hweehwee and Dwerebease to attend to any attacks/violence/conflict as well as improve security. Aside that the police should be provided with all the necessary resources needed since the district police is new and they lack more resources including car to facilitate their duties. Police personnel who are found guilty of taking bribes from cattle owners should be punished and possibly transferred from the area to ensure that the police force remains neutral in finding a solution to the conflict.

Moreover, farmers and herders complained about delays in court process for resolving such conflicts and its being a financial burden since they spend more including transportation anytime the case is to be heard. It is therefore imperative to institute a special department/court with the sole responsibility of adjudicating farmer – herder conflict and ensuring that justice and fairness are delivered. This will restore public confidence in modern courts with regards to farmer – herder conflict resolution.

Finally, key informants including leaders of settled Fulani herders group (GNACAF) revealed that the crux of the problem is the porous nature of Ghana borders which allow easy entry by nomads from neighboring countries. The findings also show that immigrant nomads cause havoc as they make transits. It is therefore recommended that immigration checks should be strengthened to ensure that all immigrant nomads who enter the country are duly registered and identified by their country with all relevant details of location, employer details etc. They should also be restricted to a designated location and permitted to stay for a specified period after which they should be return to their country. Aside this, the district should form a task force that will partner with settled Fulani herders to fish out immigrant nomads who go beyond their boundaries and expelled to help regulate immigrant nomads internally. The national government must fully implement Article 1 of the ECOWAS Regulation on Transhumance Between ECOWAS Member States 2003 which seeks to regulate herd movements and take place within the demarcated corridors permitted by member states. This means that grazing reserves must be provided including boreholes.

7.3.3 Long term recommendations

As a long-term solution, it is recommended that at the local level cattle owners, Fulani herders and cattle should be registered and based on that a fodder bank should be established in Dwerebease enclave with all the needed resources such as water, veterinary doctors etc. It must be remote from crop farming activities and measures set to regulate the activities of both farmers and herders to prevent encroachments, allay fears of destructions and allow both parties to carry their activities in peace.

The state must accept that these two group of farmers will continue to remain in the country and the same area. It is therefore imperative that government policies and laws must seek to find space for the two groups to operate in harmony. For this reason, confinement or ranching system of cattle rearing be introduced to replace open grazing method which has proven to be incompatible with farming system practiced in Ghana. Thus, a ranch law should be enacted by Ghana's parliament to control the activities of herders and punishments set should there be any violations of the law. Since operating under ranch system is expensive compared to open grazing, policies should be implemented by the government to support cattle owners and herders at the initial stage when the law starts operating just like they support crop farmers. The ranch

system will help to generate employment to many the Ghanaian populace especially the youth than what is presently available. This is mainly because the various aspects of managing a ranch or cattle farm will require the expertise of farmers (growing pastures), herders tending the cattle, marketers and accountants to keep running.

7.3.4 Recommendations for sustenance of food security

The study shows that there is high possibility of food insecurity in the villages if the conflict continues unresolved since some affected individuals are facing food shortage and hunger in their households. Therefore, the following measures can be adopted to solve any food challenges. First, more Agricultural Extension Officers should be employed to educate farmers about modern technologies that will help increase their yields such as the applying standard fertilizers, pests and weeds control etc. More to this point is that farmers must be encouraged to use improved varieties of crops such as *obatanpa* maize, rapid plantain and cassava multiplication that will take short time on the field but also increase yields. Moreover, the government must support farmers with finances to go into irrigation farming during the dry season to avoid farmers planting along and around river banks where cattle also depend during the season. Also, traditional rulers should create *community buffer stock* and farmers sensitized to donate some of their annual harvest for storage. This can be used to support community members/farmers affected by the conflict and excess sold at moderate price during lean season to avoid high prices of food on the market. The monies raised can be channeled into developmental projects in the community/village. Also, farmers should be supported financially by the national government to do more commercial farming. This can be done by employing more youth under the PFJ program that has been rolled out by the current administration which will minimize youth migration to urban centers. While farmers' harvest increase, the local government authorities must purchase them for the school feeding program as well as establish a factory under the government policy "*one district, one factory*" to process maize, tomatoes and groundnuts into finished products since they are highly produced crops in the district. This will help to manage waste during bumper harvest and farmers not running at a loss by selling at meager prices. Regarding Fulanis, during conflicts NADMO, MOFA and the government should not limit assistance such as provision of food to only farmers and locals but herders should also be served since the basic

rights of all individuals should be protected by governments without discriminations. Lastly, herders should be encouraged to start Agro-pastoralism which combines crop production and cattle rearing. This will reduce herder's dependence on farmers for food. Their cattle could feed on the crop residues. The Research and Extension Linkage Committee should consider this policy and provided the needed education.

7.4. Concluding remarks.

In summary, farmer–herder conflict has been ongoing in Ghana for more than a decade. Some of these conflicts usually occur as a result of ethnic differences, howbeit, the nature of the conflict in the study villages can only be attributed to the fight over scarce arable lands and water. The scarcity increases every dry season due to the migration of herders and other farmers to the area. Competition over land and water becomes inevitable and eventually spark the conflict. Nevertheless, other causes of the conflict from the findings include; destruction of crops, killing and stealing of cattle.

The economic effects ascertained from the fieldwork include increased unemployment rate especially among the youth, fall in the quantity of agricultural production, loss of revenue and shortage of workforce. Other consequences of the conflict per the findings include: loss of lives, displacement of people, destruction of properties and formal education affected negatively. Regarding education, the study findings indicate that schools have been shut down temporarily due to security threats as some school children from neighboring villages trek to the schools in the study area through the bush and therefore parents fear they can be harm.

Also, the findings from the study villages reveal that the conflict has caused a reduction in food production which has negatively affected household food security. This major finding from the study villages in addition to the perception of key stakeholders (see Chapter 6), the study concludes that the conflict has caused affected individuals and households to be food insecure and a threat to food security in the district.

Although policies have been implemented by the national and local government to curb food insecurity, the key policy that has been set at the national and district level to mitigate farmer – herder conflict is ‘Operation Cow Leg’ which as explained has not been effective in ending the

conflict. But with the country being part of the ECOWAS, it is difficult to expel nomads from other West African Countries merely.

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APPENDICES

Appendix 1

KWAHU EAST DISTRICT ASSEMBLY REPORT ON STAKEHOLDERS MEETING HELD AT THE INSTANCE OF THE KWAHU TRADITIONAL COUNCIL IN CONNECTION WITH THE ACTIVITIES OF NOMADIC HERDSMEN HELD ON 13TH JANUARY 2015 AT ABENE

INTRODUCTION

At its meeting held on 8th January 2015, the Kwahu East District Security Council made an urgent appeal to Nananom to support in efforts to quell the recent spate of violent confrontations between the indigenous farmers on one hand and the Nomadic Herdsmen on the other. A stakeholders' meeting was subsequently held at the instance of the Acting President of the Kwahu Traditional Council, Nana Asiedu Agyemang III on 13th January 2015 at Abene, the Traditional Capital of the Kwahu Traditional Area.

Objectives of the Meeting

The main objective for the meeting was to provide a common platform for all interest groups in the ongoing crisis associated with activities of Nomadic Herdsmen (a.k.a Fulani Herdsmen) to deliberate and agree on ways for addressing the current crisis.

It was also aimed at seeking consensus on the best sustainable way of addressing the operations of Nomadic Herdsmen (Fulanis) in the Kwahu Traditional Area in a manner consistent with approved animal husbandry practices.

Communities affected by the crisis

Even though the activities of the herdsmen cover almost the entire Kwahu East District, the areas mostly affected by the current crisis include: Abotriansa, Dwerebease, Mpaemu, Onyemso, Oboyan, Pepease and Saka.

Stakeholders in attendance

The meeting was attended by all the major stakeholders affected by the crisis. They included:

- The Acting President of the Kwahu Traditional Council, Nana Asiedu Agyemang III
- Members of the Kwahu Traditional Council
- Nananom

- Zongo Chiefs of Kwahu, Mpraeso, Tafo and Abetifi
- The Hon. District Chief Executive, Nana Antwi Siaw
- Members of the District Security Council
- The Divisional Crime Officer
- Security Agencies
- Indigenous farmers affected by the crisis
- Cattle owners
- The Press
- The public

UNDERLYING ISSUES IN THE CRISIS

At an open forum, some alleged victims in the crisis made a number of claims all of which were attributed to the Nomadic Herdsmen. The Herdsmen were also allowed to respond to the claims that were made. The following issues were adduced from the claims and counter claims of the two parties:

- Some indigenous farmers had been accusing Nananom of allocating their lands to the herdsmen accusing them of complicity in the crisis. This claim could not however be authenticated by any of the farmers.
- A copy of tenancy agreement the late Kwahuhene, Daasebre Akuamoah Boateng II, is purported to have entered into with some five Fulani Herdsmen was also explicit on a number of conditions which the herdsmen had violated. The agreement had also expired.
- It was also alleged that due to the onset of the harmattan season and resultant drying of grass, the Herdsmen deliberately send the Animals to the farms to trample and feed on the crops. The cattle owners however could neither accept nor deny this accusation.
- Some farmers also claimed that the fully armed herdsmen have been frightening them from interfering in the grazing of the animals on their farms. Those who gather courage to challenge them have become targets of attacks by the herdsmen.
- The herdsmen in one instance had sent their animals to eat up a Kia load of plantain a trader had purchased from the farm gate and was awaiting conveyance to Accra. An attempt by the trader and passersby to intervene was met with a threat of shooting by the armed herdsmen.
- The main sources of drinking water for the villagers had been taken over and virtually destroyed by the cattle.
- The Herdsmen had been preventing the farmers from applying weedicides on their farms accusing them of poisoning their cattle.
- The two parties accused each other of killing their people. It came out that three indigenous farmers had been shot of which two had died. One of the dead was shot at his door post at home for no apparent reason. Two herdsmen had also died but the cause of death of one of them was not known.

- A cattle owner recounted the shooting to death of ten (10) of his cattle by an unknown assailant at Aseseeso, a farming community near Hweehwee
- It was also conceded that some of the cattle owners and their herdsmen were law abiding even though majority of them were accused of being violent and disrespectful to the rights of the indigenous farmers.
- Finally, the Police were accused of complicity in the crisis for their persistent failure to handle cases involving Fulanis impartially. For example, the Police were accused of allowing the herdsmen to move about with deadly weapons while indigenes get arrested for a similar offence.

Input by the Divisional Crime Officer

On his part, the Divisional Crime Officer of Nkawkaw urged the aggrieved farmers to have confidence in the Police. He assured Nananom that his outfit will investigate the case of complicity on the part of the Police Officers and bring culprits to book. He proposed regularization of the activities of the herdsmen by first identifying and registering them so that individuals can be held responsible for their actions.

Input by the Zongo Chiefs

The leader of the Zongo delegation who is also the Zongo Chief of Kwahu, appealed for calm and tolerance on behalf of the herdsmen and the cattle owners. He pledged his personal involvement in helping to find a lasting solution to the impasse so that the two parties can co-exist peacefully. He advised the cattle owners to control their herdsmen and warned them of disowning recalcitrant herdsmen for the law to deal with them. Other Zongo chiefs present associated themselves with the statement by the Zongo Chief of Kwahu.

Address by the Hon. District Chief Executive

In his address, Nana Antwi Siaw – DCE, appealed to both parties to remain calm in the phase of the current happenings. He reiterated Government’s resolve to help find lasting solution to the problem. As an interim measure, he indicated that Police Patrols had commenced in all the affected communities and that it would be sustained to ensure peace and security for all to go about their normal duties. He urged both parties to refrain from further attacks and allow the security agencies to do their work to maintain peace and security.

He appealed to Nannom to collaborate with the Assembly to device a sustainable solution to the perennial crisis which had become a bane on agricultural production in the district.

Remarks by the Acting President of Kwahu Traditional Council

On his part, Nana Aseidu Agyemang III, Adontenhene and acting President of Kwahu Traditional Council, who chaired the meeting called on both sides to remain calm and allow the security agencies to maintain peace in the area. He admonished the cattle owners to control their herdsmen who he conceded were the main perpetrators of the heinous crimes. He noted that Kwahus are farmers hence Nananom would not allow the alien herdsmen to deprive them of their source of livelihood. He warned of forcibly ejecting the herdsmen from Kwahu Lands if they continued to visit atrocities on the indigenes.

He appealed to the security agencies to retrieve all deadly weapons from the herdsmen to ensure peace for the indigenous farmers to go about their activities. He also cautioned the indigenes against deliberately killing the cattle or attacking the herdsmen at no provocation.

He appealed to Central Government to support the District Assembly and Nananom to provide a permanent location for cattle rearing saying Nananom were ready to release large tracks of land to help confine the animals for sustainable animal husbandry practices in the District. He vehemently denied the complicity of Nananom emphasizing that none of them had issued any track of land to any of the cattle owners hence those making those allegations and threatening the lives of some of the Nananom should refrain from such acts.

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RESOLUTION

After lengthy deliberations on the issues, a six (6) point resolution was made for implementation in the short to medium term as a road map for sustainable animal husbandry practices in the Kwahu East District.

1. Police Patrol at Affected Areas

That as an immediate intervention to curb further attacks from both sides, the Police Patrol exercise which had already commenced should be intensified in all the affected areas including Dwerebease, Onyemso, Oboyan, Abotriansa, Pepeace among others. There is therefore the need for the support of RECSEG to implement the patrol activities effectively.

2. Retrieval of arms and deadly weapons from the Herdsmen

That the security agencies should take steps to retrieve all deadly weapons including guns in the custody of the herdsmen which they were alleged to have been using to threaten the indigenous farmers.

3. Upgrading of Police Command and Establishment of Police Post at Hweehwee

The Kwahu East District is vast in terms of land size and highly populated. There is therefore the need to not only increase the Police strength but also upgrade the police command to a District status to ensure effective policing in the District. It is also recommended that a Police Post be established at Hweehwee to make policing accessible to the affected communities.

4. Provision of Patrol Vehicle and Other Logistics for Police

It came to light that there was no police vehicle for patrols in the District as the Toyota Land Cruiser with registration number GP 2799 which was originally assigned for Abetifi-Hweehwee patrols had been withdrawn to the Divisional Command at Nkawkaw. Accordingly, it is highly recommended that a vehicle should be assigned to undertake such patrol duties in the district.

5. Identification and Registration of Cattle Owners and Herdsmen

As a medium-term measure, it is highly recommended that all cattle owners and their herdsmen should be identified and registered to provide data for tracking and monitoring their activities. The registration will lead to the identification of the herdsmen by their specific locations in the District so as to make it easy to attribute responsibilities for destructions that occur in future.

6. Confinement of the cattle in a Kraal

As a long-term measure, Nananom have agreed to allocate large tracts of lands towards the establishment of a Kraal in which the cattle can be confined and fed so as to prevent them straying to farms and water bodies. Details of the proposal are to be discussed with Nananom for the necessary arrangements to be made.

Conclusion

The continuous activities of the Nomadic Herdsmen are not only security threats to the District but also a threat to food security and socio-economic life of the people in general. It is therefore the humble plea of the Assembly for the support to REGSEC to address the issue comprehensively and sustainably.

In the interim, approval is being sought to commence the registration of all alien Herdsmen in the District.

DISTRICT CHIEF EXECUTIVE
(NANA ANTWI SIAW)

Appendix 2: Yields of staple crops in Kwahu East District

Main Outputs	Output indicator	Past Years		projections		
		2015	2016	Budget Year 2017	Indicative Year 2018	Indicative Year 2019
Increased yields in:	Metric Tons per Hectare					
Maize		1.80	1.80	2.0	2.2	2.4
Rice		2.60	2.60	2.80	3.0	3.2
Cassava		19.30	19.30	22.00	25.00	28.00
Plantain		9.50	9.50	9.70	9.80	10.00
Increased production of:						
Poultry (including guinea fowl)	Number					
Pigs						
Sheep						
Increased access to relevant technologies along the value chain	Number of AEAs receiving ToT training on new technologies	5	5	8	10	10
	Number of FBOs and CBOs trained on new technologies developed	16	20	32	50	65
Improved breeding stock distributed	Number of improved breeds	Nil	Nil	Nil	Nil	Nil
Zoonotic diseases reduced (vaccinated)	Number of animals tested for TB & Brucellosis	Nil	Nil	Nil	Nil	Nil
Adoption of Good Agricultural Practices	Number of farmers	8,619	8,705	8,887	9,205	10,522
Adoption of GAP practices by farmers	Number of farmers	8,619	8,705	8,887	9,205	10,522
FBOs	Number of	16	20	32	50	65

Source: MOFA, KED

APPENDIX 3:**VALUATION OF DESTROYED CROPS ON FARMLANDS.**

DAMAGE ASSESSMENT OF FARM CROP AT KEDA- 09/03/2017

NAME OF FARMER: KENNEDY BAAH

CROPS: MAIZE, TOMATO, CASSAVA & GROUNDNUT

LOCATION: DWEREBEASE

DAMAGED CROPS	CROP GROWTH STAGE	FARM SIZE (ACRES)	ESTIMATED YIELD (BAG/CRATE)	ESTIMATED REVENUE/ YIELD (GHC)	% DAMAGED	ESTIMATED REVENUE/ % DAMAGED (GHC)	REMARKS
Groundnuts	Matured	4.7 Acres	54.5Bags (Size: No. 5)	Ghc 8,175.00 @ Ghc 150.00/ Bag	60%	4,905.00	Grazing of Groundnut field by Cattle
Tomato	Fruiting	3.4 Acres	231.2 Crates (26kg Crates)	Ghc 41,616.00 @ Ghc 180.00/ Crate	50%	20,808.00	Grazing & Stamping on Fruits by cattle
Maize	Matured	6 Acres	60 Bags (Size: No. 5)	Ghc 10,800.00 @ Ghc 180.00/ Bag	50%	5400.00	Grazing & Lodging caused by cattle
Cassava	Matured	1.5 Acres	150 Bags (91kg)	Ghc. 5,250.00 @ Ghc 35.00/Bag	50%	2,625.00	Grazing by cattle

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