



Norges miljø- og
biovitenskapelige
universitet

Master's Thesis 2023 30ECTS
Faculty of Landscape and Society

Farmer-Herder Conflicts In Ghana: Assessing the Underlying Sources of Conflict and Measures to Prevent Conflict Recurrence in The Kintampo South District

Abigail Adjah
Master of Science in Global Development Studies

Declaration

I, Abigail Adjah hereby declare that this thesis is the result of my own work and that I have only used the sources indicated. I also confirm that I have followed the guidelines for scientific integrity at the Norwegian University of Life Sciences.

I confirm that I have included a list of bibliography that shows all sources that I have used in my research, and that I have made sure to follow the specified guidelines for citation and referencing style.

Furthermore, I assure that this thesis has not been previously published in its entirety or in part and has not been submitted to any other institution seeking a degree or academic certificate.

Signature: _____ Date: _____

Acknowledgement

I would like to express my profound gratitude to my friends and loving parents who supported me with prayers and encouragement throughout my studies at NMBU.

I would like to thank my supervisor, Dr. Ruth Haug, whose knowledge and suggestions guided me throughout the writing of this thesis.

TABLE OF CONTENT

LIST OF TABLES	vii
ABSTRACT	viii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Study background	1
1.2 Problem statement	3
1.3 Research questions	4
1.4 Significance of study	4
1.5 Scope of study	5
1.6 Thesis organisation	6
CHAPTER TWO	7
LITERATURE REVIEW	7
2.1 Introduction	7
2.2 Origin of Fulbe herders in Ghana	7
2.3 Factors that attracted Fulbe herders in Ghana	8
2.4 Theoretical framework	10
2.4.1 Theory of environmental scarcity	10
2.4.2 Conflict Transformation Theory	11
2.5 Underlying causes of farmer-herder conflicts	12
2.6 Response to farmer-herder conflicts	16
2.8 Conceptual framework	18
2.8.1 Narrative to conceptual framework	19
CHAPTER THREE	20

RESEARCH METHODOLOGY	20
3.1 Introduction	20
3.2 Philosophical foundation of study	20
3.3 Research approach	21
3.4 Research design	22
3.5 Sample size, sampling techniques, and sampling procedure	23
3.6 Sources of data	24
3.7 Data collection tools and method	24
3.8 Data analysis	25
3.9 Ethical considerations	25
CHAPTER FOUR.....	27
PRESENTATION OF RESULTS.....	27
4.1 Introduction	27
4.2 Demographic profile of local farmers	28
4.3 Demographic profile of Fulbe herdsman	35
4.4 Factors that attract Fulbe herders to Komendaa and Hindu	38
4.5 Causes of conflict between local farmers and Fulbe herders	44
4.6 Local actions initiated to prevent conflict recurrence	51
CHAPTER FIVE.....	56
DISCUSSION OF RESULTS.....	56
5.1 Introduction	56
5.2 Factors that attracted Fulbe herders to Komendaa and Hindu	56
5.3 Causes of conflict relations	59
5.4 Local actions initiated to prevent conflict recurrence	62
CHAPTER SIX.....	65

CONCLUSION AND RECOMMENDATIONS	65
6.1 Conclusion	65
6.2 Recommendations	67
BIBLIOGRAPHY	68
APPENDICES	73

LIST OF TABLES

Table 1 Sex distribution of local farmers	28
Table 2 Age group of respondents	29
Table 3 Ethnic background of respondents	30
Table 4 Marital status of respondents	31
Table 5 Type of family system	32
Table 6 Household size of respondents	32
Table 7 Level of education of respondents	33
Table 8 Respondents' major source of income	34
Table 9 Length of stay in the community	35
Table 10 Age groupings of Fulbe herders	36
Table 11 Marital status of Fulbe herders	36
Table 12 Ownership of cattle	37
Table 13 Length of stay in communities	37

ABSTRACT

The study explored the causes of conflict relations between local farmers and Fulbe herders and local/informal actions to prevent conflict recurrence in Komendaa and Hindu, in the Kintampo South District of Ghana. The theory of environmental scarcity and theory of conflict transformation served as the main theoretical guide for the study. The choice of Komendaa and Hindu communities as the study sites was informed by recent incidences of conflict between local farmers and Fulbe herders in both communities. The study was situated in the interpretivist research paradigm, with a qualitative research approach, and an exploratory research design. The study population consisted of local farmers and Fulbe herders of varied demographic and socio-economic profiles, local Chiefs, community members, officials of the Ghana Police Service, and representative of the Bono East Regional Security Council. The purposive and snowball sampling techniques were used to select study participants, with in-depth interview guides used for data collection. Qualitative data was subsequently analysed using a thematic analysis approach.

The results show a wide variety of factors that attracted Fulbe herders into Komendaa and Hindu communities. These include the availability of pasture and water sources, crisis in previous host communities, availability of social amenities and access to markets for cattle sale. The study found the causes of conflict between local farmers and Fulbe herders in Komendaa and Hindu to be multifaceted, and involve elements of resource competition. The destruction of farms and crops by stray cattle under the care of some Fulbe herders, and the subsequent retaliation in the form of stealing and killing of animals constituted the main cause of conflict between local farmers and Fulbe herders. Other causes of farmer-herder conflict in the present study include negative perceptions and discrimination towards Fulbe groups by local communities, cattle rustling and killing, rape and sexual harassment of young girls and women by Fulbe herders, and perceived partiality of traditional authorities in dispute resolution. Finally, local or community level initiatives specifically compensation by cattle owners, demarcation of land for cattle ranching, and establishment of community forums were found to be in place to prevent conflict recurrence in the study areas, suggesting that sustainable peace constituted a desired goal.

Keywords: Farmer-herder conflict, environmental scarcity theory, theory of conflict transformation, Fulbe herders.

CHAPTER ONE

INTRODUCTION

1.1 Study background

There have been severe implications for human lives, property, and peaceful coexistence in West Africa as a result of the frequent and deadly conflict between Fulbe herders and local farmers (Olaniyan, 2015: p.330). Resource shortages, climate change, and population increase have all contributed to low intensity clashes between Fulbe herders and local farmers (Bukari, 2017). Conflict between pastoralists and sedentary farmers is not a recent development and that there is recorded evidence that such conflicts expanded throughout West Africa in the 20th century (Bukari & Kuusaana, 2018).

Throughout the 20th century, farmer-herder disputes were most common in the West African savannah belt, notably in the Guinea, Sudan, and Sahel zones, where grain production was limited to brief rainy seasons and cow herding predominated. As a result, pastoralists gained access to enormous grazing pastures (Bukari et al., 2020). Yet by the middle of the 20th century, pastoralists started migrating from Burkina Faso through northern Ghana or Nigeria through Benin and Togo (Bukari, 2017). At the time, inhabitants of local communities had fewer contacts or relations with pastoralists, which meant that conflicts during this period were few or hardly turned violent (Kuusaana & Bukari, 2017). However, in recent decades, this pattern of migration of nomadic pastoralists resulted in numerous violent clashes or conflict between pastoralists and sedentary farmers or local communities, with adverse effects on human lives, properties and livestock (Olaniyan, 2015).

In West Africa, farmer-herder conflicts have increased in recent times, with studies such as Bukari (2017) and Paalo (2021) reporting violent clashes between herders and sedentary farmers in countries across the sub-region. The Armed Conflict Location and Event Data reported that between 2005 and mid-2021, at least 8,343 lives were lost to farmer-herder conflicts in Nigeria. Amnesty International also reported that due to climate change and increased human activity such as agriculture, farmer-herder conflicts were on the rise in Nigeria, with an estimated 3,641 lives lost to such conflicts between 2016 and 2018, and a further 300,000 people displaced within the same period (Amnesty International, 2018). Also, Ezenwa and Stubbs (2022) suggest

that in the first six months of 2022, an estimated 2,057 people had been killed in Mali, Niger and Burkina Faso due to farmer-herder conflict. The above highlighted cases point to the fact that conflict between pastoralists and sedentary farmers is a recurring social problem in the West African sub-region.

Like other countries in sub-Saharan Africa, Ghana periodically records violent clashes or conflict between sedentary farmers and cattle herders. These conflicts often involve Fulbe herders and local farmers or community members. The Gushegu district in the Northern region of Ghana is one such hotspot of violent clashes between local farmers and Fulbe herders. Between, 2010 and 2021, the area recorded 16 cases of conflict between local farmers and Fulbe herders, 17 cases of armed robbery and 22 cases of rape involving Fulbe herders as perpetrators (Abubakari, 2022). Abubakari (2022) further reports that records from the local chief of Gushegu indicated 102 cases of violent clashes between local farmers or community members and Fulbe herders, as well as 17 reported cases of rape involving Fulbe herders between 2016 and 2022. This data highlights the challenge of farmer-herder conflict in Gushegu, with such issues also highlighted in other regions or districts in Ghana such as in the case of farmer-herder conflict in Agogo reported by Agyemang (2017).

Conflict has also characterised the relations between local farmers and Fulbe herders in some communities in the Kintampo South district of Ghana. The earliest reports of conflict between local farmers and Fulbe herders in the district was in 2016 when 80 cattle belonging to nomadic Fulbe herders were killed by some irate youth of the Dumso-Bethel community due to the destruction of their farms and vegetation by the cattle (pulse.com, 2016). In a more recent news publication on modernghana.com (5th April, 2021), it was reported that more than 100 cattle estimated to be worth GHC 500,000 (approximately 85,000 USD) under the care of Fulbe herders in Komendaa and Hindu in the Kintampo South District were shot and killed by unknown persons (modernghana.com, 2021). The said animals were located at a ranch between the two communities – a piece of land procured by cattle owners for Fulbe herders to keep their animals and also engage in grazing (modernghana.com, 2021). However, the animals crossed their boundaries, thus causing destruction to crops, which resulted in retaliation (killing of cattle) from the supposed owners of affected farmlands.

The above cited clashes or conflict between local residents/farmers and Fulbe herders in Ghana, and particularly the Kintampo South District may appear as isolated cases of clashes between aggrieved parties. However, considering that there is the potential of recurrence of violent clashes, it was important that the present study empirically explored the perspectives of local actors (Fulbe herders, local residents, local farmers, and local law enforcement agencies) regarding the underlying sources of conflict, as well as actions initiated to reduce the potential of conflict recurrence in the Kintampo South District, in the Bono region of Ghana.

1.2 Problem statement

Conflicts between Fulbe herders and sedentary farmers have been a major issue, not only for local communities but also successive governments of Ghana. Such conflicts could escalate into wide scale armed conflict if effective measures were not put in place (Olaniyan, 2015: p.331). The conflict between Fulbe herders and indigenous farmers in the Kintampo South District of Ghana, spans more than a decade, following the leasing of land to some Fulbe herders by traditional leaders in Komendaa and Hindu communities (modernghana.com, 2021). Historically, the leasing of land by host communities to migrants is a common practice and a way of integrating migrants in the West African sub-region (de Bruijn & van Dijk, 2003: p.290). It is therefore not surprising that is the case in communities in the Kintampo South District, with relations between migrants and host communities characterised as peaceful or amicable.

However, relations between both groups turned sour in 2016 when cattle belonging to Fulbe herders crossed over from land allocated to them for the purpose of grazing, to farmlands belonging to local farmers, and in the process destroying crops. This prompted retaliation from local farmers who had their crops destroyed, resulting in the killing of over 80 cattle and other properties belonging to Fulbe herders (pulse.com, 2016). Following this action, affected Fulbe herders and cattle owners demanded police investigation into the killings which they described as spontaneous. However, no arrests were made by local police, which prompted further clashes between Fulbe herders and local farmers. Tension between both groups escalated in April 2021 when local farmers and community members killed over 100 cattle belonging to Fulbe herders due to the destruction of their farmlands (modernghana.com, 2021).

The recurrence of conflict between Fulbe herders and indigenous farmers, coupled with tensions between local farmers, community members and Fulbe herders raises critical questions that

require scholarly enquiry. What are the underlying causes of conflict between Fulbe herders and local farmers in the Komendaa and Hindu communities? What is the potential of conflict recurrence in the cited communities? The available literature cites a variety of factors that attract Fulbe herders to communities, and possibly explains the conflict relationship between local folk and herders (Folami & Folami, 2013; Bukari et al., 2020). Moreover, available literature on the underlying sources of farmer-herder conflicts in other contexts of Ghana were identified to include the destruction of crops or farmlands by cattle belonging to Fulbe herders, resource scarcity and the resultant competition over land for pasture and water sources, cattle rustling and other social factors such as cultural and ethnic differences between local communities and migrant Fulbe households (Tonah, 2006; Adomako, 2019; Nibelli, 2019).

However, in the peculiar case of clashes between local farmers, community members and Fulbe herdsmen in the Kintampo South District, not much was known prior to the present study regarding the underlying sources of conflict besides anecdotal evidence reported by the media. Also, there was a dearth of scholarly knowledge regarding the potential of conflict recurrence in Komendaa and Hindu communities in the Kintampo South District. Moreover, it was interesting to empirically establish local measures initiated by feuding parties, traditional leaders, and community members to prevent future recurrence of violent clashes.

1.3 Research questions

The main research question was: What are the underlying sources of conflict between sedentary farmers and Fulbe herders and how could such conflicts be avoided in future?

The specific research questions were:

- i. What are the causes of conflict relationship between local farmers and Fulbe herders in the Komendaa and Hindu communities?
- ii. What local actions have been initiated to prevent conflict recurrence in future?

1.4 Significance of study

After the leasing of land to certain Fulbe herders by traditional leaders in the Komendaa and Hindu groups in 2010, there has been a conflict between Fulbe herdsmen and indigenous farmers in Ghana's Kintampo South District for more than ten years. The battle seems to be between farmers and herdsmen on the surface. There are several actors with competing interests that may

be engaged, though. The Kintampo South district as a whole as well as the impacted localities have significant negative consequences from the war on social, economic, and political life. Some participants understand the conflict from an ethnic standpoint, while others see it from a perspective of resource shortage. Within this context, there was the need for an empirical study on the causes of conflict between farmers, community members, and Fulbe herders in the Komendaa and Hindu communities.

The lack of scholarly information on farmer-herder conflict as it pertains to the instance of the Kintampo South district was another factor that inspired the choice of topic and research area. The literature that is currently available on the root causes of farmer-herder conflicts in Ghana frequently points to crop destruction, resource scarcity, cattle rustling, and other social factors like cultural and ethnic differences as the primary causes of conflict between local farmers and Fulbe herders (Tonah, 2006; Adomako, 2019; Nibelli, 2019). Unfortunately, there was little empirical research about the factors that lead to conflict between Fulbe herders and indigenous farmers in the Kintampo South district of Ghana. As a result, the findings of the present study contributes to filling research gaps on farmer-herder conflict specifically in the Kintampo South district.

Finally, the study makes a contribution to policy on conflict management in the Kintampo South District, with relevance to other areas similarly experiencing resource or ethnic conflict in Ghana. This is because the findings of the present study could enable stakeholders such as policy makers, law enforcement agencies, traditional authorities and communities to have more knowledge on the causes of conflict between local farmers and cattle herders, and effective strategies to curb future reoccurrence of conflict.

1.5 Scope of study

Conceptually, the study explored the underlying causes of conflict relationship between local farmers and Fulbe herders in the Kintampo South district of Ghana. It also examined local strategies initiated to prevent conflict recurrence in future. The choice of research topic was mainly due to the limitedness of empirical research on farmer-herder conflict as it pertains in the Kintampo South District of Ghana, despite literature highlighting the largely negative implications of farmer-herder conflicts on individuals, households, and the socio-economic development of communities (Agyemang, 2017; Abubakari, 2022).

With regards to the geographic scope, the study was conducted in Komendaa and Hindu in the Kintampo South district of Ghana. The choice of study area was largely informed recent spates of recorded conflict incidents between local farmers and Fulbe herders in some communities of the district. For example, anecdotal evidence suggests that relations between local farmers and Fulbe herders in the Kintampo South district turned sour in 2016 when cattle belonging to Fulbe herders crossed over from land allocated to them for the purpose of grazing, to farmlands belonging to local farmers, and in the process destroying crops. This prompted retaliation from local farmers who had their crops destroyed, resulting in the killing of over 80 cattle and other properties belonging to Fulbe herders. However, in the absence of verifiable evidence, such arguments regarding the underlying causes of conflict relationship between local farmers and Fulbe herders in Kintampo South remained up for debate, and thus highlighted the need for the present study.

1.6 Thesis organisation

The study is organised in six chapters. Chapter one introduces the study and comprises the statement of the problem, research objectives, significance and scope of the study. In chapter two, relevant conceptual and empirical studies on farmer-herder conflicts are introduced and reviewed. The chapter also presents the theoretical approach of the study. Chapter three details the methodological approach of the study. Specifically, it details the research approach, research design, study population, sample size and sampling techniques, data collection method, data analysis technique and ethical considerations of the study. Chapter four analyses and presents the results of the study. In chapter five, the main findings of the study on causes of conflict between local farmers and Fulbe herders, and local strategies to prevent conflict recurrence are discussed. The final chapter concludes the study and presents useful recommendations to prevent conflict recurrence in Komendaa and Hindu in the Kintampo South district of Ghana.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant conceptual and empirical literature on farmer-herder conflicts. It also discusses the theoretical foundations concerning farmer-herder conflicts. The first section of the chapter explores the origin and migration tendencies of the Fulbe people, the factors that attract Fulbe herders to migrate into Ghana. The next section of the chapter discusses theoretical debates on farmer-herder conflict, particularly focusing on the theories of environmental scarcity and eco-survivalism. In the third section, a review of empirical literature on the underlying causes of farmer-herder conflicts and local response to farmer-herder conflicts across contexts, are conducted. The final two sections of the literature review chapter present the conceptual framework, and a brief summary of literature reviewed.

2.2 Origin of Fulbe herders in Ghana

Even before colonization, the Fulbe ethnic group began migrating to Ghana (Hill, 1970; Tonah, 2005). However, in Ghana, the movement of Fulbe herders and their nomadic practices are relatively new compared to many other coastal West African nations (Tonah, 2005, p.14). Even though they were few in number, the Fulbe made the Northern region of Ghana their port of call, and according to Tonah (2005, p. 14), they began to settle there by the early 20th century. In Ghana's Lawra-Tumu area, according to the 1921 census data, the population of settled Fulbe expanded from 100 individuals in 1911 to around 302 persons (Tonah, 2005, p.15). According to the 1931 census, the number increased to 784 (400 males and 384 females), suggesting that they may have likely moved with their household (Tonah, 2005, p. 15).

According to Tonah (2005), by the 1920s, the Fulbe people had made a permanent home in the Northern regions, despite the fact that there is questionable documentation regarding the existence of Fulbe ranchers in Ghana. Tonah (2005, p. 15) claims that although the Fulbe made up less than 1% of the district's overall population, they were the largest non-indigenous ethnic group in Lawra-Tumu, having a larger population than any migrant groups such as the Grusi, Wangara, Hausa, Kilpalsi and Yoruba. The Fulbe tribe moved to other Ghanaian settlements and areas after that, mostly in search of grass for their cattle to graze. However, other factors besides

the search of forage instigated the migration of the Fulbe people into Ghana as well as their continuous movements into other communities within Ghana. Literature on the factors that shape or attracted Fulbe herders into Ghana and their subsequent movement within Ghanaian communities is reviewed in the next section.

2.3 Factors that attracted Fulbe herders in Ghana

Tonah (2005) identified four key variables that led to the migration of the Fulbe into Ghana. These fall under the categories of natural, social, economic, and political influences. First, the Gold Coast has plenty of pasture, water, and a pleasant temperature. The nomads went into the nation as a result of their transhumance operations beyond the country's boundaries because they were able to quickly recognize the pastoral circumstances.

The second is the thriving growth of the livestock trade between the Sahelian nations and the Gold Coast. Raising cattle locally in Ghana was necessary due to the need for meat and other cow products. Hence, purposely, cattle dealers and the colonial government employed Fulbe ranchers from neighbouring nations as tenders. Finally, the colonial government established the Native Administration Farms. In Ghana's Northern Territories, colonialists established farms that featured cattle raising. As a result, the strategy of encouraging Fulbe pastoralists to look after the local livestock led to a rise in their population. Ultimately, persistent drought in the Sahelian region that characterised the 1960s and 1970s culminated in a widespread migration of pastoralists in search of greener pastures to countries along the West African coastline (Tonah, 2005, p.16).

Puget (1999) asserts that the Fulbe's migration to Ghana was caused by a lack of water and pasture. According to him, the existence of these circumstances attracted a significant number of seasonal nomads from Burkina Faso, Niger, Nigeria, and Mali to Ghana during the dry season. Briefly said, this migratory pattern throughout the Sahelian and savanna areas is a significant component of Fulbe subsistence throughout West Africa (Tonah, 2005, p.16). Folami & Folami (2013, p. 105) contend that the pull factors that draw the Fulbe herders to a certain location include favourable climatic conditions, market opportunities, lush flora, forage, and hope and aspiration. Tonah (2005, pp. 33–34) suggested that Fulbe herders travelled far into Ghana's southern regions—all the way to the Afram Plains, which are located at the eastern boundary of the forest zone—in search of lush pastures and water. This is due to the fact that various rivers,

particularly the tributaries of the Afram River, effectively drained the Afram Plains region, which was a sparsely inhabited area (Tonah, 2005, pp. 25-26).

Following the introduction of decentralised governance in the 1980s in Ghana, the Afram plains area of Ghana was divided into four administrative districts: Sekyere East, Afram Plains, Asante Akyem North (Agogo), and Kwahu Districts respectively. During this process, the area became available as a place ideal for both large-scale agricultural and other types of commercial activities, in addition to subsistence farming. Within this context, the expansion of roads, electricity, and other amenities attracted more people to the area, culminating in an increase in population density in areas hitherto not uninhabited (Tonah, 2005, p.26).

Tonah (2005) asserts that the Fulbe were drawn to the Afram Plains due to the region becoming suitable for human settlement due to favourable weather, pasture, water, and land. Fulbe nomads began moving livestock into the Afram Plains during the dry season from other areas in order to take advantage of the region's abundant flora (Tonah, 2005). Also, local chiefs, stockowners, and intermediaries hired Fulbe herders to take care of their cattle in exchange for money or in exchange for favours, since the cattle owners had purchased huge plots of grazing territory from the local chiefs of communities (Olaniyan et al, 2015). In summary, stockowners, chiefs, and intermediaries have long worked with herders and have been the Fulbe's traditional trade partners and friends in Southern Ghana. The Fulbe herders may be drawn to this "association," but it may also have helped to establish a favourable atmosphere for their colonization in the South (Tonah 2005a, pp. 100-102).

More Fulbe herders from the neighbouring nations of Niger, Benin, and Nigeria suddenly moved inward into southern Ghana, in addition to these herdsmen who moved from the northern portion of the country to the southern parts. Such nomadic pastoralists were described by Tonah (2005: p. 26) as "alien herders." This is because these "alien" Fulbe herdsmen are nomadic pastoralists who mostly avoid any kind of long-standing relations with communities, in contrast to sedentary Fulbe who are relatively settled and reside with indigenous populations. It is thought that these "alien" herdsmen are to blame for the destruction of farmlands and crops trigger violent clashes between local farmers and Fulbe herders in areas such as Gushiegu, Afram Plains, and possibly the Kintampo South District.

2.4 Theoretical framework

There are a number of theories on the underlying causes of violent conflict between groups in society. Given the nature of conflict between Fulbe herders and local farmers in the Kintampo South District, the study is guided by the environmental scarcity theory. Also, the conflict transformation (CT) theory provides useful insights on local or community-level actions to prevent conflict recurrence. These theories are explained in this section, with specific regard to how they are analytically appropriate in addressing the study's objectives.

2.4.1 Theory of environmental scarcity

Homer-Dixon (1999: p. 133) noted that in many countries, populations are dependent on four (4) key environmental resources for individual and household livelihood: crop land, fresh water, forests, and fish in a study of the relationship between the environment, resource scarcity, and violent conflict. Due to the above-mentioned resources' scarcity brought on by population growth, climate change, and resource access, as well as their misuse, overuse, or degradation, competition for the remaining environmental resources may arise between different subgroups of a population, potentially leading to violent clashes or conflict. Within this context, it could be argued that resource scarcity is the product of insufficient supply, demand overload or the unequal distribution of resources as a result of socio-economic, political and environmental factors. As a result, the scarcity of resources increases competition and the value placed on available resources by population sub-groups, which in turn could result in violent conflicts.

It could be argued that the violent conflict between Fulbe herders and local farmers in the context of farmer-herder conflicts in the Kintampo South District is fuelled by increased competition over resources to ensure their subsistence in the region. Local farmers use the area for farming, whilst Fulbe herders require it for grazing and livestock raising. To local farmers, their survival depends on agriculture specifically the cultivation of crops. As such, any destruction of farmlands by cattle belong to Fulbe herders possibly threatens their livelihood. In the same way, Fulbe herders depend on pastoralism for their survival. In this regard, any threat to their herd or forage for their animals possibly constitutes a threat to his or her survival. According to Issifu, Darko, and Paolo (2022), tensions and violent conflicts among communities are brought on by disputes over control and ownership of productive land. The land is a farmer's most precious asset, source of income, and source of wealth. Similarly, to a herdsman, cattle are the most

prized animal, which is also kept on land (Issifu et al., 2022). In an earlier study, Okoli and Atelhe (2014) found that farmer-herder conflicts in the agro-pastoral regions of the West African Sahel was traceable to the struggle over resources as both local farmers and herders have competing interests over land to fulfil agricultural crop production and pastoral grazing purposes. The above cited studies clearly indicate that resource scarcity underpins farmer-herder conflicts in Africa, of which violent conflict between Fulbe herders and local farmers in the Kintampo South District of Ghana may not be an exception.

Due to their emphasis on resource scarcity as the root cause of farmer-herder conflict in Africa, the theory of environmental scarcity has drawn some criticism (Peluso & Watts, 2001). Homer-Dixon (1999: p. 16) contends that there are additional elements, such as political and socio-economic ones, that contribute to violent conflict and are not always caused by environmental scarcity. Additionally, Bukari (2017) contends that farmer-herder conflicts are not just about resources but also have an ethnic component because pastoralists and indigenous groups have unique cultural norms, values, and practices. Moreover, Olaniyan (2015: p.335) notes that aside resource scarcity, an underlying factor of violent conflict between Fulbe and Konkomba groups in northern Ghana remains the issue of ethnicity as Fulbe herders are regarded as strangers by the indigenous Konkomba people. In view of the above theoretical debates, the present study ascertained the true underlying causes of violent conflict between Fulbe herders and local farmers in the Komendaa and Hindu communities of the Kintampo South District of Ghana.

2.4.2 Conflict Transformation Theory

Conflict Transformation (CT) theory focuses on initiatives introduced by local actors as key stakeholders in driving sustainable peace in communities. According to Lederach (1997), peacebuilding is a protracted process of systemic change from conflict to peace in the individual, structural, relational, and cultural spheres. Reconciliation and the significance of mending damaged relationships are emphasized by conflict transformation theory (Paffenholz, 2015). The notion was created in response to the ineffectiveness of externally driven peacebuilding initiatives in Angola, Rwanda, and southern Somalia, whereas locally owned, bottom-up strategies produced successful and long-lasting peacebuilding in northern Somalia. The Conflict Transformation theory, which breaks from earlier paradigms and creates a new paradigm for peacebuilding or conflict resolution studies, is based on Lederach's (1997) emphasis on locally-

owned peacebuilding (Reimann, 2004; Pattenholz, 2015). According to Lederach (1997), the "middle out" method, which divides a conflict society into three pyramidal-shaped categories of actors—top leadership, middle level leadership, and grassroots—draws resources for peacebuilding. Lederach (1997) emphasized the potential of grassroots and middle level leadership in building and maintaining peace for an extended length of time.

The Conflict Transformation theory provides a useful guide in the present study in explaining local actions initiated to prevent conflict recurrence between Fulbe herders, local farmers and community members. It highlights the crucial role of local actors particularly traditional leaders (Chiefs), opinion leaders, local farmers, Fulbe herders, community members in initiating and sustaining peacebuilding initiatives to prevent conflict recurrence in future. Also, by placing emphasis on reconciliation and rebuilding broken relationships, the theory of Conflict Transformation provides a useful guide on the essence of reconciliation and building broken relationships in terms of prevent recurrent violent clashes between local farmers and Fulbe herders in Komendaa and Hindu communities in the Kintampo South District. Moreover, Lederach's (1997) theory of Conflict Transformation possibly highlights the importance of bottom-up approaches, especially the participation of feuding parties in conflict such as Fulbe herders and local farmers, in local initiatives to prevent conflict recurrence.

2.5 Underlying causes of farmer-herder conflicts

Farmer-herder conflicts have caused significant socioeconomic and political problems for decades, which have contributed to the famously unstable post-Cold War security environment in the afflicted regions of sub-Saharan Africa, which has led to the destruction of a number of lives and property (Olaniyan, 2015). Population increase, urbanization, migration, and unfavourable neo-liberal state and international policies, among other factors, have all contributed to this situation and are predicted to make it worse in the future (Markakis, 2016). Bukari (2017) reports that farmer-herder skirmishes in Agogo from 2001 to 2016 in Ghana resulted in the deaths of over 70 persons, the destruction of many farms, the death of over 500,000 cattle, and more than 100 injuries. Official data are typically disputed or unavailable.

Due to different, incompatible, or conflicting intents and purposes in spatial interactions, conflicts are frequently seen as inevitable occurrences (Agbu, 2007). Due to their different ways of surviving, particularly the former's sedentary practice and the latter's nomadic lifestyle, crop

farmers and herders regularly engage in conflict. Three key linked variables—competition for finite land, identity conflicts, and institutional difficulties—are regarded to be the root causes or predisposing factors for such natural resource conflicts. The historically divergent and largely incompatible mind-sets and livelihood practices of farmers and herders were either generated by, worsened by, or perpetuated by these circumstances (Agbu, 2007).

2.5.1 Scarcity explanation

The Malthusian population theory and the notion of eco-survivalism are compatible with the scarcity hypothesis. It outlines two opposing causes that trigger ferocious disputes over natural resources. On the one hand, nomadic herders are continuously looking for new pastures for their livestock due to the population boom and climate change. Conversely, due to the same driving force, crop producers are either looking for more productive grounds or are defending the fields that are now being cultivated (Uhembe, 2015). Conflicts result from this ongoing struggle for space (Percival & Homer-Dixon, 1998). According to the scarcity narrative, some academics believe that rivalry for land, water, and forests is the main cause of farmer-herder disputes in Ghana (Aning & Atta-Asamoah, 2011). According to Baidoo (2014), farmers who raise crops like plantains, bananas, and maize rely on the same fertile land in the same catchment region as herders who graze their animals along the River Volta's favourable residual plains. According to Baidoo (2014), this situation leads to tensions because herders accuse crop farmers of attacking and stealing their cattle, while local farmers accuse herders of destroying their farmlands and crops due to cattle straying into farms to destroy crops and pollute water bodies.

Kaplan and Uhembe (2014) add that the youth bulge in Africa is mainly driving migration, food insecurity, poverty, and unemployment, all of which have an impact on land ownership friction and violent clashes, supporting the shortage narrative of farmer-herder conflicts in Ghana. As a result, war recurs as a result of an ongoing battle for territory along the lines of Charles Darwin's theory of the survival of the fittest. Moreover, the theory of environmental scarcity and Malthusian population theory provides a convincing argument, supported by actual data, given that the population of the Economic Community of West African States (ECOWAS) is growing at a large rate (Food and Agricultural Organization, 2012). Nonetheless, citing scarcity as the main driver of farmer-herder conflict has been criticised in the literature. According to Forsyth (2004), the environmental scarcity theory is a reductionist method for comprehending the many

dimensions, players, and stages of resource disputes. Because of this, scarcity is socially, historically, and politically generated by social actors rather than being entirely governed by the environment (Green, 2005).

2.5.2 Politicisation of historical and cultural backgrounds

The second school of thought in the literature on farmer-herder conflict contends that the politicization of historical and cultural origins ingrained in social fault lines like nationality, ethnicity, and religion is the root cause of the majority of conflicts over natural resources (Forsyth, 2004). Kirwin (2010) categorises farmer-herder conflicts into four: farmer vs herder; intra-family conflict; autochthonous vs. immigrant conflicts; and herder vs herder conflict. Kirwin (2010) contends that although the first category is frequently highlighted in most literature on the subject, the third category is typically the main cause and the most important factor accounting for farmer-herder conflicts. A long-standing worldwide phenomena, the indigenes vs. outsiders debate has led to harsh treatment of alleged foreigners in both historical and contemporary instances of xenophobia in South Africa.

In Ghana, Fulbe herders' migrant status is established and frequently forms the basis of media and academic discourse concerning disputes between pastoralists and crop farmers (Bukari, 2017). One of the least contentious issues in literature on peace and conflict, as well as in Ghanaian media discussions, is the origin of Fulbe herders. The Fulbe are said to have immigrated from nearby West African nations like Mali, Burkina Faso, and Niger and originally settled in the Savannah zones of northern Ghana in the 1920s, as before mentioned in this chapter (Yembillah & Grant, 2014). Southern Ghana at the time had a dense jungle infected with tsetse flies, making it unsuitable for raising animals. However, beginning in the 1980s, the forest began to steadily improve for herding due to the veterinary revolution and climatic change. The movement of herders southward was also affected by and is now pushed by the desertification of the Savannah zone in northern Ghana. Those areas attracted migrant herders because of their fertile grasslands, who migrated from both northern Ghana and their own nations (Olaniyan, 2015). However, since the 1990s, there have been several large-scale and devastating disputes between farmers and herders due to the ongoing migration of Fulbe herdsman, as well as problems with the environment, property rights, and institutional failures (Bukari, 2017).

As a result, in support of the narrative of scarcity, a rise in population is identified as a driving force behind the violent competition between farmers and herders for natural resources. Nevertheless, long-standing misconceptions and unfavorable stereotypes of Fulbe pastoralists as foreigners with distinct ethnic sects and personality traits (barbaric, lawless, aggressive, backward, and environmentally destructive) by locals disrupt peaceful coexistence and frequently result in unprovoked attacks between herders and farmers as well as other members of the host community (Baidoo, 2014). Indigenous people frequently promote such exclusionary narratives to push away herder groups, even if some herders have secured lands from chiefs, which is typically regarded as a danger by the local populace (Yembilah & Grant, 2014). These stark identity fault lines are made worse by the political intrigues of farmers and herders. Political figures and political parties are allegedly involved in the Agogo wars in Ghana, according to Baidoo (2014), which supports Tonah's (2005) claim that this is the case in other regions of West Africa. Politicians in this situation either publicly favor one group or make efforts to mediate the disagreement, which usually results in one group being exonerated and the other, often herders, remaining. Politicians frequently adopt this mentality in light of advantages from land or livestock or presumptive voter support (Tonah, 2005).

2.5.3 Institutional challenges

The third strand of argument traces institutional problems as the root of the conflict between farmers and herders, which is compatible with previously mentioned claims of scarcity and contested politics of belonging and identity. Hussein, Sumberg, and Seddon (1999) assert that the institutional marginalization of groups, notably herders, and inefficient management of tensions arising between farmers and herders frequently lead to an intensification of farmer-herder disputes. According to Brosche and Elfverson's (2012) analysis, political leaders' state policies and choices in Africa are substantially to blame for the emergence and maintenance of farmer-herder disputes. According to Bierschenk (2010), colonial administration practices that still have a big impact on current state policies in Africa are to blame for the problem of uneven access to and distribution of land. Property regulations, the privatization and expropriation of lands, and state-building procedures are only a few of the unfavorable colonial administration practices that explain why livelihood conflicts turn violent (Fjelde and Ostby, 2014).

Since its independence in 1957, Ghana has not greatly moved away from the colonial disregard of herders (Baidoo, 2014). Natural resources become a cause of fierce struggle and bloodshed as a result of the institutional oppression of herders and occasionally farmers. Herders have been further marginalized by the implementation of neo-liberal state policies in Africa, including decentralization and economic activity, as correctly noted by Olowu (2001), leading them to fiercely defend their right to land ownership and a living in the cattle industry. This arguably pitches them against not only crop farmers but also other users of land and natural resource reserves.

2.6 Response to farmer-herder conflicts

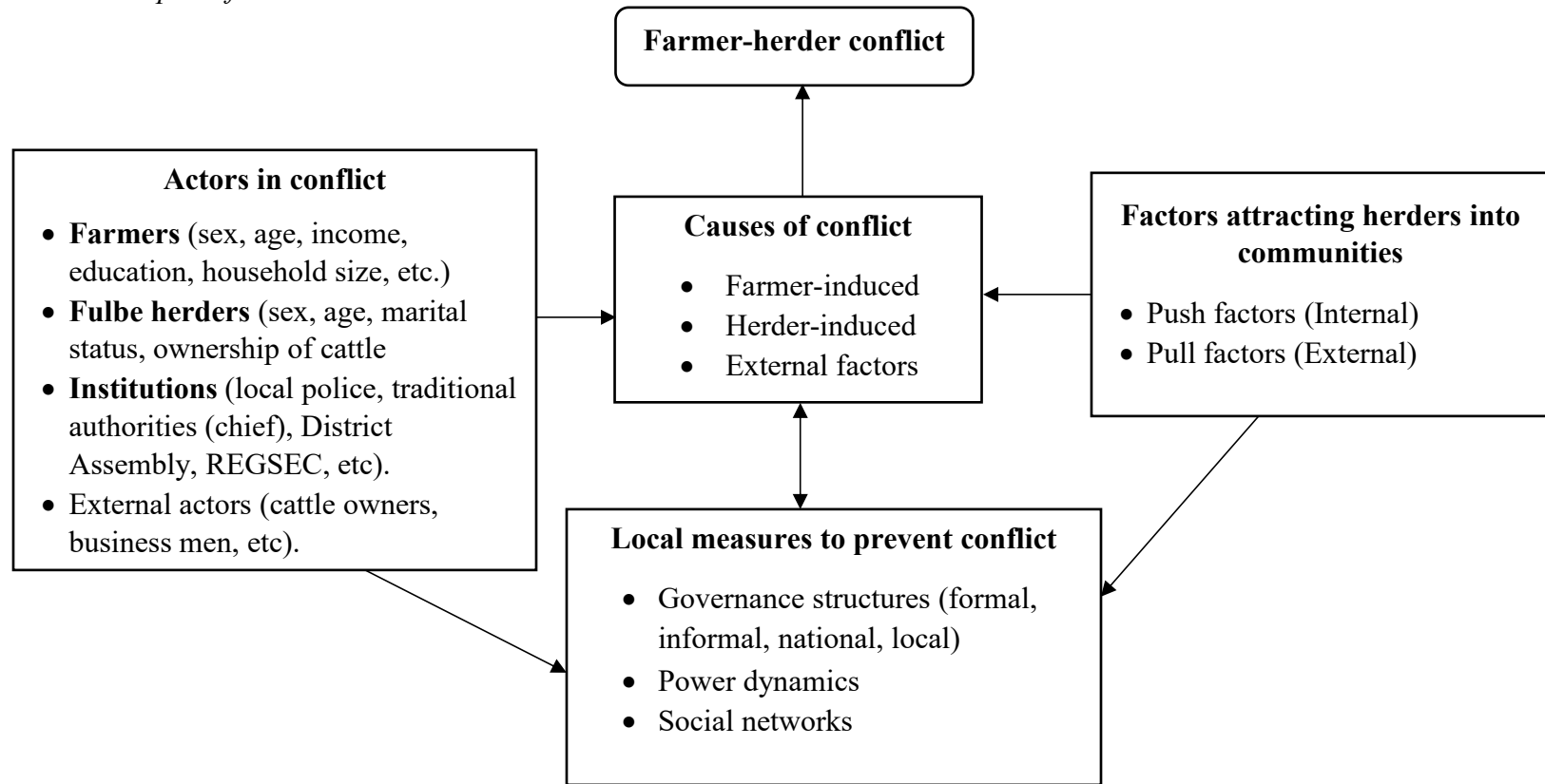
Violent state and non-state interventions have frequently been utilized in West Africa as a response to conflicting claims over land and other resources between herders, local farmers, and communities. Farmer-herder disputes are as ancient as society itself, and attempts at controlling and resolving them are nothing new. In the beginning, chiefs and elders from the community served as the main mediators in these conflicts, frequently using traditional African practices including community conversation, hearings, open declarations of reconciliation, restitution, and compensation. Yet, the community players that were previously emphasized have far less impact in the peacebuilding process (Tonah, 2005). This is due to the fact that state agencies have taken on the majority of duties previously carried out by traditional players, primarily due to the complicated and extensive nature of contemporary conflicts that necessitate state intervention, which is typically in accordance with widely recognized human rights values (Tonah, 2005).

Yet, due to institutional issues mentioned in the preceding section on the root causes of violent confrontations between farmers and herders, governmental interventions, like traditional alternatives, also encounter challenging obstacles across the majority of West Africa. Moritz (2010) discovered in Cameroon that political manipulation reduces a community's ability to manage and settle farmer-herder conflicts and create a more comprehensive peace architecture. Moreover, Turner (2014) identifies structural limitations, identity, and politicization as the main barriers to the accomplishment of peace programs in Burkina Faso and Eastern Africa. These issues have manifested differently in many parts of sub-Saharan Africa, and as such have attracted various empirical and policy reactions. Within this context, the present study's enquiry into local strategies adopted to prevent recurrent violent clashes between local farmers and Fulbe

herders in the Komendaa and Hindu communities of the Kintampo South District contributes useful knowledge on peace building strategies.

2.8 Conceptual framework

Figure 1: Conceptual framework



Source: Author's construct (based on literature: Olaniyan, 2015; Bukari, 2017; Issifu et al., 2022)

2.8.1 Narrative to conceptual framework

The conceptual framework depicts the relationship between the variables of the study. Guided by the research objectives and the theory of eco-survivalism, theory of environmental scarcity and the theory of conflict transformation, the framework highlights the actors in conflict, the causes of conflict, factors attracting Fulbe herders into communities, and local measures to prevent conflict recurrence in the Kintampo South District of Ghana. The study identified the stakeholders in conflict in the study areas to include local farmers disaggregated based on sex, age, income, level of education, household size; Fulbe herders selected based on sex, age, marital status, ownership of cattle, and length of stay in Komendaa and Hindu; institutions such as local police, traditional authorities (Chief), the Kintampo South District Assembly, and the Regional Security Council (REGSEC) of the Bono East region of Ghana; and external actors such as cattle owners and business men. The factors attracting Fulbe herders into communities were identified to be push (internal) factors such as crisis in previous communities of residence or pull (external) factors such as the availability of land and water resources, social amenities, and access to markets. The causes of conflict in the study areas were identified as farmer or community-induced such as cattle rustling and killing, negative perception and treatment of Fulbe herders, or herder-induced factors such as the destruction of farms and crops, or external factors. Local measures to prevent recurring conflict include formal, informal, national or local level, shaped by power dynamics between parties in conflict, and social networks. The framework argues that the factors that attract Fulbe herders into communities shape the causes of conflict relations between local farmers and Fulbe herders. Also, the characteristics of stakeholders and the factors that attract Fulbe herders into communities could shape the effectiveness of local measures to prevent conflict recurrence.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodological approach of the study. It begins with the philosophical foundation of the study, the research approach, research design, and study population. The chapter also clearly details the sample size, sampling techniques, sources of data, data collection method, and data analysis approach of the study. Finally, adequate measures are also indicated on the ethics of research that the present study will comply with. The chapter proceeds accordingly in the sub-sections that follow.

3.2 Philosophical foundation of study

Researchers perceive and plan to conduct research in social science contexts using explicit and implicit assumptions to explain the social reality in a variety of ways (Burrell & Morgan, 1979). Research paradigms are the conceptual frameworks used by social scientists to perform their research (Healy and Perry, 2000). Research paradigms, according to Deshpande (1983), are interconnected puzzles that social scientists utilize to study social issues. The reality that the researcher is trying to comprehend is explained by ontology. Epistemology clarifies the connection between the reality being studied and the theoretical underpinnings of the research used to study the social phenomena. The best technique for a study is determined by the ontology of the study, which also establishes the appropriate epistemology for the researcher to employ. There are three main perspectives for research: constructivism, positivism, and critical realism (Guba and Lincoln, 1994).

Positivist epistemology asserts that knowledge is reliable when social phenomena are examined and confirmed using natural science techniques. According to Bryman (2012: p.27), positivism contends that “knowledge is true and meaningful if it is devoid of prejudices and presumptions based on feelings, cultural influences, and private interests”. It places emphasis on objectivism – an ontological concept founded on the notion that the study of social phenomena should be devoid of influence by others. As a result, no researcher influences should be present in the outcome of any social phenomena. The quantitative research technique used by the positivist mindset frequently involves quantification and statistical analysis of data utilizing software like

SPSS (Bryman, 2012). On the other hand, the interpretivist epistemology asserts that the study of human or social phenomenon differs from investigations carried out in the natural sciences (Bryman, 2012). Moreover, interpretivism is an epistemological perspective that maintains that a researcher's contact with the real world yields truth or genuine meaning (Crotty, 1998). As a result, the theories and methods used to research social behaviour and events do not conflict with one another but rather interact to greatly affect human behaviour. In this setting, the social world necessitates a different logic of study methodology, one that highlights how humans vary from other species in relation to the natural order, and as a result, the interpretivist approach.

The orientation for this study was based on a qualitative research approach since its ontology was constructivism and its epistemological orientation was interpretivism. Constructionism believes that social actors continuously produce social phenomena and their meanings (Bryman, 2012). This suggests that knowledge is always being revised and is created through social interaction. Together with the subjective interpretation of social events as indicated by study participants, constructionism emphasizes that the researcher has the chance to provide his or her own version of social reality since knowledge according to this paradigm is considered as being indeterminate.

On these grounds, the researcher believes the reality of the study is based on the subjective meanings actors give to social phenomena. Within this context, the study explored the causes of conflict relationship between Fulbe herders and local farmers, and local strategies to curb conflict recurrence in the Komendaa and Hindu communities of the Kintampo South District of Ghana. It identified the actors, governance and institutions as well as power dynamics that possibly contribute to conflict relations between Fulbe herders and local farmers or community members. From a constructivist standpoint, the study also explored how power dynamics, institutions are pivotal towards shaping local strategies to prevent conflict recurrence between Fulbe herders and local farmers and community members.

3.3 Research approach

A research approach shows how social research is often conducted (Bryman, 2012). In the Komendaa and Hindu communities in Ghana's Kintampo South District, the study explored the causes of conflict between Fulbe herders and local farmers as well as local mechanisms to prevent conflict recurrence. To do this, the study selected a representative sample of perspectives

of Fulbe herders and local farming households. Such an investigation required a qualitative research methodology. An emphasis on the collection and analysis of words rather than numbers, and the interpretation and presentation of findings and not experimentation are all characteristics of qualitative research (Bryman, 2012: p. 36).

Qualitative research approaches are gaining in popularity in social research due to the insufficiency of quantitative data in understanding social phenomena. This study is no different, and thus informed the use of a qualitative research approach to explore the in-depth subjective understandings of study participants regarding the causes of conflict between Fulbe herders and local farmers, and local strategies in place to prevent conflict recurrence in the Kintampo South District of Ghana. Finally, the use of a qualitative research approach was considered appropriate for the present study because issues of farmer-herder conflict are complex and dynamic in nature, and possibly involve many actors who have different perspectives and competing interests on the causes of conflict and local actions initiated to prevent conflict recurrence in future. This made the qualitative research approach the most appropriate for the present study.

3.4 Research design

Research design is the framework for the conduct of a study that guides data collection and analysis (Bryman, 2012). The study adopted a case study design. The use of case study designs in research make it possible to study contemporary issues in an in-depth manner (Yin, 2014: p.16). It is useful in terms of understanding or answering the why, how and what questions that typify qualitative research (Yin, 2014). As such, the case study design was adopted in this study due to the desire to access in-depth knowledge of local actors (farmers, migrant Fulbe herders, traditional leaders (Chiefs), law enforcement agencies (Police), and community members) on the underlying sources of conflict between Fulbe herders and local farmers in the Komendaa and Hindu communities of the Kintampo South District, Ghana. As such, a case study design is appropriate for the present study as it enabled the researcher to subject study participants to an in-depth study on the causes of conflict between local farmers and Fulbe herders as well as local actions initiated to prevent recurrent conflict in the study area.

In addition, the case study design enabled the study to establish current measures to prevent conflict recurrence between Fulbe herders and local farmers in the cited communities. In selecting the two communities – Komendaa and Hindu, for the study, the critical case approach

was used in the study. A critical case approach is choosing instances that are most likely to produce valuable information and have a significant influence on the development of knowledge (Patton, 2001: p. 36). As such, the selection of Komendaa and Hindu communities was because they were part of the areas highlighted as being active grounds of conflict between Fulbe herders and local farmers.

3.5 Sample size, sampling techniques, and sampling procedure

The study purposively sampled key informants and obtained their insights on the underlying sources of conflict and current measures to prevent future conflict between Fulbe herders and local farmers in the Komendaa and Hindu communities of the Kintampo South District, Ghana. According to Bryman (2016: p.410), “the goal of purposive sampling is to sample cases or research participants in a strategic way, so that those sampled are relevant to the research questions that are being posed”. In the present study, purposive sampling ensured variety of the final sample, with study participants selected on the basis of sex (male vs female), age group (young vs old), ethnic background, wealth group (rich vs poor), among others. Key informants for this study consisted of twenty-seven (27) local farmers, eighteen (18) Fulbe herders, two (2) traditional leaders (Chiefs), ten (10) community members, and three (3) local Police in the study areas. The total sample size of the study was sixty (60) study participants. The choice of purposive sampling for the study was because it provided the necessary platform to elicit in-depth views from a wide range of people on the topic of investigation in the study area.

Snowball sampling was also used in the study. Using the snowball sampling approach, the researcher selected a small number of subjects who were pertinent to the study questions, and these subjects then suggested more subjects who had the experience or qualities of the selected subjects. They then proposed further study participants till the desired sample was achieved (Bryman, 2012: p.424). According to Noy (2008), snowball sampling is widely suggested as a method to use when probability sampling is impractical or impossible since there is no sample frame. In this study, considering the difficulty in establishing or locating local farmers Fulbe herders in the study area based on their gender, age group, socio-economic status, and educational background, the researcher relied on a community focal person (Assembly member) in Komendaa and Hindu to identify research participants with the desired characteristics of

interest to the study. Having initially identified such study participants, they helped the researcher to locate additional persons of interest to participate in the study.

3.6 Sources of data

Primary and secondary data was used in the present study. The use of primary and secondary data in the study enhances the reliability and validity of the findings (Bryman, 2016). The study included focus groups and key informant interviews for primary data. In-depth interviews and focus group discussions are important data gathering techniques for studies that employ a qualitative approach (Mack et al., 2005). The study included secondary data from a variety of sources, including reports, journals, books, newspapers, committee reports, and literature that was available at the Regional Security Council of the Bono East region and the Jema Police Station in the Kintampo South District.

3.7 Data collection tools and method

In the present study, primary data was collected using focus group discussions and interviews with study participants. According to Bryman (2016), focus group discussion is a data collection method that involves more than one study participants, usually of at least four interviewees. Focus group discussions typically emphasise a particular topic for in-depth exploration for data collection purposes. In addition, in focus group discussions, the researcher is particularly interested in how individuals within a group context discuss or expand on a theme, thus producing group knowledge rather than individual perspective (Bryman, 2016: p.500).

In this study, focus group discussions were held with selected local farmers and Fulbe herders to enable the study arrive at jointly constructed knowledge on the underlying sources of conflict; and measures to prevent future conflict between Fulbe herders and local farmers in Komendaa and Hindu. For focus groups, participants with homogenous characteristics (men vs women, local farmers vs Fulbe herders, rich vs poor) were put in the same group. For instance, men were placed in one group, with women also constituting another focus group. Subsequently, other focus groups were constituted comprising of a blend of study participants (men, women, rich, poor, local farmers, Fulbe herders) to compare if the results from such groups are different or similar to that of homogenous focus groups.

In addition, key informant interviews were used in the study because it allowed a rich collection of data from individuals and institutions with deep knowledge on a topic of investigation (Bryman, 2016: p.466). In qualitative research, Bryman (2016) highlights the need to report the interviewee's perspective on a study phenomenon. In this study, key informant interviews were held with sampled local farmers, Fulbe herders, traditional leaders (Chiefs), community members, and local Police to enable the study obtain in-depth knowledge that satisfy the objectives of the study. Moreover, non-participant observation was employed to enable the researcher observe at first-hand, how the social organization and practices of local farmers and Fulbe herders possibly contributed to conflict in the study area.

3.8 Data analysis

The research questions served as a foundation for the qualitative data that was gathered in the present study using focus group discussions and personal interviews. Data was thematically analysed for the study. In the present study, and as highlighted by Bryman (2016: p.11), the goal of thematic data analysis is to identify emerging themes in data and subsequently engage in further analysis and presentation of results. The data's themes are derived from a careful reading and re-reading of interview transcripts and field notes. This study used a standardized recording device to capture qualitative information from key informant interviews and focus groups. After transcription and triangulation of the data, theory-related content and recurrent themes were found. In doing so, the theory of environmental scarcity and theory of eco-survivalism were used as the theoretical guide that informed the data collection and analysis, and interpretation of results to answer the research questions.

3.9 Ethical considerations

In every research study, it is important to evaluate the values and ethics involved at all stages. Ethical considerations are important in the conduct of research because they enhance the integrity of research (Bryman, 2016). Four main ethical issues that this study resolved are: harm to participants; anonymity; privacy; and informed consent. With regards to harm to participants, research that poses harm to study participants is considered not acceptable (Bryman, 2016: p.126). A study could pose to study participants in diverse ways such as loss of self—esteem, physical harm and stress (Dierner & Crandall, 1978: p.19). In order to prevent harm to research

participants, the researcher rephrased and in some cases, ignored questions when harm was anticipated.

Closely related to harm to research participants is anonymity and privacy. To ensure anonymity and confidentiality, there is the need for personal information on research participants to be kept confidential. In the present study, numbers and alphabets, rather than names were used to identify study participants in the data collection process.

Finally, informed consent is an important consideration in conducting social research. It is important that researchers provide ample information to study participants to make informed decisions on whether to participate in a study (Bryman, 2016: p.129). In this study, the researcher obtained the informed consent of research participants by providing adequate information and seeking consent from research participants as and when necessary. This was achieved by verbally informing research participants before any interviews were conducted. Similarly, where it was found to be necessary to record interview sessions, the researcher sought the permission of respondents prior to beginning the audio recording process.

CHAPTER FOUR

PRESENTATION OF RESULTS

4.1 Introduction

This chapter presents the results of the study. Data was collected from study participants (local farmers, Fulbe herders, community members, and local police officers) in the Komendaa and Hindu communities of the Kintampo South District of Ghana, with such data subsequently analysed thematically. The findings are based on an extensive six (6) weeks of data collection across both communities. The analysis of data was carried out taken into consideration the research questions, theoretical debates and literature on farmer-herder conflict. The chapter is organised in four parts. The first part presents the demographic characteristics of local farmers and Fulbe herders sampled for the study. Considering that demographic variables of interest are categorical or nominal, frequency tables are used to depict the results of descriptive statistical analysis of data. The second part presents the thematic results of the study in relation to the causes of conflict between local farmers and Fulbe herders, with the third part presenting insights on the local actions initiated to prevent conflict recurrence. The final part of the chapter is dedicated to discussing the results of the study where the findings of the study are discussed in the context of literature and theoretical debates on farmer-herder relations and conflict across contexts.

Part 1. Demographic characteristics of respondents

This section presents the background information or data on local farmers and Fulani herders sampled for the study. The demographic characteristics of study participants is important in this study as it informs readers about the peculiar types of respondents from which primary data was collected for the study. The personal characteristics of study participants are important as they could shape individual and collective perspectives, and collective actions particularly as it relates to the peculiar case of farmer-herder clashes in the Komendaa and Hindu communities of the Kintampo South District of Ghana. In this study, the demographic characteristics of interest are

the sex, age group, ethnicity, marital status, type of family, household size, level of education, major source of income, community of residence, and length of stay in the study areas.

4.2 Demographic profile of local farmers

The farmers constituted primary respondents in the study. A total of twelve (12) farmers resident in Komendaa community, and fifteen (15) farmers in the Hindu community were interviewed for the study. The socio-demographic data of these local farmers sampled for the study are presented in the following sub-sections.

4.2.1 Sex distribution

The study explored the sex distribution of sampled local farmers in the Komendaa and Hindu communities of the Kintampo South District of Ghana. It was considered necessary to ascertain their sex distribution as it gives an indication of the male-female ratio as it relates to agriculture as well as possible gender variations in experiences or perspectives on the underlying causes of conflict relations and local actions initiated to prevent conflict recurrence in the study areas. The sex distribution of local farmers is presented in table 1 below.

Table 1 Sex distribution of local farmers

Sex	Frequency (N)	Percent (%)
Male	19	70.4%
Female	8	29.6%
Total	27	100.0%

Source: Field data, 2023

From the table, there were more male than female study participants. This difference in terms of the male-female participation in the study is not indicative of any preconceived prejudice or preference for a particular gender for this study. A possible explanation for the disparity was because women were more reluctant to speak to the researcher compared to men who were more open and willing to offer their perspectives on the underlying causes of conflict relations between local farmers and Fulbe herders, and local actions initiated to prevent conflict recurrence in future. Another possible reason for the wide disparity between males and females in the study is because men constitute the “abusuapanin” (household heads) in both communities

which meant that the perspectives of household heads had to be taken into consideration before women. Nonetheless, the researcher made deliberate efforts in some cases by insisting on females in households particularly those who own land and engaged in agricultural activities to participate in the study. The male-female ratio of the present study reflect arguments by Urdal (2006) who suggest that in development discourse particularly as it relates to conflict, males are more likely to be involved as study participants than women due to the nature of social organisation, patriarchal social values, and the traditional role of the man as the head of the household vested with decision-making power.

4.2.2 Age group

The study also investigated the age distribution of respondents. The study made an effort to take into consideration the perspectives of both the young, middle aged, and elderly to get balanced perspectives on the causes of conflict and local initiatives to prevent conflict recurrence. This information is presented in table 2.

Table 2 Age group of respondents

Age group	Frequency (N)	Percent (%)
18-27 years	9	33.3
28-37 years	7	25.9
38-47 years	5	18.5
48-57 years	4	14.8
58 years and above	2	7.5
Total	27	100.0%

Source: Field data, 2023

The results depict a youthful population. According to Ghana’s National Youth Policy (2010), youth is defined as any person between 15 and 35 years. Going by this definition in the present study, it could be argued that the population of local farmers in both Komendaa and Hindu communities are youthful. Regardless of the youthful nature of the study population, the middle-aged and elderly (22.3 percent) also constituted an important source of primary data because they are the custodians of the oral history of Komendaa and Hindu, and could offer useful insights on

the migration of Fulbe herders into communities, and more importantly the underlying causes of conflict relations between local farmers and Fulbe herders.

4.2.3 Ethnic background

According to Olaniyan (2015), ethnicity plays an important role in farmer-herder conflicts. As such, it was important in the present study to explore the ethnic background of respondents. The results of this inquiry are presented in table 3.

Table 3 Ethnic background of respondents

Ethnicity	Frequency (N)	Percent (%)
Gruma	4	14.8
Sissala	3	11.2
Dagaati	7	25.9
Gonja	9	33.3
Bimoba	4	14.8
Total	27	100.0%

Source: Field data, 2023

The results suggest ethnic diversity of local farmers in the study areas. The predominant ethnic group are Gonja, followed by Dagaati, Gruma, Bimoba and Sissala ethnic groups. This data corresponds with data from the 2021 Population and Housing Census information on the Kintampo South District which indicates the presence of the above highlighted ethnic groups in the district (Ghana Statistical Service, 2021). The findings of the present study regarding ethnicity shows the heterogeneous nature of the communities and the Kintampo South District in general.

4.2.4 Marital status

In Ghana, the marriage and family institution are held in high regard due to its role carrying forward the norms and values of society through procreation and socialisation, particularly in terms of shaping social interactions with others in society. As such, it was important to ascertain the marital status of local farmers sampled for the study. This information is depicted in table 4.

Table 4 Marital status of respondents

Marital status	Frequency (N)	Percent (%)
Never married	5	18.5
Married	19	70.4
Widow/widower	3	11.1
Total	27	100.0%

Source: Field data, 2023

The frequency distribution shows that most respondents (local farmers) sampled for the study were married, with a few being widows/widowers or never married. In the Kintampo South District, similar to other southern districts of Ghana, marriage constitutes one of the avenues of getting access to land. Indeed, a respondent during an interview session in Komendaa shared that he migrated to the community in 1985 and married an indigenous woman. This ensured that he had access to land to engage in farming activities for his family's sustenance. Marriage also constitutes the legally recognised and socially accepted institution to engage in procreation and thus have adequate household labour to engage in farming activities. Marriage also confers social status to both males and females. These factors possibly explain the marital status of local farmers sampled for the study.

4.2.5 Type of family system

The study also ascertained the type of family of respondents. There are two main types of families in Ghana: the nuclear and extended family systems. The type of family system could shape access to resources particularly land to engage in farming activities. In rural communities of Ghana, the extended family system is the predominant family system, although the nuclear family system is beginning to emerge as some individuals break away from their extended families to set up households that consist of them, their partners and children only. It was

therefore important in the present study to explore the type of family systems that respondents belong to. The results are summarised in table 5 below.

Table 5 Type of family system

Type of family system	Frequency (N)	Percent (%)
Single parent	2	7.4
Nuclear family	5	18.5
Extended family	20	74.1
Total	27	100.0%

Source: Field data, 2023

The results show that the extended family system was the predominant family system that respondents belonged to in Komendaa and Hindu communities. The nuclear family system was however emerging in the study areas, with some presence of single parent households.

4.2.6 Household size

The study further explored the household size of sampled local farmers. This information is important because it could provide a picture regarding how conflict relations between local farmers and Fulbe herders could affect the livelihood of those affected such as parents, children and relatives. Table 5 below summarises the results on the household size of respondents.

Table 6 Household size of respondents

Household size	Frequency (N)	Percent (%)
1-3	5	18.5
4-6	7	25.9
7-9	11	40.8
10 and above	4	14.8
Total	27	100.0%

Source: Field data, 2023

The findings suggest relative large household size and dependency ratio in the study areas. Considering that the household heads or parents are often responsible for household sustenance, the large household size could have negative implications on household livelihood particularly in the context of clashes or conflict between local farmers and Fulbe herdsman in the study areas.

4.2.7 Level of education

The study also investigated the educational background of respondents. This was important because educational attainment provides alternative livelihood opportunities to agriculture or farming. Education could also contribute to reductions in competition over available resources as it individuals have the knowledge and skill set to be employed in the formal public and private sector of the Ghanaian economy, and thus reduce the possibility of clashes between local farmers and Fulbe herders. The findings of the study regarding the educational attainment of sampled respondents (local farmers and community members) in Komendaa and Hindu communities are presented in table 7 below.

Table 7 Level of education of respondents

Level of education	Frequency (N)	Percent (%)
No formal education	12	44.4
Primary/Basic education	7	25.9
Secondary education	6	22.2
Tertiary education	2	7.5
Total	27	100.0%

Source: Field data, 2023

From the table, a low level of formal education pertains among respondents in the study areas. The findings of the present study regarding the level of education of respondents mirror that of the Kintampo South District presented in the 2021 Population and Housing Census of Ghana which indicated that 45.5 percent of the total population did not have any formal education (Ghana Statistical Service, 2021). The low level of formal education suggests that farming or engaging in agriculture constituted a key livelihood opportunity especially in the absence of the knowledge and skillset from higher education to enable them access formal public and private sector job opportunities.

4.2.8 Major source of income

The study also reported the major source of income of study participants. It was considered important to ascertain the extent to which respondents depended on farming for livelihood support as such information offers insights on how critical land is as a resource to local farmers and their households. The findings of this inquiry are presented in table 8.

Table 8 Respondents' major source of income

Major source of income	Frequency (N)	Percent (%)
Farming only	14	51.9
Farming and trading	7	25.9
Farming and building works	5	18.5
Farming and carpentry	1	3.7
Total	27	100.0%

Source: Field data, 2023

The results show that crop farming constituted the main occupation of respondents (local farmers) sampled for the study in Komandaa and Hindu communities. Other respondents combined farming activities with trading, building works (masonry and plumbing), and carpentry. However, these respondents indicated that their main source of income was derived from farming. Nonetheless, they engaged in the aforementioned economic activities during the dry seasons when it was not possible to engage in crop farming in their respective communities. The findings of the present study regarding the occupational status are consistent with Ghana Statistical Service data on agriculture constituting 72.1 percent of the total workforce of the Kintampo South District (Ghana Statistical Service, 2021). The finding suggests that most of the respondents depend on farming for their livelihood as it does not require formal education to engage in. This makes land for crop cultivation in high demand and could possibly result in competing interest between local farmers and Fulbe herdsmen.

4.2.9 Duration of stay in the community

The study ascertained the length of stay in Komendaa and Hindu by respondents (local farmers). This enabled the study to assess how knowledgeable and possibly vested respondents are in

issues of conflict between local farmers and Fulbe herders in their communities and by extension the Kintampo South District of Ghana. The findings are presented in table 9.

Table 9 Length of stay in the community

Major source of income	Frequency (N)	Percent (%)
Since birth	18	66.7
1-10 years	4	14.8
11-20 years	3	11.1
21-30 years	1	3.7
31-40 years	1	3.7
Total	27	100.0%

Source: Field data, 2023

The results summarised in table 9 suggest that respondents (local farmers) are long time dwellers in Komendaa and Hindu communities of the Kintampo South District of Ghana. Apart from the majority who were born in the communities, most of the remaining respondents had stayed in the study areas between 10 and 20 years. By implication, most of the respondents were resident in the communities prior to the first recorded instance of conflict between local farmers and Fulbe herders in the study areas. This suggests that the respondents sampled for the study were in a position to offer useful insights into the underlying causes of conflict relations between local farmers and Fulbe herders and local actions initiated to prevent conflict recurrence in Komendaa and Hindu communities, and by extension in the Kintampo South District of Ghana.

4.3 Demographic profile of Fulbe herdsmen

A total of eighteen (18) Fulbe herdsmen participated in this study through personal interviews across both Komendaa (10) and Hindu (8) communities. All of them were male herders of Fulbe ethnic origin. The findings of the socio-demographic characteristics of Fulbe herders sampled for the study, particularly their age groupings, marital status, ownership of cattle, and length of stay in the communities are presented in the sub-sections that follow.

4.3.1 Age group

From the data, majority of Fulbe herders sampled for the study were in the age group of 18-28 years. Based on Ghana's National Youth Policy of 2010 definition of youth adopted for this study, it can be deduced that Fulbe herders in the study communities have a youthful population.

Table 10 Age groupings of Fulbe herders

Age group	Frequency (N)	Percent (%)
18-27 years	10	55.5
28-37 years	5	27.8
38-47 years	3	16.7
Total	18	100.0

Source: Field data, 2023

4.3.2 Marital status

The study also established the marital status of respondents. This was necessary because the literature generally characterises the Fulbe people as nomads, which may have implications on marriage. The results indicate that majority of Fulbe herders sampled for the study were never married (66.7%) while 33.3% of them were married and lived with their wives in the communities.

Table 11 Marital status of Fulbe herders

Marital status	Frequency (N)	Percent (%)
Married	12	66.7
Never married	6	33.3
Total	18	100.0

Source: Field data, 2023

4.3.3 Ownership of cattle

The literature suggests that Fulbe herders are sometimes caretakers of cattle and not necessarily owners as businessmen hire them to tender their cattle. The study therefore sought to establish

the number of Fulbe herders who actually are cattle owners. The findings depicted in table 12 indicate that that out of a total of 18 Fulbe herders sampled for the study, only 5 representing 27.8% of total respondents were cattle owners, with the remaining 72.2% of herders being caretakers employed by persons in the communities and other regions of Ghana to take care of their cattle.

Table 12 Ownership of cattle

Ownership of cattle	Frequency (N)	Percent (%)
Herders only	13	72.2
Herders and cattle owners	5	27.8
Total	18	100.0

Source: Field data, 2023

4.3.4 Length of stay in community

The final socio-demographic characteristic of sampled Fulbe herders that the study investigated was their length of stay in Komendaa and Fulbe communities in the Kintampo South District of Ghana. The findings show that majority of Fulbe herders sampled for the study had lived in the communities between 1 and 5 years (61.1%). However, 27.8% lived in the communities for less than a year, while the remaining 11.1% lived there between 6 and 10 years. The relatively short stay in the study areas could have implications on the formation of social networks which could possibly shape conflict relations between local farmers, community members and Fulbe herders.

Table 13 Length of stay in communities

Length of stay in community	Frequency (N)	Percent (%)
Less than a year	5	27.8
1-5 years	11	61.1
6-10 years	2	11.1
Total	18	100.0

Source: Field data, 2023

4.4 Factors that attract Fulbe herders to Komendaa and Hindu

This section presents the results of the study on the factors that attract Fulbe herders into the Komendaa and Hindu communities of the Kintampo South District of Ghana. An understanding of the factors that attract Fulbe herders into the study areas provides a useful backdrop on the nature of the communities, and possible explanations for conflict relations between Fulbe herders and local farmers and community members. The responses from the field work indicate that the factors that attracted Fulbe herders and households into the study areas can be categorised into six (6) main factors:

- Availability of land and water resources
- Crisis in previous communities of residence
- Availability of jobs/employment opportunities
- Availability of social amenities
- Access to markets

4.4.1 Availability of land and water resources

The results show that the availability of land and water resources in Komendaa and Hindu communities in the Kintampo South District of Ghana was generally a key factor that attracted Fulbe herders to the areas. During personal interview sessions, both farmer and Fulbe herders shared that the presence of rich pasture constituted a main factor behind Fulbe migration and stay in Komendaa and Hindu. According to a 24-year old Fulbe herder who doubled as a cattle owner in Komendaa, the grass is so green and nutritious for his cattle. He further explained that because of the rich nature of the vegetation, his cattle is assured of pasture all year round, which aids their growth and subsequent reproduction. This view was corroborated by a local 42 year old farmer in Hindu who indicated that Fulbe herders are attracted to their community because they are able to get access to rich or nutritious forage for their cattle to graze on. He added that the Chief of Hindu facilitated access to lands for grazing purposes for some Fulbe herders after they pay a small leasing fee (GHC500.00) to the palace of the Chief.

Besides the presence of nutritious forage for cattle grazing activities, some study participants (both local farmers and Fulbe herders) shared that the presence of water bodies particularly rivers and streams in the study areas further attracted Fulbe herders. These water bodies ensured that

cattle are able to get water to drink throughout the year in Komendaa and Hindu. According to a 21 year old Fulbe herder in Hindu:

“I moved all the way from Gusheigu in the Northern region of Ghana to Hindu last year because in the dry season, I am not able to find water for my animals as the dams and streams dry up. Now that I have stable water for my animals, I am likely to stay in this community for a long time” (Personal interview: 18/02/2023).

Similarly, a 35 year old local farmer who had lived in Komendaa since birth, in an interview opined that the Fulbe herders and their cattle are attracted to their community because of the presence of water for their cattle during the dry season. He added that the presence of water bodies in the community provides both local farmers and Fulbe herders to engage in fishing activities to earn additional income for their household sustenance. These findings of the present study suggest that the presence of land and water bodies constitute a key pull factor that informed the movement of Fulbe herders into Komendaa and Hindu. The findings also imply that some Fulbe herders enjoyed support from traditional authorities in terms of accessing land, on lease, to engage in grazing activities. This possibly set the tone for peaceful co-existence between Fulbe herders, local farmers and community members in the study areas.

4.4.2 Crisis in previous communities of residence

The findings also show that the presence of some Fulbe herders in the study areas are the result of crisis situations in previous communities of residence. Specifically, some Fulbe herders particularly those who had resided in Komendaa and Hindu for relatively short period of time (less than a year) indicated that they moved from their previous communities of residence as a result of ethnic clashes. In such clashes, Fulbe herders are often perceived to be agents in conflict although these suggestions were heavily refuted by Fulbe herders sampled for the study. As a result, some Fulbe herders had to migrate to near and far away communities for refuge. Further probing revealed that such movement could often take months before they arrive at new communities that they determine suitable for residence, with such a choice often shaped by the openness of a new community comprising of its traditional leader, opinion leaders, and community members to Fulbe herders, besides the presence of pasture and water bodies to aid their cattle grazing activities. This finding was corroborated during interviews with local chiefs of both Komendaa and Hindu. In their view, Fulbe herders are welcome into their communities

because their cattle rearing activities were initially not considered a threat to peaceful co-existence with community members. As such, they facilitated their stay in the community.

The results further show that crisis in previous communities of residence did not just manifest in the form of ethnic clashes but also the outbreak of disease that affect the lives of cattle in previous communities. According to a 24-year old Fulbe herder in Komendaa:

“I moved to Komendaa because the tsetse fly that affected my cattle in the previous community where I lived are not found here. Now my animals are free from sleeping sickness which I previously spent a lot of money to treat my sick animals” (Personal interview, 20/02/2023).

From the narrative above, it can be deduced that the health and financial implications of tsetse fly bites constituted a factor in addition to others that ensured that some Fulbe herders moved from their previous host communities or communities of residence to Komendaa and Hindu in the Kintampo South District of Ghana. Some Fulbe herders also indicated that such migration due to the outbreak of cattle disease also inured positive health benefits to herders such as less malaria and tuberculosis infections. As such, they were much more inclined to move to new settlements rather than stay put.

4.4.3 Availability of jobs/employment opportunities

The results further show that some Fulbe herders were attracted to the Kintampo South District due to the possibility of them gaining employment particularly in the informal sector of the district economy besides herding activities. This was particularly the case among married Fulbe herders with young families According to some married Fulbe participants during interviews, this quest for employment opportunities was needed because in most part, they did not own the cattle that they took care of. As payment for catering to cattle belonging to other community members and business men outside the Kintampo South District, they were mostly paid or rewarded with the fresh milk and small amount (ranging from 100 Ghana Cedis to 300 Ghana Cedis) following the sale of cattle in the open market. However, such payments proved inadequate in meeting their household needs such as food, clothing, and health for themselves, spouses and children. As a result, the availability of jobs or employment opportunities in the Kintampo South District particularly in Komendaa and Hindu communities represented an opportunity for some married Fulbe households to engage in alternative livelihood opportunities

to meet their household needs. In an interview, a 28-year old married Fulbe herder with three (3) children in Komendaa narrated the following:

“I migrated to this community with my family not just because of available land and water for the animals that I take care of to graze. In deciding where to move, my family and I had to consider where we (especially my wife) could also be employed and earn income for the family. My wife learnt dress making and now has her own shop where she earns income” (Personal interview, 20/02/2023)

Another Fulbe herder in Hindu who did not own cattle added the following:

“After moving to Hindu, I am able to combine cattle tending with working on people’s farms especially during the rainy seasons. This ensures that I earn some daily wage to cover individual and household needs such as food and meet the health needs of my children” (Personal interview, 20/02/2023)

From the narratives above, it can be deduced that the quest for alternative livelihood opportunities especially among married Fulbe herders and also those who did not own cattle was largely informed the need to complement cattle rearing activities with additional income earning opportunities to adequately address their individual and household livelihood needs in Komendaa and Hindu communities in the Kintampo South District of Ghana. This is contrary to earlier narratives in literature that characterised the Fulbe ethnic group as largely nomads, with little interest in settling and integrating in communal life and activities.

Also, seeking out employment opportunities in the study areas could suggest openness on the part of community members particularly indigenes of Hindu and Komendaa towards Fulbe households. Moreover, by participating in the informal sector of the local economy, some Fulbe groups arguably established some relationships with indigenes or community members, which could have implications in terms of clashes between local farmers and Fulbe herders. It is therefore interesting to note how such social relations shaped conflict relations between Fulbe herders and local farmers or community members in Komendaa and Hindu communities of the Kintampo South District of Ghana.

4.4.4 Availability of social amenities

The results also show that the availability of social amenities or services, besides the availability of land and water resources, constituted an important driver of Fulbe presence or migration into Komendaa and Hindu in the Kintampo South District of Ghana. Some study participants particularly Fulbe herders generally indicated that the availability of social services particularly schools, electricity and health facilities were factors that attracted them to the study areas. According to a 34-year old Fulbe herder in Komendaa, although resource availability particularly pasture and water bodies to support grazing activities constituted the main factor that defined their presence in the communities, he was also motivated by the possibility of his children having access to education through public basic schools in the Komendaa. In his view, by educating his children, it will ensure that they have access to formal sector opportunities to earn income to support their livelihoods. He further added that gaining formal education and subsequently opportunities to be employed in the formal public or private sector represents a better livelihood opportunity compared to cattle rearing which was not sustainable due to the possibility of animals being stolen, exposed to disease infection and death, or sold by their owners thus leaving herders with no opportunities to earn income to support their individual and household livelihood.

Other social services or amenities that some study participants highlighted as pull factors behind their presence in Komendaa and Hindu besides pasture and water bodies to support cattle rearing, are electricity and health facilities. The results show that both communities are connected to the national electricity grid which ensures that they are able to have access to information through radio and television on global and national events. This assertion was corroborated by some community residents who asserted that access to electricity complements the education of their children, similar to children born into Fulbe households, as it ensures that they are able to study at home particularly carry out assignments (homework) and also aid preparations to undertake examinations. Moreover, some Fulbe herders who doubled as cattle owners suggested that the connection of Komendaa and Hindu to the national electricity grid has positive implications on the security of cattle. This is because it could reduce instances of animal theft or killing especially at night.

In addition, the availability and access to health facilities particularly health centres in both Komendaa and Hindu communities was highlighted by some key informants particularly Fulbe

herders during interviews as an important pull factor behind the migration of some Fulbe herders. In their view, this was also an important consideration in deciding the communities to move to as it ensured that Fulbe households have access to medical care when needed to treat illnesses such as malaria, typhoid fever, and tuberculosis due mostly to their engagement in cattle rearing in the bushes or forests. However, some Fulbe herders who had resided in Hindu and Komendaa for relatively longer periods acknowledged some barriers faced in accessing medical care particularly the negative perception and attitude of some health professionals towards Fulbe groups. Interviews with some selected community members for the study appeared to confirm the above assertion by Fulbe herders. In the view of some community members, Fulbe herders and the Fulbe ethnic group in general were mostly perceived in a negative light, ranging from perceptions of them as “aliens” or not “Ghanaian”, destructive, confrontational, and criminals. These perceptions were largely attributed to the growing destructive nature of cattle rearing activities by some Fulbe herders in nearby communities. According to some Fulbe herders, these negative perceptions largely shaped reluctance on the part of some health professionals particularly nurses to offer healthcare services to them when they present themselves for treatment at health centres.

4.4.5 Access to market for cattle

The final factor highlighted by some study participants behind the migration of Fulbe herders into Komendaa and Hindu communities in the Kintampo South District is access to market for cattle. The Kintampo South District has major markets for cattle in Jema – the district capital, and other communities such as Apesika and Amoma. In-depth interviews with some Fulbe herders, local farmers, community members and local chiefs indicated that Komendaa and Hindu were strategically located near each of the earlier cited communities that have cattle markets. As such, by residing in Komendaa and Hindu, Fulbe herders and cattle owners not only had access pasture and water bodies to support cattle rearing but also local markets for the sale of cattle. In an interview with a 35-year old community member in Komendaa who also worked as a middle-man in the sale of cattle, he indicated that the role of Fulbe herders in cattle trade was basically to transport cattle to the markets on behalf of owners. At these centres, the sale of cattle is then negotiated by middle men and traders from big cities such as Accra or Kumasi who subsequently purchase and transport cattle to urban areas for onward sale or processing. A 21-year old Fulbe herder in Hindu added that the price of cattle was largely influenced by the age, weight and

health status of the animal, with price ranging from GH2000 to GH5000 (estimated \$200-\$500 USD). Following the sale of cattle, middle-men receive a commission (10 percent of the sale), and Fulbe herders also given a token amount by cattle owners for their role as herders, with such payments considered key in supporting individual and household livelihood needs. These two considerations (access to pasture and water, and access to cattle markets) therefore ensured that some Fulbe herders migrated to communities that satisfied both cattle rearing and commercial purposes.

4.5 Causes of conflict between local farmers and Fulbe herders

This section presents the results of the study on the underlying causes of conflict relations between the farmers (the locals) and Fulbe herders in Komendaa and Hindu communities in the Kintampo South District of Ghana. The findings generally indicate that study participants particularly Fulbe herders and local farmers, as well as other stakeholders such as traditional leaders, community members, and law enforcement officials (the Ghana Police Service) assigned different reasons to define the conflict relations between local farmers and Fulbe herders. The analysis of the underlying causes of conflict relations are grouped into five (5) main themes:

- Destruction of farms and crops
- Cattle rustling and killing
- Rape and sexual harassment
- Theft, robbery by herders
- Perception and treatment of herders
- Partiality in dispute settlement

4.5.1 Destruction of farms and crops

The findings highlight the destruction of farms and crop produce by cattle tendered to by some Fulbe herders was highlighted by some study participants as the main cause of tensions and in some cases clashes between local farmers, community members and Fulbe herders in both Komendaa and Hindu in the Kintampo South District. Local farmers generally reported during in-depth interviews that some herders were perceived to intentionally move their cattle at night to graze on crops as well as harvested agricultural produce that is stored on farmlands for onward transportation to market centres. Such activities by some Fulbe herders were interpreted to reflect

a lack of respect and recognition of the tedious nature of farming and the work they put in to farm and harvest agricultural produce. Some local farmers particularly those that are married, with large family/household size, low level of education, and farming as the only source of income interpreted grazing on their farmlands and agricultural produce to represent a direct attack on their household livelihood. The following words by a 35-year old local farmer with farming as the sole source of income in Hindu capture the sentiment regarding the destruction of farms and crops by Fulbe herders:

“Some of the Fulbe herders are very destructive. Last year, they intentionally moved their cattle into my 20-acres of plantain farm and cut down some of the plants for their animals to chew. As a result, I lost about 4-acres worth of farm produce which meant that I could not earn the income that I made in previous farming seasons” (Personal interview, 21/02/2023).

A 42-year old Dagaati community member in Komendaa also added that:

“In June last year (2022), I visited my farmland in the morning only to realise that I had a big part of the farmland destroyed by cattle grazing activities. How am I expected to make money to pay off loans that I take to farm? Because of this, we had to retaliate to teach them a lesson so that such acts are put to an end” (Personal interview, 21/02/2023).

The above narratives succinctly capture the perception among some local farmers and community members that the destruction of farms and crops by cattle was an intentional act supervised by Fulbe herders. Such thoughts regarding the motive behind the destruction of crops and farmlands, coupled with the negative implications of such acts on individual and household livelihoods of local farmers therefore instigated acts of retaliation by local farmers and community members to seek redress. The narratives also capture how the destruction of farmland and crop by stray cattle was interpreted to affect the livelihood of local farmers and community members differently. Specifically, poor farmers, those of lower educational status, large household sizes, and without complementary economic activities to generate additional income considered the destruction of their farms and crops to represent more of an attack on their individual and household livelihood compared to local farmers and community members with relatively higher level of educational attainment, smaller household size, and alternative sources of livelihood.

In-depth interviews with some Fulbe herders acknowledged the destruction of crops and farmlands due to cattle rearing activities as a major cause of conflict relations between them, local farmers and community members. However, such acts were largely attributed to poor supervision of cattle by some Fulbe herders, which culminated in the destruction of farms and crops by cattle. Also, some Fulbe herders reported innocence and attributed the destruction of farms and crops to the influx of “*alien nomads*” in the area who after destroying farms and crops, leave the community. In such instances, Fulbe herders were wrongly targeted as the perpetrators of such acts, in the absence of the real perpetrators. Other Fulbe herders also blamed the destruction of farms and crops on the insistence of farmers to cultivate crops close to animal kraals, rivers and streams that serve as sources of water for their cattle. In such instances, farms and crops belonging to local farmers unfortunately constituted immediate pasture for cattle to graze, and thus instigating clashes or conflict between local farmers and Fulbe herders.

4.5.2 Cattle rustling and killing

Stealing and killing of cattle was highlighted as another underlying cause of conflict relations between Fulbe herders, local farmers and community members. According to some Fulbe herders during in-depth interview sessions, some farmers and youth of the study areas sometimes mobilised and attacked their animals and in the process killed some of the cattle, with such acts intended at forcing Fulbe herders to flee Komendaa and Hindu. Other herders and community members argued that cattle rustling and killing constituted retaliation for the destruction of farms and crops by stray cattle, where rather than reporting such incidences to local law enforcement officials (the office of the Ghana Police Service in Kintampo South District), they rather shot and in some instances killed the animals. A 24-year old Fulbe herder in Komendaa recounted the following:

“....anytime I receive a complaint that the cattle that I take care of have ravaged a farm or crops, I personally visit the affected farmer and render an apology and where necessary some compensation for the damage caused. But I don’t understand why such gestures are not appreciated but rather they prefer to kill our animals” (Personal interview, 21/02/2023).

Such acts by local farmers also triggered violent response from some Fulbe herders, thus culminating in some instances of clashes between local farmers and Fulbe herders. The above narrative was confirmed during interviews with local chiefs and police officials. The Chiefs of

Komendaa and Hindu as well as selected police officers in the Kintampo South District confirmed that compensation and apologies were often rendered by cattle herders to affected persons. However, such acts were mostly deemed by affected persons as afterthoughts and as such, provoked violent reactions by local farmers and in some cases community members in a bid to seek redress.

Some local farmers and community members on their part, indicated that the stealing and in some instances killing of cattle belonging to Fulbe herders was in part motivated by anger and the extent of destruction of farms and crops by cattle. To them, their actions were intended at scaring cattle, and more importantly ensure that Fulbe herders initiate measures to prevent their cattle from invading farmlands and destroying crops or farm produce. However, further probing established that the stealing of cattle was not solely done by local farmers and community members, with some Fulbe herders also engaged in the practice. According to some local farmers, some Fulbe herders particularly those who do not own cattle as well as those who had no alternative sources of livelihood besides cattle rearing, sometimes connived to steal and sell cattle to local butchers for money to support individual and household livelihood. As such, due to fear of being arrested or sacked by cattle owners, the narrative that cattle was stolen by local farmers and community members was pushed by some Fulbe herders to exonerate themselves, but inadvertently fuelling tensions between both factions.

4.5.3 Rape and sexual harassment

Rape and sexual harassment of women (adult and young girls) by some Fulbe herders in the bush was highlighted as a notable cause of violent clashes between herders and community members. Some community members reported that in some instances, some Fulbe herders particularly those relatively younger age groups, sexually abused some women and girls, and in some cases forcibly had sex with them at gun point when these women were either returning from the market, fetching water at nearby sources, or fire wood for cooking purposes at their homes. The study further established that prior to the migration of Fulbe herders into the community, rape and sexual harassment was seldom reported in the study areas. According to some community members in Komendaa, such acts triggered violent confrontations and conflict between local residents and Fulbe herders because they could not readily identify the direct perpetrators of

such acts. As a result, they vented their anger on all persons identified as a Fulbe herder in the community to serve as deterrence against future acts of rape and sexual harassment.

Further probing during interviews revealed that acts of rape and sexual harassment of women by Fulbe herders degenerated into violent clashes between local residents and herders because of perceived inaction on the part of police officials to identify, arrest and prosecute offenders. This prompted local residents to initiate self-action to seek redress following such acts in Komendaa. Issues of rape and sexual harassment of women in Komendaa by some Fulbe herders were confirmed during interview sessions with Police Officials at the District Police Station in Jema who reported four (4) incidences of sexual harassment and three (3) incidences of rape of women by Fulbe herders covering a three year period (January 2020 to January 2023). However, Police Officials in the present study indicated that the difficulty in identifying the perpetrators of such acts made it difficult for the Ghana Police Service to proceed with such cases. Local Chiefs of both Komendaa and Hindu also highlighted rape and sexual harassment as an important factor that triggers violent clashes as in most cases, persons accused of such acts were identified to be Fulbe herders.

However, Fulbe herders on the other hand, generally intimated that they were wrongly tagged with acts of rape and sexual harassment. A 21-year old Fulbe herder in Hindu indicated that although rape and sexual harassment constituted a causal factor of conflict relations between Fulbe herders and mostly community members, it was often the case that Fulbe herders settled in Hindu were wrongly accused of such acts. In his view, such acts were mostly committed by “alien” or nomadic herders and not those resident in the community. As such, violent clashes often occurred as settled Fulbe herders sought to fight back such accusations of rape and sexual harassment by some community members.

4.5.4 Perception and treatment of herders

A minor underlying cause of conflict relations between Fulbe herders, local farmers and community members in both Komendaa and Hindu communities in the Kintampo South District was the negative perception and poor treatment of some Fulbe herders and their households by some community members. The study established that the Fulbe ethnic group is largely perceived by community members as “alien” to the local context or communities primarily because they trace their origin to the Sahel regions of West Africa particularly countries such as

Mali and Niger. Some Fulbe herders particularly those who have resided for long periods of time (beyond five (5) years) in Komendaa and Hindu reported that they are subjected to ridicule, stigmatised and discriminated against when it comes to accessing some social services particularly healthcare and social support in the communities. In the words of a 28-year old Fulbe herder in Komendaa:

“People do not treat us like humans. I am considered an outsider because I trace my roots to Niger. This makes it difficult for people to accept me and also for me to have access to especially health services and also jobs” (Personal interview, 24/02/2023).

The above narrative highlights challenges related to stigma, discrimination and difficulty in terms of integration of some Fulbe herders in the study areas. This poses further challenges to especially poor Fulbe herders and their households in terms of social support and also gaining access to employment opportunities to augment their cattle herding activities. Some Fulbe households further indicated that as a result of the negative perception and poor treatment reflected in stigma and discrimination, some community members did not want to pay for items that they purchased from them in the market.

Negative perception, stigma, and discrimination against Fulbe herders were confirmed in interviews with local farmers, community members in Komendaa and Hindu. According to some local farmers and community members, such perceptions, stigma and discrimination were generally attributable to some Fulbe herders leading mostly nomadic lives, with little integration with host communities, and more importantly the destruction of farms and crops by cattle under the care of Fulbe herders. As a result, they wanted little to do with Fulbe herders and their households. Over time, such instances provoked reactions from Fulbe herders, thus leading to some instances of violent clashes between local residents and farmers on one hand, and Fulbe herders on another hand. However, although the Chief of Komendaa and Hindu confirmed instances of stigma and discrimination against Fulbe herders, they discouraged such acts and rather promoted social cohesion and integration between Fulbe households and community members.

4.5.5 Perceived partiality in dispute settlement

The final theme elicited from interviews with study participants as an underlying cause of conflict relations between local farmers, local residents and Fulbe herders is the perceived partiality of traditional authorities particularly the local Chief in Komendaa and Hindu, in settling disputes between Fulbe herders and local farmers or community members. Most local farmers sampled for the study across both communities opined that the chiefs do not pass fair judgment on issues between Fulani herders and the farmers, arguing that judgement is often passed in favour of the Fulani herders particularly those who owned cattle and had money to influence decisions in their favour. Further probing established that such judgements of disputes by the Chiefs of the communities in focus in the present study were largely motivated by monetary benefits that they received from Fulbe herders in exchange for settling disputes in their favour. In the words of a 24-year old local farmer in Hindu:

“Our Chief is not fair to us. Last year when I had my farm destroyed by cattle belonging to the Fulbes, I reported it to the Chief. I was surprised that rather than asking the Fulbe herder to compensate me for the damage to my farmland, the Chief let him go without punishment” (Personal interview, 24/02/2023)

A 45-year old community member in Komendaa added the following:

“The Fulbe herders are able to have their way in dispute resolution because they are able to pay our Chief to decide in their favour. In some instances, even where they are fined by the Chief, it is too small, with such amounts covered by the cattle owners. This is not punishment enough” (Personal interview, 24/02/2023).

The above narratives highlight perceptions of partiality of traditional rulers (Chief) by some community members and local farmers in Komendaa and Hindu in dispute resolution as it relates to the cattle rearing activities of Fulbe herders that destroyed farm lands and crops. Such perceptions triggered clashes between local residents and farmers and Fulbe herders in the absence of a perceived fair system in resolving disputes.

When contacted for their perspective on the perceived partiality of local Chiefs in resolving disputes between local farmers and herders, most Fulbe herders outright dismissed such perceptions as false. Rather, some Fulbe herders perceived their status as “aliens” or non-

indigenes as a factor that put them at a disadvantage in dispute resolution handled by local Chiefs. They considered that in instances where a decision or ruling arrived at by the local Chief was in their favour, this was mainly because they had done no wrong. However, the Chiefs of Komendaa and Hindu dispelled such notions of partially in dispute resolution by indicating that they provided fair hearing to all parties in dispute and subsequently fair judgement, irrespective of whether they are Fulbe or indigenes of the communities.

4.6 Local actions initiated to prevent conflict recurrence

This section presents the results of the study on local level (community) initiatives to prevent violent clashes between Fulbe herders and local farmers in the Komendaa and Hindu communities of the Kintampo South District of Ghana. The study sought to ascertain informal or community level arrangements to prevent conflict recurrence, away from initiatives by the government of Ghana through the Kintampo South District Assembly, and the Regional Security Council of the Bono East Regional Coordinating Council. Community initiatives are key towards conflict resolution particularly as it relates to farmer-herder conflict in the West African sub-region (Abubakari and Kuusaana, 2021). The findings on the local actions initiated to prevent conflict recurrence between Fulbe herders and local farmers in Komendaa and Hindu presented in the sub-sections that follow.

4.6.1 Compensation by cattle owners

The results generally indicate that compensation by cattle owners was often offered to local farmers as settlement following the destruction of farms and crops by cattle herding activities of Fulbe herders in both Komendaa and Hindu. This initiative was introduced by local Chiefs with no involvement of formal institutions particularly the Kintampo South District Assembly and the Ghana Police Service, as a strategy to curb the possibility of violent clashes between local farmers, community members and Fulbe herders. Some local farmers and community members during interviews indicated that compensation offered was defined based on the magnitude of destruction of farms and crops by cattle and the resultant effects on the livelihood particularly income that would have been earned by local farmers to support themselves and their households. Further probing during interview sessions with local farmers, community members, and Fulbe herders revealed that the decision on what to offer as compensation, the value of compensation,

and the terms of payment of compensation was determined by the traditional authority particularly the local Chiefs of Komendaa and Hindu.

With regards to what to offer and value of compensation, an interview with the local Chief of Hindu revealed that compensation was mostly monetary, but in some instances, cattle owners offered to pay with cattle based on the value of farm or crops destroyed by animals. Local farmers and Fulbe herders in this study generally concurred that the payment of compensation was mostly in one tranche. According to some local farmers in Komendaa and Hindu, this was to prevent the possibility of cattle owners or Fulbe herders renegeing on subsequent payments of compensation where it to be divided into a number of tranches. However, in other situations such as where cattle is offered as compensation for the destruction of farms and crops by cattle grazing activities of Fulbe herders, the Chief in harmony with local farmers, Fulbe herders, and cattle owners arrived at a solution which ensured that cattle is offered to local farmers based on when the animals reproduce.

Regardless of the offer of compensation, both factions expressed not being satisfied with the value of compensation. According to local farmers sampled for the study in both communities, compensation received from cattle owners was often not commensurate, and specifically less than the value of farms or crops destroyed by cattle. Cattle owners and in some cases, Fulbe herders on the other hand perceived the compensation offered to be way above the value of farms or crops destroyed by their cattle. Nonetheless, they had to comply with the amount set as compensation in order to ensure their continued stay and for peace to prevail in the community. Regardless of the perceptions of compensation by local farmers, community members and Fulbe herders, they concurred that such an initiative by local Chiefs was useful in preventing recurring farmer-herder conflict in the study areas.

4.6.2 Demarcation of land for cattle ranching

The study also elicited the demarcation of land for cattle ranching as a local strategy initiated by traditional authorities to prevent conflict recurrence between local farmers and Fulbe herders in Komendaa and Hindu. According to study participants, this initiative was arrived in collaboration with local Chiefs, farmers, community members, and selected Fulbe leaders in the study areas on the way forward to prevent renewed clashes. Although formal institutions (Kintampo South District Assembly and the Ghana Police Service) played no immediate roles in

the actual allocation of land for cattle ranching, the District Planning Unit and Forestry Commission of the Kintampo South District provided advisory services on lands suitable for cattle ranching, to community-level committees established to allocate land for cattle ranching.

Local farmers considered the demarcation of land for cattle ranching as important in preventing future farmer-herder conflicts in the study areas as it ensures that cattle under the care of Fulbe herders do not stray into farmlands to graze. They further stressed that land demarcation for cattle ranching constitutes a boundary which will guide their relationship with Fulbe herders in their communities. As such, where encroachment occurs, and cattle are seen to invade other lands otherwise not reserved for cattle ranching activities, they could take action through reporting to the local Chief of the community to address the situation.

In addition, some cattle owners and Fulbe herders on the other hand considered the demarcation of land for cattle ranching activities as a viable strategy to prevent conflict recurrence and ensure lasting peace in Komendaa and Hindu. This is especially the case where land reserved for cattle ranching is perceived by Fulbe herders to be rich in pasture and also near water sources especially rivers and streams to ensure that their animals have both pasture and water to support grazing. However, some Fulbe herders in Hindu bemoaned that although the lands allotted for cattle ranching was rich in pasture and water also available, such land was however small relative to the land size of the community. In their view, any increase in the cattle population could mean that land demarcated for cattle ranching could be inadequate to support grazing activities. Moreover, in-depth interviews with some Fulbe herders revealed that the land allotted to them by the Chief for cattle ranching was not a permanent arrangement, but rather leased to them for a short period of time (10) years. This assertion was confirmed by the local Chief of Hindu. As such, although this measure may ensure peaceful co-existence between local farmers and Fulbe herders in the short, peaceful co-existence between both factions could however not be guaranteed.

4.6.3 Employment of community members as cattle herders

The results also highlight the employment of community members as cattle herders as a useful strategy currently adopted and perceived to reduce the possibility of conflict recurrence in Komendaa and Hindu in the Kintampo South District. This strategy was initiated by cattle owners in the study areas. Local farmers and community members across both communities

generally perceive that a huge factor accounting for conflict relations and more importantly the destruction of farms and crops by cattle grazing activities of Fulbe herders is because they are not indigenes of the communities. As such, the destruction of farms and crops by cattle does not have a direct effect on Fulbe herders since such farms do not belong to them or their households. In a bid to reduce the spate of violent clashes between Fulbe herders and local farmers as well as community members, some community members in both Komendaa and Hindu considered the employment of community members as cattle herders to be useful in preventing conflict recurrence as in most cases, Fulbe herders did not own cattle but rather worked for business persons who owned the cattle. As such, by employing community members to herd cattle, it not only possibly contributes to reduced clashes between Fulbe and local farmers, but also ensures that income is earned by resident herders to support their household livelihood.

The above assertion was confirmed by some cattle owners interviewed for the study. According to some cattle owners, the switch from using Fulbe to local resident herders owed much to the negative effect of conflict relations between Fulbe herders and local farmers on their cattle business particularly injury to and in some instances the loss of lives of their cattle. In their view, it therefore made business sense for them as cattle owners to utilise the herding services of native community members as it ensured protection of their cattle business, while also ensuring that farms or crops are not destroyed since some households to which community herders belong also engage in farming activities. Interviews with selected Fulbe herders in both Komendaa and Hindu also corroborated the increasing use of community members as cattle herders by cattle owners. However, they did not consider this strategy useful towards preventing conflict recurrence since in any case of destruction of farms or crops by cattle due to encroachment, new herders will tag Fulbe herders as the perpetrators of such acts based on past experiences in the community.

4.6.4 Community forums

Finally, community forums initiated by traditional authorities (local Chiefs, and opinion leaders) were identified as a viable community-level strategy currently in place in the study areas that is perceived to contribute positively to reducing the possibility of conflict recurrence. Both local farmers and Fulbe herders considered such forums to be effective avenues where they could air their grievances and more importantly work towards a positive relationship and peaceful co-

existence in Komendaa and Hindu. A general sentiment highlighted by local farmers in the study areas was that community forums ensured that various stakeholders such as the Chief, opinion leaders, religious leaders, farmers, herders, and community members provide input on how to satisfactorily address any grievances or violent clashes between local farmers and Fulbe herders. This ensured that all stakeholders had a voice or power in dispute resolution processes as it relates to farmer-herder conflict in Komendaa and Hindu.

Fulbe herders on the other hand, during field interviews, mentioned that community forums served the purpose of not only diffusing existing tensions between local farmers and Fulbe herders, but also ensuring impartiality in conflict resolution for sustained peace in Komendaa and Hindu. Further probing during field interviews revealed that community forums were first initiated in Komendaa in February 2022 and subsequently in Hindu in August 2022, with no further clashes recorded in both communities in the ensuing period. However, while study participants did not directly attribute the cessation in conflict between Fulbe herders and local farmers to the establishment of and work done by community forums, they however perceived such forums to play an important role in preventing conflict recurrence in Komendaa and Hindu.

CHAPTER FIVE

DISCUSSION OF RESULTS

5.1 Introduction

This chapter discusses the results of the study. The discussion of results is situated in contemporary literature on the causes of conflict relations between Fulbe herders, local farmers and community members, and local actions to prevent conflict recurrence. The theory of environmental scarcity provide useful explanations on the causes of conflict relations particularly in the case of farmer-herder conflict, with the conflict transformation theory also providing useful explanations on local actions initiated to prevent recurrence of farmer-herder conflicts in sub-Saharan Africa. The discussion proceeds accordingly under the following sub-sections.

5.2 Factors that attracted Fulbe herders to Komendaa and Hindu

The findings of the present study demonstrate that a variety of factors underpin the attraction and subsequent migration of Fulbe herders to Komendaa and Hindu. First off, Fulbe herders, local farmers and community members highlighted the availability of rich or nutritious forage all year round and water bodies such as rivers and streams as the main factor that attracted Fulbe herders to Komendaa and Hindu in the Kintampo South District. Also, the results show that as a result of crisis particularly the outbreak of sleeping sickness, tuberculosis and malaria infections as well as conflict with locals in previous communities contributed to the movement of Fulbe herders to Komendaa and Hindu. In addition, the study identified the availability of jobs or employment opportunities especially in the informal sector of the local economy for Fulbe households as one of the factors that culminated in Fulbe presence and herding activities in the study areas. Specifically, study participants indicated that the quest for alternative livelihood opportunities by Fulbe households as they did not own the cattle but rather worked for business persons.

Moreover, the availability of social amenities particularly electricity, educational and health facilities in Komendaa and Hindu attracted Fulbe herders into the communities. However, Fulbe herders highlighted issues related to discrimination and negative attitudes towards them in accessing social amenities particularly healthcare from health professionals at health centres in the study areas. Finally, access to markets for cattle constituted another factor that shaped Fulbe presence and cattle herding activities in Komendaa and Hindu. Specifically, study participants

indicated that the nearness of both communities to Jema – the district capital, as well as other big markets in the district such as Apesika and Amoma ensured that cattle owners had direct access to markets to sell cattle at a good price when needed.

The findings of the present study regarding the factors that shape the migration of Fulbe herders into Ghanaian communities are generally consistent with literature on the migration of Fulbe herders. The literature cites that what pushes Fulbe herders to migrate to the South of the Sahara are numerous (Olakunle & Adejoke, 2013; Olaniyan, 2015). Similar to the present study's findings, Olakunle and Adejoke (2013) found that as a result of rapidly disappearing grazing fields due to climate change and emerging opportunities to obtain forage and water to support cattle grazing in new communities, Fulbe herders are pushed to move to new settlements. Olaniyan (2015) also highlighted the availability of pasture induced by moderate weather in new communities to be a major pull factor that explains the migration of Fulbe herders. In another study, Cabot (2017a) explained the migration of Fulbe herders as the result of the depletion of grazing fields which informed the desire to access new grazing fields for their animals.

The availability of forage and water as a factor behind the migration of Fulbe herders could be explained from the theory of environmental scarcity. Homer-Dixon's (1999) theory of environmental scarcity explains that a decrease in the quality and quantity of renewable resources such as pasture, fresh water sources, population growth and resource access could act singly or in various combinations to increase scarcity for certain populations of cropland, water, and forest resources. The affected population may migrate or be expelled to new settlements in order to address deficiencies in resource availability and access. However, this pattern of migration could result in competition over the use of natural resources, which if not well managed could degenerate into violent conflict.

Empirically, Olakunle and Adejoke (2013) further explained the migration of Fulbe herders as due to crisis particularly the outbreak of animal and human disease in host communities and environmental challenges such as pollution and landslides. In Ghana, Issifu (2022) explained the migratory pattern of Fulbe herders as partly due to the outbreak of infectious diseases such as tuberculosis and malaria among herders and also cattle-related diseases such as trypanosomiasis (sleeping sickness) caused by the tsetse fly. Similar to the findings of the present study, Agyemang (2017) associated disease outbreak and also conflict between Fulbe herders and local

farmers or residents of host communities to be a major factor behind their migration to new communities to engage in cattle rearing activities. These findings suggest that disease outbreak and conflict feature prominently as factors behind the migration of Fulbe herders across contexts such as in Nigeria and Ghana. The findings of the present study and the cited empirical findings of previous studies could imply a challenge of integration of Fulbe herders in local communities, thus culminating in violent clashes or conflict with host communities. The findings could also suggest that limited opportunities exist for Fulbe herders to access health services especially as cattle herding activities are mostly carried out in the bushes or forests, far off from critical social services.

This finding of the present study regarding the availability of jobs or employment opportunities especially in the informal sector for Fulbe households as a factor that attracted Fulbe herders into Komendaa and Hindu in the Kintampo South District of Ghana is corroborated in an earlier study by Agyemang (2017) on farmer-herder conflict in the Agogo traditional area in the Ashanti region of Ghana. Agyemang (2017) found that Fulbe migration into communities in the Agogo traditional area was in part motivated by opportunities to gain employment in the informal sector such as in dressmaking, hairdressing, and trading in the local markets. In another study, Baidoo (2014) categorised the Fulbe in Ghana into three groups. The first group is nomadic who constantly move to and from the Sahelian region into Ghanaian communities along the middle belt and southern regions. The second and third groups are sedentary Fulani who have established semi-permanent and permanent settlements in host communities and are attracted to stay in part due to opportunities to seek out job opportunities besides cattle rearing (Baidoo, 2014). In the present study, Fulbe herders can arguably be categorised under the second category as majority of them have resided in host communities for considerably medium to long periods of time (ranging from 5 to 10 years) and as such can be described as semi-permanent and seek to engage in alternative livelihood activities besides cattle rearing.

Mamman (2020) in a study on farmer-herder conflict in Benue State of Nigeria also cited inadequate social amenities such as water, healthcare, electricity and education as factors that pushed Fulbe herders to migrate to new settlements in Benue State to seek out such amenities for themselves and their households. Similar to the findings of the present study, Alhassan (2017) in a study on land-use conflict between settler farmers and nomadic Fulbe herders in the Kwahu

North District of Ghana reported that the migration of Fulbe herders is not solely premised on the availability of green vegetation or pasture and water bodies to support cattle grazing but also social amenities especially health facilities in times of illness. The present study's findings coupled with literature on access to social amenities as a pull factor of Fulbe migration into new communities constitute a shift from historical narratives of Fulbe herders as primitive, who prefer residing in forest zones and cut off from any form of modern life, to arguably one that presents them as individuals and groups that desire access to social services to support their livelihoods.

Finally, the present study's findings on access to cattle markets as a pull factor behind the migration and presence of Fulbe herders and households in Hindu and Komendaa are consistent with empirical studies by Olaniyan (2015) in Ghana, and Abugu and Onuba (2015) in Nigeria respectively. According to Olaniyan (2015), the search for markets for cattle sale is a factor that also defines the movement of Fulbe herders to new communities. Also, Abugu and Onuba (2015) also argue that considering that cattle mostly belong to business persons residing mostly in urban communities, they prefer having their animals along communities near big markets to facilitate sale, and more importantly get good prices for their cattle. These findings and the literature suggest that although cattle grazing activities mostly occur in forest zones in rural communities, a connection is established by cattle owners, Fulbe herders and cattle merchants in urban and peri-urban markets, thus facilitating cattle trade.

5.3 Causes of conflict relations

The results show that conflict relations between Fulbe herders and local farmers in Komendaa and Hindu are attributable to a variety of factors. The study highlighted the destruction of farms and crop produce by cattle tendered to by some Fulbe herders as the main cause of conflict between local farmers and Fulbe herders in both Komendaa and Hindu in the Kintampo South District. Cattle rustling and killing also featured prominently especially among Fulbe herders, as a causal factor that triggered conflict between Fulbe herders and local farmers in Komendaa and Hindu. Moreover, rape and sexual harassment particularly of young girls and women by some Fulbe herders was highlighted as a factor that triggered violent confrontations between Fulbe herders and local farmers, especially following the failure of District Police Officials to identify and prosecute perpetrators of such acts in the communities. In addition, prevailing perceptions of

Fulbe persons and households as “alien” to the Ghanaian context and their subsequent discrimination and difficulty integrating into the social life of the community was perceived to contribute to a build-up of negative tension and eventually conflict between some Fulbe households, local farmers and community members. Finally, the perceived partiality of traditional authorities (local Chief) by local farmers and community members constituted a cause of conflict between local farmers and Fulbe herders in the present study.

From a theoretical standpoint, the theory of environmental scarcity also offers theoretical insights into the destruction of farms by stray cattle as an underlying causes of farmer-herder conflicts (Okoli, 2013). The theory of environmental scarcity posits that violent conflict between farmers and herders is the product of the desperate quest of the cited population sub-groups to protect and advance their livelihood in an environment characterised by competition and resource scarcity (Okoli & Atelhe, 2014). The theory highlights a relationship between resource scarcity and the quest for survival, with the posture adopted by farmers and herders understood in relation to their quest for survival (Okoli & Atelhe, 2014). In Komendaa and Hindu communities of the Kintampo South District, the survival of local farmers arguably depends on the cultivation and harvesting of crops. As such, any destruction of farmlands by cattle under the stewardship of Fulbe herders constitutes a threat to their livelihood. In the same way, Fulbe herders depend on pastoralism for their survival. As such, any threat to their herd or forage for their animals possibly constitutes a threat to the livelihood or survival of Fulbe herders and their households, and thus explaining violent clashes between farmers, community members, and Fulbe herders.

Consistent with the theory of environmental scarcity, empirical studies also highlight destructions to crops caused by stray cattle without designated grazing roots as the main source of conflict between Fulbe herders and local farmers in host communities (Baidoo, 2014; Bukari, 2017; and Issifu, 2022). Also, Udemezue and Kanu (2019) in a study conducted in Nigeria attribute that the destruction of farms and crops by cattle is due to the inability of herders to completely control cattle, thus resulting in cattle entering farm lands and sometimes causing serious damage to crops which eventually leads to violent conflict between herders and farmers. On cattle rustling, Okoli and Okpaleke (2014) define cattle rustling as a criminal act of taking cattle for economic purposes. Abdullahi and Madappali (2017) also describe it as the act of

stealing cattle primarily for economic gain. Mohammed and Ibrahim (2015) indicate that cattle rustling occurs as a result of the failure of leaders to curb the destructive and in some cases illicit activities of herders in host communities. Ofem and Inyang (2014) found that local residents steal and in some cases kill herdsman cattle in an attempt to get even with them for the damage caused to farms and crops by cattle. This implies that local farmers and community members use cattle rustling and killing as a form of revenge and a means to provide defense for their farms or crops.

Similar to the findings of the present study, Ofem and Inyang (2014), Olaniyan (2015) and Abubakari (2022) found sexual harassment of women and girls to be a causal factor of prevalent farmer-herder conflicts. According to Ofem and Inyang (2014) herders are mostly involved in immoral acts such as raping and sexual harassment of women in host communities, with such acts often attracting retaliation in the form of violent clashes between local residents and cattle herders in an attempt to seek redress. In addition, Olaniyan (2015) found that local communities tended to attribute rape and sexual harassment primarily to Fulbe herders. Bukari (2015) further found that rape and sexual harassment of young girls and women by Fulbe herders constitutes a factor contributing to farmer-herder conflict in Ghana. Consistent with the narrative of rape and sexual harassment as a causal factor of farmer-herder conflicts, Abubakari (2022) reported that in August 2020, local communities in Mamprugu attributed reported cases of rape and sexual harassment to Fulbe herders. In response, some Fulbe herders had their houses burnt and cattle killed and in some cases stolen by irate youth, thus perpetuating violent clashes between Fulbe herders and local communities.

In addition, similar to the present study's findings on the causes of conflict relations, Abubakari and Kuusaana (2021) suggested that the stigmatisation of Fulbe herders as "foreigners" is rooted in heavy-handed state policies dating back to the Aliens Compliance Order of 1969 in Ghana. The Order classified Fulbe herders as aliens and non-citizens who had to be expelled within a 14-day ultimatum. Such perceptions still remain today, which not only constitute a challenge in terms of social integration and peaceful co-existence between Fulbe herders and host communities in Ghana. Tabital Pulaaku – a Fulbe association in Gbangbil Kura in Ghana reported ethnic stereotyping as a contributing factor to the rising spate of conflict between local farmers, communities and Fulbe herders (Tabital Pulaaku, 2021). Issifu, Darko and Paolo (2022)

further highlight the framing of Fulbe herders as “non-citizens” to have political undertones where politicians seek to mobilise political support and votes from “citizens” by promising to resolve farmer-herder conflict in favour of local farmers and community members, and as such fuelling violent clashes.

Finally, perceptions of traditional authorities particularly local Chiefs as partial in dispute settlement between local farmers, community members and Fulbe herders is cited by Abubakari (2021) as an underlying cause of conflict as Chiefs are perceived by local farmers and community members to take bribes such as cattle and money to settle disputes in favour of Fulbe herders. In another study, Abubakari and Kuusaana (2021) found a high level of mistrust in the adjudication of local chiefs on conflicts between Fulbe herders and local farmers or community members to be a major factor behind recurrent farmer-herder conflicts in Gushegu, Ghana.

5.4 Local actions initiated to prevent conflict recurrence

The findings of the present study indicate that various local measures are currently in place to prevent conflict recurrence between local farmers and Fulbe herders in Komendaa and Hindu in the Kintampo South District of Ghana. These are compensation by cattle owners, demarcation of land for cattle ranching, employment of community members as cattle herders, and the establishment of community forums to resolve grievances and violent clashes between Fulbe herders and local farmers. Compensation by cattle owners was often offered to local farmers as settlement following the destruction of farms and crops by cattle herding activities of Fulbe herders, with such compensation defined based on the magnitude of destruction of farms and crops and the resultant effects on the livelihood particularly income of local farmers.

Also, the demarcation of lands for cattle ranching, initiated by the Chief of Hindu and Komendaa was perceived to be a viable strategy that currently addressed farmer-herder conflicts. Such demarcation of land for cattle rearing activities ensured the creation of boundary between local farmers and Fulbe herders. Moreover, the study found that by employing indigenes or community members as cattle herders, cattle rustling and killing as well as the destruction of farms and crops reduced in Komendaa and Hindu, thus ensuring a reduction in the spate of violent clashes between Fulbe herders and local farmers. Finally, community forums organised by local Chiefs of the study areas was found in the present study to provide avenues to both

Fulbe herders and local farmers as well as community members to air their grievances and more importantly work towards a positive relationship and peaceful co-existence.

From a theoretical standpoint, the findings of the present study on local actions initiated to prevent conflict recurrence among local farmer, community members and Fulbe herders are consistent with the Conflict Transformation (CT) theory as it focuses on initiatives introduced by local actors as the key stakeholders in driving sustainable peace in communities. Specifically, by highlighting the role of traditional leaders (Chiefs), opinion leaders, local farmers, Fulbe herders, community members in initiating actions to prevent conflict recurrence such as compensation, demarcation of lands for cattle ranching, and the establishment of community forums. Also, by placing emphasis on reconciliation and rebuilding broken relationships, the theory of Conflict Transformation provides a useful guide on how compensation could contribute to reconciliation and building broken relationships between local farmers, community members and Fulbe herders to prevent recurrent violent clashes in the study areas. Moreover, Lederach's (1997) theory of Conflict Transformation highlights the importance of bottom-up approaches, especially the participation of feuding parties in conflict particularly Fulbe herders and local farmers in community forums to resolve disputes, thus possibly contributing to dispelling any notions of favouritism and power imbalances in conflict resolution processes at the local or community level.

Consistent with the findings of the present study, the literature is replete with local-level responses that mainly centre on alternative dispute resolution mechanisms. Abubakari and Kuusaana (2021) in their study on farmer-herder conflict in Ghana highlighted direct negotiation between Fulbe herders, cattle owners and local farmers to determine the extent of destruction of farms by cattle, on the basis of which compensation is determined and paid, with direct negotiation found to be useful in preventing recurring conflict between local farmers and herders. In another study, Agyemang (2017) found adjudication of farmer-herder disputes to be a common local level response in Agogo. In his view, decisions by chiefs are customarily binding, with both farmers and herders compelled to obey. Failure to comply with a Chief's directives could result in banishment from the community or sanctions (Agyemang, 2017). Adomako (2019) in her study also found that the demarcation of land for cattle rearing activities constitutes a local

level measure initiated by traditional authorities in a bid to ease tensions and prevent conflict recurrence.

Finally, Abubakari (2022) cites the establishment of committees and community forums as useful in settling conflict or disputes involving local farmers and Fulbe herders. Such committees or forums provide avenues to listen to parties in conflict and arrive at amicable solutions. However, it remains to be seen regarding the effectiveness of these local level initiatives in preventing conflict recurrence due to the absence of the legal mandate especially of traditional authorities and committees to enforce decisions such as the payment of compensation by farmers or herders. This suggests the need for such local level measures to be combined with national or governmental interventions to curb farmer-herder conflicts particularly as it relates to the Komendaa and Hindu communities in the Kintampo South District of Ghana.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Violent conflicts, particularly of the farmer-herder type, have been a threat to peaceful co-existence and development particularly in the West African sub-region in recent times. In Ghana, farmer-herder conflict across communities continue to spark considerable debate concerning the capacity of the country to prevent conflict recurrence. However, no two farmer-herder conflicts are the same as there are varying stakeholders with competing interests that need to be addressed in order to effectively curb such conflicts. The present study explored the underlying causes of conflict relations between local farmers and Fulbe herders in Komendaa and Hindu in the Kintampo South District of Ghana. It also examined local or community initiatives to prevent conflict recurrence in the area. To do this, the study was guided by the theory of environmental scarcity and conflict transformation theory.

The assessment of the factors accounting for the migration of Fulbe herders to Komendaa and Hindu were identified to be mostly environmental/natural, social and economic. However, the natural or environmental factor constituted the main reason for the migration of Fulbe herders and their households to the study areas. The causes of conflict between local farmers and Fulbe herders were multifaceted, and echoed features of resource scarcity and the strife for survival. As such, there was a clash of objectives between local farmers and Fulbe herders, as both sought to sustain their livelihood against each other. The local or community level actions initiated to prevent conflict recurrence in Komendaa and Hindu were generally perceived by stakeholders (local farmers, community members, Fulbe herders, traditional chiefs, opinion leaders, and police officers) to contribute positively to curbing violent clashes between local farmers and Fulbe herders, despite some question marks over the long-term sustainability of measures such as demarcation of lands for cattle ranching due to population growth and urbanisation, against possible future need to reclaim lands allotted for cattle ranching activities especially for agricultural production.

Based on the theoretical and empirical literature, farmer-herder conflict in the present study shares some semblances with other such conflicts across other regions of Ghana and countries in

sub-Saharan Africa. First off, conflict between local farmers and Fulbe herders in Komendaa and Hindu is predominantly due to the destruction of farmlands and crops by cattle tendered to by Fulbe herders, as highlighted in previous empirical studies such as Bukari (2017) and Issifu (2022) in Ghana, and Udemezue and Kanu (2019) in Nigeria respectively. Secondly, it is a low intensity conflict that is characterised by sporadic clashes between local farmers, community members, and Fulbe herders, but hardly degenerates into a high number of lives lost or property destroyed in the study areas. The conflict also highlights the challenge of integration of Fulbe herders and households in Komendaa and Hindu due to stigma and discrimination, similar to other studies on farmer-herder conflict such as Abubakari and Kuusaana (2021) and Issifu et al. (2022).

However, the conflict between local farmers, community members and Fulbe herders in the Kintampo South District of Ghana is very complex and dynamic. On the surface, Fulbe herders and households migrated to Komendaa and Hindu primarily in search of pasture and water sources to support cattle grazing activities. However, inherent are political, social and economic factors behind their movement into the study areas. Also, the study highlighted stakeholders with vested interest in cattle business or trade in Komendaa and Hindu such as middle men, cattle owners, and local Chiefs. These not only attracted Fulbe herders into the communities but also facilitate their stay. Moreover, the involvement of “Big men” (cattle owners) could have positive or negative implications on farmer-herder conflict and peacebuilding in Komendaa and Hindu. Cattle-owners form patron-client relationship with Fulbe herders, and as such, are likely to support Fulbe herders during periods of violent clashes with local farmers or community members. However, considering the negative consequences of farmer-herder conflict on cattle business such as the killing and stealing of cattle, cattle owners are also inclined to support peacebuilding initiatives in the study areas.

Finally, local actions initiated to prevent conflict recurrence highlight the shortcomings of top-down approaches to conflict resolution and peacebuilding particularly as it relates to farmer-herder conflicts. Community-level initiatives such as compensation, demarcation of lands for cattle ranching activities, and the establishment of community forums to air grievances and settle disputes may help improve the relationship between local farmers, community members and Fulbe herders for peaceful co-existence in Komendaa and Hindu. However, the absence of the

legal mandate especially of traditional authorities (Chiefs) and committees to enforce decisions, highlights the need for such local, community or informal interventions to be combined with formal, district and national efforts to curb the menace of farmer-herder conflict in Komendaa and Hindu in the Kintampo South District, and other communities, districts and regions of Ghana.

6.2 Recommendations

Based on the findings of the study, the following recommendations are put forward.

- i. The study recommends that the Kintampo South District Assembly and the National Commission for Civic Education of Ghana embarks on peace education in Komendaa, Hindu and surrounding communities to sensitise people on the effectiveness of non-violent channels of conflict resolution.
- ii. The study also recommends that the government of Ghana with support from the African Development Bank establishes fodder banks in communities for cattle herders particularly during the dry season. This could curtail the seasonal migration of cattle herders to new areas in search of pasture to support cattle grazing.
- iii. The study recommends the registration of herders in communities in the Kintampo South District. This could be useful in terms of ascertaining whether they have a history of committing crime such as rape, armed robbery and supervised destruction of farmlands by cattle. The registration of Fulbe herders in communities could also be useful towards identifying vulnerable Fulbe households and providing them with the needed social support to sustain their livelihoods.
- iv. Finally, the lack of legitimacy and formalisation of alternative dispute resolution mechanisms (ADRM) could compromise their effectiveness as decisions taken are not necessarily binding on parties in conflict. Within this context, the study recommends the registration, formalisation and institutionalisation of ADRM Committees, and providing them with operational guidelines. Such guidelines could achieve the effect of greater transparency in conflict resolution processes as well as curb the excess use of discretion in conflict resolution.

BIBLIOGRAPHY

- Abubakari, A. (2022). Farmer-herder conflicts in northern Ghana amid climate change: causes and policy responses. *Policy Brief 09 Dec 2022*. Megatrends Afrika.
- Abubakari, A., & Longi, F. Y. T. (2014). Pastoralism and Violence in Northern Ghana: Socialization and Professional Requirement. *International Journal of Research in Social Sciences*, 4(5), 102-111
- Adomako, M. (2019). *Addressing the Causes and Consequences of the Farmer-Herder Conflict in Ghana*. Policy Brief 6, Accra. Kofi Annan International Peacekeeping Training Centre.
- Agbu, O. (2007). *West Africa's trouble spots and the imperative for peace-building*. African Books Collective.
- Amnesty International (2018). Nigeria: The harvest of death – three years of bloody clashes between farmers and herders in Nigeria. *AFR 44/9503/2018*. Amnesty International.
- Aning, E.K & Atta-Asamoah, A. (2011). Demography, Environment and Conflict in West Africa. *KAIPTC Occasional Paper 34*.
- Baidoo, I. (2014). Farmer-herder conflicts: a case study of Fulani herdsmen and farmers in the Agogo traditional area of the Ashanti region. *University of Ghana, Ghana*.
- Bierschenk, T. (2010). *States at work in West Africa: Sedimentation, fragmentation and normative double-binds* (Vol. 113). Inst. für Ethnologie u. Afrikastudien, Johannes-Gutenberg-Univ. Mainz.
- Brosché, J., & Elfversson, E. (2012). Communal conflict, civil war, and the state: Complexities, connections, and the case of Sudan. *African Journal on Conflict Resolution*, 12(1), 9-32.
- Bryman, A. (2012). *Social Research Methods*. Oxford University Press, Oxford.
- Bryman, A. (2016). *Social Research Methods* (6th Edition). Oxford University Press, Oxford.

- Bukari, K. N. (2017). *Farmer-herder relations in Ghana: interplay of environmental change, conflict, cooperation and social networks* (Doctoral dissertation, Niedersächsische Staats- und Universitätsbibliothek Göttingen).
- Bukari, K. N., & Kuusaana, E. D. (2018). Impacts of large-scale land holdings on Fulani pastoralists' in the Agogo Traditional Area of Ghana. *Land use policy*, 79, 748-758.
- Bukari, K. N., Bukari, S., Sow, P., & Scheffran, J. (2020). Diversity and multiple drivers of pastoral Fulani migration to Ghana. *Nomadic Peoples*, 24(1), 4-31.
- Burrell, G., & Morgan, G. (2017). *Sociological paradigms and organisational analysis: Elements of the sociology of corporate life*. Routledge.
- Crotty, M. J. (1998). The foundations of social research: Meaning and perspective in the research process. *The foundations of social research*, 1-256.
- De Bruijn, M., & Van Dijk, H. (2003). Changing population mobility in West Africa: Fulbe pastoralists in central and south Mali. *African Affairs*, 102(407), 285-307.
- Ezenwa, O.E. & Stubbs, T. (2022). Herder-farmer conflict in the Sahel needs a new description: why 'eco-violence' fits. *The Conversation*. Accessed from: <https://www.landportal.org/news/2022/07/herder-farmer%C2%A0conflict-sahel-needs-new-description-why-%E2%80%98eco-violence%E2%80%99%E2%80%99%C2%A0fits>
- FAO, E. (2012). The cross-border transhumance in West Africa Proposal for Action Plan. *Rome, FAO*.
- Fjelde, H., & Østby, G. (2014). Socioeconomic inequality and communal conflict: A disaggregated analysis of sub-Saharan Africa, 1990–2008. *International Interactions*, 40(5), 737-762.
- Folami, O. M., & Folami, A. O. (2013). Climate change and inter-ethnic conflict in Nigeria. *Peace Review*, 25(1), 104-110.
- Forsyth, T. (2004). *Critical political ecology: the politics of environmental science*. Routledge.
- Green, B. E. (2005). A general model of natural resource conflicts: the case of international freshwater disputes. *Sociológia-Slovak Sociological Review*, (3), 227-248.

- Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), 105.
- Healy, M., & Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative market research: An international journal*.
- Homer-Dixton, T.F. (1999). *Environment, scarcity, and violence*. Princeton: University Press.
- Hussein, K., Sumberg, J., & Seddon, D. (1999). Increasing violent conflict between herders and farmers in Africa: claims and evidence. *Development Policy Review*, 17(4), 397-418.
- Issifu, A. K., Darko, F. D., & Paalo, S. A. (2022). Climate change, migration and farmer–herder conflict in Ghana. *Conflict Resolution Quarterly*, 39(4), 421-439.
- Kaplan, R. D. (2014). The coming anarchy. In *Geopolitics* (pp. 195-202). Routledge.
- Kirwin, M. F. (2010). *Violent Communal Conflict in Burkina Faso: A Multi-Level Examination*. Michigan State University. Political Science.
- Lederach, J. (1997). *Building Peace: Sustainable Reconciliation in Deeply Divided Societies*. United States Institute for Peace: Washington, DC.
- Mack, N., Woodsong, C., MacQueen, K. M., & Guest, G. (2005). *Qualitative research methods*. Family Health International.
- Mamman, A. D. (2020). The Influence of Socio Cultural Factors of Herder/Farmer Conflicts in Benue State. *IOSR Journal of Humanities and Social Science*, 25(4), 46-68.
- Moritz, M. (2010). Understanding herder-farmer conflicts in West Africa: Outline of a processual approach. *Human Organization*, 69(2), 138-148.
- Nibelli, C. (2019). *The conflicts between herders and farmers in Asante Akyim Agogo. How can they be resolved?* Academic Paper: GRIN Verlag.
- Noy, C. (2008). Sampling knowledge: The hermeneutics of snowball sampling in qualitative research. *International Journal of social research methodology*, 11(4), 327-344.

- Okoli, A. C. (2013). The Political ecology of the Niger Delta crisis and the prospects of lasting peace in the post-Amnesty period. *Global Journal of Human Social Science*, 13(3), 37-46.
- Okoli, A. C., & Atelhe, A. G. (2014). Nomads against natives: a political ecology of herder/farmer conflicts in Nasarawa state, Nigeria. *American International Journal of Contemporary Research*, 4(2), 76-88.
- Olaniyan, A. (2015). The Fulani–Konkomba Conflict and Management Strategy in Gushiegu, Ghana. *Journal of Applied Security Research*, 10(3), 330-340.
- Paalo, S. A. (2021). A systemic understanding of hybrid peace: an examination of hybrid political orders in African peace governance. *African Conflict & Peacebuilding Review*, 11(1), 1-31.
- Paffenholz, T. (2015). Unpacking the local turn in peacebuilding: a critical assessment towards an agenda for future research. *Third World Quarterly*, 36(5), 857-874.
- Peluso, N. L., Watts, M., & Watts, M. R. (Eds.). (2011). *Violent environments*. Cornell University Press.
- Percival, V., & Homer-Dixon, T. (1998). Environmental scarcity and violent conflict: the case of South Africa. *Journal of Peace Research*, 35(3), 279-298.
- Pulse Ghana (2016, February 11). “Irate youth slaughter over 80 Fulani cattle.” Retrieved from <https://www.pulse.com.gh/ece-frontpage/fulani-menace-irate-youth-slaughter-over-80-fulani-cattle/mm6lnfz> accessed on 21/08/2021
- Reimann, C. (2004). Assessing the state-of-the-art in conflict transformation. *Transforming ethnopolitical conflict: The Berghof handbook*, 41-66.
- Tonah, S. (2005). *Fulani in Ghana: Migration history, integration and resistance*. Research and Publication Unit, Department of Sociology, University of Ghana.
- Tonah, S. (2006). Migration and farmer-herder conflicts in Ghana’s Volta Basin. *Canadian Journal of African Studies/La Revue canadienne des études africaines*, 40(1), 152-178.
- Turner, M. D. (2014). Political ecology I: An alliance with resilience? *Progress in Human Geography*, 38(4), 616-623.

- Uhembe, A. C. (2015). The state and the management of conflict between nomadic herdsman and crop farmers in north Central Nigeria: Implications for sustainable development. *International Journal of Liberal Arts and Social Science*, 3(7), 20-28.
- Yembilah, R., & Grant, M. (2014). The political ecology of territoriality: territorialities in farmer–herder relationships in Northern Ghana. *Geo Journal*, 79, 385-400.
- Yin, R. K. (2014). *Case study research: Design and methods* (5th Edition.). Thousand Oaks, CA: Sage publications.

APPENDICES

INTERVIEW GUIDE FOR HERDERS AND FARMERS

This interview guide seeks your critical assessment of the underlying sources of conflict between local farmers/residents and Fulani herders, and how such conflicts can be avoided in future. Please note that this study does not constitute an investigation aimed at reprimanding or stirring your emotions as participants and/or victims of conflict. The study is purely academic and any responses obtained will be treated with utmost confidentiality. Kindly respond truthfully. Thank you.

SOCIO-DEMOGRAPHIC FEATURES OF RESPONDENTS

1. Sex of respondent (a) Male [] (b) Female []
2. Age group of respondent (a) 18-27 years [] (b) 28-37 years [] (c) 38-47 years [] (d) 48-57 years [] (e) Above 58 years []
3. Ethnicity
4. Marital status (a) Never married [] (b) Married [] (c) Divorced [] (d) Separated [] (e) Widowed []
5. Type of family (a) Single parent [] (b) Nuclear [] (c) Extended []
6. Level of education (a) No formal education [] (b) Primary education [] (c) Secondary education [] (d) Tertiary education []
7. Duration of stay in community (a) Less than a year [] (b) 1-5 years [] (c) 6-10 years [] (d) 11-15 years [] (e) 16-20 years [] (f) More than 20 years []

CAUSES OF CONFLICT

8. In your opinion, what are the factors that attract Fulani herders to the community?
9. Which factors do you consider as the main ones attracting Fulani herders to the community?
10. How often do Fulani herders migrate to the community?
11. Do you consider cattle rearing a lucrative business in the community? If yes, how?
12. How influential are community leaders (Chiefs, Opinion leaders, cattle owners and politicians) in the stay of Fulani herders in the community?
13. In your view, how do you consider the relationship between local farmers/residents and Fulani herders in the community?

14. Do Fulani herders compete with local farmers/residents over available resources in the community? If yes, why and what resources do they compete over?
15. In your opinion, what are the causes of conflict between residents/local farmers and Fulani herders?
16. Which ones do you consider as the major causes of the conflict?
17. Have you had a confrontation with a local farmer/resident or Fulani herdsman before? If yes, please describe what happened?
18. Have you come under attack from a local farmer/resident or Fulani herdsman before? If yes, how did you respond?

MEASURES TO PREVENT CONFLICT RECURRENCE

19. What are the local community measures towards the conflict?
20. How do you consider the measures applied in the community?
21. In your own judgement, are these measures sustainable in ensuring peace in the community?
If no, how?
22. What steps are being taken as cattle owners/local farmers/residents to restore peace in the community?
23. What other measures can be taken or adopted to ensure peace in the community?

INTERVIEW GUIDE FOR KEY OFFICIALS

This interview guide seeks your critical assessment of the underlying sources of conflict between sedentary farmers and Fulani herders, and how such conflicts can be avoided in future. Please note that this study does not constitute an investigation aimed at reprimanding or stirring your emotions as participants and/or victims of conflict. The study is purely academic and any responses obtained will be treated with utmost confidentiality. Kindly respond truthfully. Thank you.

UNDERLYING CAUSES OF CONFLICT

1. In your opinion, what are the factors that attract Fulani herders to the community?
2. How influential are the community leaders (Chiefs, opinion leaders, cattle owners, and politicians) in the stay of Fulani herders in the community?
3. In your view, what are the causes of the conflict between local farmers/residents and Fulani herders?
4. Do you consider ethnicity to be a factor instigating conflict in the community? If yes, how?
5. How would you describe the conflict between local farmers/residents and Fulani herders in general?

MEASURES TO PREVENT CONFLICT RECURRENCE

6. What are the local community measures in place to mitigate conflict recurrence?
7. How have these measures been implemented? By whom and when?
8. In your opinion, do you consider these measures sustainable in ensuring peace in the community? If yes, how? If no, why not?
9. What steps should be taken to restore or ensure lasting peace between local farmers/residents and Fulani herders in the community?
10. What other measures can be taken or adopted to ensure peace in the community?



Norwegian University of Life Sciences
LandSam
Department of International Environment and
Development Studies

Name: Ruth Haug
Address: Post Box 5001
Place: 1432 Ås
Country: Norway

Our ref.
RH

Your ref.

Date
26. January 2023

Letter of official confirmation

This is to confirm that Ms. Abigail Adjah is currently enrolled as a full-time student in the two-year study program: Master of Science in Global Development Studies, at the Faculty of Landscape and Society (LANDSAM) at the Norwegian University of Life Sciences (NMBU). Students in this program are encouraged to go for fieldwork to conduct their research and data collection for their master's thesis.

Abigail Adjah's research will address the following topic: **'farmer-herder conflicts in Ghana: assessing the underlying sources and measures to prevent conflict recurrence in the Kintampo south district'**. According to her research proposal, the fieldwork will be conducted in Kintampo South District in January-February 2023. Her research proposal is approved by the Department of International Environment and Development Studies (Noragric) and her thesis will count toward 30 credits (ECTS) of her 120 credit master's degree. Her supervisor is Professor Ruth Haug.

We kindly ask you to assist our student where necessary and appreciate your facilitation of her fieldwork. If you have any questions, don't hesitate to get in touch with the study administration at LANDSAM (vilma.bischof@nmbu.no).

Sincerely,

Ruth Haug
Professor

P.O. Box 5003
NO-1432 Ås, NORWAY

www.nmbu.no
post@nmbu.no

+47 67 23 00 00



Norges miljø- og biovitenskapelige universitet
Noregs miljø- og biovitenskapelige universitet
Norwegian University of Life Sciences

Postboks 5003
NO-1432 Ås
Norway