

**THE BUSHMEAT TRADE, LIVELIHOOD SECURITIES AND ALTERNATIVE
WILDLIFE RESOURCES**

A Case Study of Mankessim and its environs in the Mfantseman District (Ghana)

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DECLARATION

I, Opare-Ankrah Yvonne declare that this thesis is the result of my own research work.

DEDICATION

To my teachers in geography

Dr. Emmanuel Attua and Prof. Alex Asiedu

For their encouragements

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This research would not have been possible without the contribution of some personalities and organizations. My ultimate thanks go to the almighty God for giving me strength and good health. Secondly, I would like to thank my supervisor, Haakon Lein for his guidance. Special thanks go to the Norwegian State Educational Loan fund for their financial supports.

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ABSTRACT

Extraction and use of fauna resources is a practice carried out in rural communities in most tropical regions and Africa in particular. In Ghana, forest fringe communities have depended on the extraction of bushmeat initially as a major source of protein and in recent times as an important livelihood activity which has become attractive to young people. Bushmeat has become an important trade commodity and the source of income for many rural household. However, studies have shown that bushmeat trading activities has resulted in the local extinction of large mammals due to the unsustainable way these fauna resources are being extracted.

This study sought to ascertain the important contribution the trade in making towards peoples livelihoods and to discuss specific interventions in place to regulate the use of wildlife resources outside protected areas. A case study approach was adopted and Mankessim and Eyisam in the Mfantseman district in the Central region were chosen as the study area. The study population was bushmeat traders, hunters, chopbar operators and consumers of bushmeat. Both qualitative and quantitative techniques were used in collecting and analyzing data of the study. Purposive sampling was used to select five respondents from each of the categories for interviewing as well as key informants. Simple random sampling was used in selecting the consumers.

The concept of livelihood and political ecology were the theoretical approaches adopted in explaining the findings of the research.

The findings indicated that bushmeat trading activities involves a chain of actors composed of hunters, wholesalers and chopbar owners/retailers. This livelihood activity is a major contributor to household incomes of the actors of the trade. Skilled unemployed and under employed youth cease the opportunity of the high demand for bushmeat and the profitability of the trade to engage in bushmeat trading activities. Furthermore, the Wildlife Department recognizing the unsustainable extraction of fauna

resources in unprotect areas has put in place rules and regulations to regulate the use of these resources.

The study concludes among other things that, the creation of employment avenues for the youths in the district including the cultivation of wildlife as “crops” will reduce the number of young people entering the trade and also reduce the pressures on animals in the wild. Ineffective implementation of wildlife regulations could also result in unsustainable use of fauna resource.

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LIST OF ABBREVIATIONS

CI	Conservation International
DA	District Assembly
DMTDP	District Medium Term Development Plan
FAO	Food and Agriculture Organization
MDA	Mfantseman District Assembly
NGO	Non Governmental Organization
WD	Wildlife Department

LIST OF ACRONYMS

CAMPFIRE	Communal Area Management Programme for Indigenous Resources
CBUD	Centre for Biodiversity Utilization and Development
CREMA	Community Resource Management Areas
STEP	Skills Training and Employment Placement Programme

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CHAPTER 1 INTRODUCTION

1.1 Background and problem statement

Forest produces many goods and services that serve both environmental and sociocultural functions. Over exploitation of resources from the forest has encouraged the establishment of various forest management programmes in most tropical forest regions. To many, timber ranks first as the most tangible forest product but there are other many forest products which are equally important as timber. These are known as non- timber forest products (NTFPs). By characteristics, they are biological products either of plants or animal origin. Those of vegetal origin include a wide range of products such as rattan, resins, essential oils, latex, ornamental plants, nuts, species of fruits and seeds. Animal products include game, fish, birds, eggs, honey and silk (Ros- Tonen et al 1995).

Rural households, especially those living on forest fringes across the world, are extractors of these resources and it contributes to their food, energy and other aspects of their welfare (Falconer and Arnold 1989, Ros- Tonen et al 1995). In India for instance, an estimated 50 million people living in and around forests rely on NTFPs for subsistence and cash income (Tewari 1992). This means that extraction, processing and trading of NTFPs contributes greatly to the economy of many household in developing countries.

In Africa, one important NTFP whose extraction has moved from traditional subsistence to commercial trade and has become a livelihood support for both urban and rural dwellers is game also known as bushmeat(www.bushmeat.org). Bushmeat is an umbrella term for all wild-caught mammal meat and it can range from cane rats to gorillas (Adams 2004). In simple terms they could be said to be meat of animals living in the wild. Various species of fauna and flora abound in Ghana especially the southern sector due to conducive environmental conditions. In his survey of the country, Thompson found out that the forest and savannah regions are teemed with game. Asibey (cited in Ntiamao-Baidu 1998)noted that most large cocoa farms in the Brong-Ahafo region, which supports the county's economy today, would not have been were it no have been bushmeat which provided protein for the farmer and his family. In the past,

bushmeat was one of the important sources of animal protein for people living in the hinterland where fish supplies were limited. Communities living on forest fringes and grasslands were the major consumers of bushmeat but in recent times, due to improvement in transportation network and higher premiums paid for it in most towns and cities, bushmeat is readily available in markets in most towns and cities in the country such as Techiman, Kumasi, Accra, Second-Takoradi, Abetifi and many others (where studies have been carried out).

Not only is bushmeat an important dietary item, it is also an important trade commodity and the source of livelihood for many people. The trade has created jobs and revenue for people involved in its transaction.

Table 1.1 Estimates of Bushmeat traded in Ghana annually

	No. of animals	Weight (kg)
Total bushmeat recorded in 1wk. for 10 villages	61	974.8
Average purchase per capita per week	0.0035	0.0567
Average purchase per capita per year	0.1846	2.9495
Estimated bushmeat traded in rural Ghana	2,321,876	37,104,339
Total bushmeat recorded in 1wk urban	904	8035.7
Average purchase per capita per week	0.0200	0.1775
Average purchase per capita per year	1.0381	9.2275
Estimated bushmeat traded in urban Ghana	6,145,379	54,626,576
Estimated annual volume traded nationwide	8,467,255	91,730,915

Source: Ntiamoa-Baidu (1998)

Table 1.1 shows that, a significant number of animals are traded in both rural (2,321,876) and urban areas (6,145,379) in the country. Based on a nation wide average market price of ₵2000.00 per kg, the value of bushmeat marketed annually estimated to be **₵183,462,000,000**, equivalent to US\$ **83,391,740** (it points to the fact that the trade is the livelihood for many people in the country).

Eventhough bushmeat trade has become a livelihood security for many people especially rural dwellers living on forest fringes, it has been realized that its rate of extraction is faster than the rate of regeneration. Due to the increased demand for bushmeat, traditional methods such as gender selection, prohibition of hunting of gravid females and so on, are now of less concern than before. Also, adherence to traditional totems and taboos, a system used to reduce the hunting of certain species are declining (www.traffic.org). This increase in demand for bushmeat is so because it continues to be an important source of animal protein and over 80% of Ghanaians both rural and urban would consume it if available (Ntiamao-Baidu,1998). This trade according to a press release by Conservation International July 25, 2003, has caused a decline in wildlife population and in many cases, has left some important forest blocks virtually devoid of large and visible animals, a situation it describes an “empty forest syndrome.”

The trade in game seems to have made the extraction of this NTFP incompatible with sustainable development efforts. A considerable number of studies have been conducted on the bushmeat trade in Ghana (Ntiamao-Baidu, 1998, 1992, CI 2002, and so on). This study seeks to establish the underlying causes which motivate young people to get involve in the trade and also how people depend on the harvesting and sale of bushmeat as their livelihood strategy. Furthermore, how effective are interventions put in place to regulate the use of wildlife resources? Finally, in what ways can alternative wildlife resources be made available for people living on forest fringes who have been depending on the hunt and sale of bushmeat so as to diversify their livelihood base and also reduce the dependency on hunting of animals in the wild.

These are important to the study because hunting was done traditionally by older men and money was not their main motivation. Presently, hunting and the sale of animals has become a full time and part time job for many young men and women whose primary livelihood depends on it. The indiscriminate extraction of fauna resources can have serious implications for the availability of bushmeat for future generations and thus the sustenance of the trade and people’s livelihood that has been built around the acquisition and sale of bushmeat. The fauna resources in the study area are wildlife outside protected

areas. Though there are general legislative provisions intended for their sustainable use, there is little adherence to these provisions because people perceive animals as free resources while traditional controls are ineffective (Wildlife Department 1998 a). Government organizations such as the Forestry Commission, Wildlife Department and NGOs such as Conservation International, (CI) the Ghana Wildlife Society, Center for Biodiversity Utilization and Development (CBUD) and many others are putting in place measures such as environmental education to create the awareness of the importance of fauna resources and the undesirable outcome of indiscriminate hunting. In addition to these are programmes which train people to domesticate wild plants and animals to help provide a constant supply of animals and reduce indiscriminate hunting of animals in the wild.

1.2 Research objectives

1. To describe the bushmeat trade in Mankessim and its environs.
2. To find out the relative contribution of the trade to people's cash incomes among other livelihood activities
3. To ascertain the underlying factors which encourage the extraction of game for commercial purposes.
4. To discuss the specific interventions being put in place by government and non-governmental organizations to regulate the harvesting of fauna resources and to ensure the provision of alternative wildlife resources for the people.

1.3 Study area

The area under study is the Mfantseman District in the central region of Ghana. Ghana is divided into ten (10) administrative regions and one-hundred and ten (110) districts. To achieve the objectives of the study, information was drawn from Mankessim and Eyisam which are urban and rural settlements respectively about 10km apart. In the presentations ahead, the physical and social characteristics of the entire district would be described, which will be followed by a summary of characteristics of Mankessim and Eyisam deduced from the

Mfantseman District Assembly's (MDA) 2002-2004 Medium Term Development Plan. (DMTDP 2002-2004)

1.4 Physical characteristics

1.4.1 Location and size

The district is located along the Atlantic coast and extended from latitude 5° 7' to 5° 20' North and longitude 0°44'to 1°11'west as shown in Figure 1.2. Relatively, it is bounded to the west and North West by Abura-Asebu-Kwamankese district, to the east by the Gomoa district and the south by the Atlantic Ocean. In size, it stretches 21km along the coastline and 13km inland constituting an area of 612km.²

1.4.2 Climate and vegetation

Temperatures within the district are mild due to its proximity to the ocean and range between 24°C and 28° all year round with humidity around 70%. It experiences double rainfall maxima ranging between 90cm-110cm in the coastal savannah areas and between 110cm and 160cm in the interior close to the forest zone with peaks in the months of May, June and October.

The vegetation consists of dense shrubs and grasses which grow to the height of 4.5m and pockets of forest. Due to the vegetation and favourable climatic conditions agriculture (farming and fishing) is a major economic activity within the inland areas and along the coast respectively.

1.5 Demographic characteristics

According to the 2000 population and housing census report, the district has a total population of 152, 264 comprising 69,670 males and 82,594 females making up 7% of the region's population living in 168 settlements. The annual growth rate is estimated as 2.8%. This District is more rural than Urban because only 2.4% of the total population lives in areas classified as urban. The district capital is Saltpond followed by Mankessim which has a total population of 25,481.

1.6 The district under the Ghana Poverty Reduction Strategy

According to the Mfantseman District Assembly (2002), there are no accurate measures to the poverty trend in the district but comparatively, it has a high poverty trend due to the depleted fish stock, erratic rainfall, low soil fertility, high incidence of diseases and high unemployment rates. It is estimated that at least 60% of the total population in the district are poor and can therefore not afford certain basic necessities of life. Among the poor are subsistence farmers, fishermen, unemployed and under employed. Also credit facilities in the district are in accessible due to the fact that lending rates are high (between 30%and 40%) and also the non existence of well established associations and cooperative groups to serve as source of credits.

A large number of the district's able bodied persons are not in any gainful employment and majority of them can be found in deprived communities where basic socio economic amenities of life needed for human development are absent or inadequate. Among the coping strategies of the poor in the district, are over exploitation of natural resources like the use of prohibited fishing gear, indiscriminate hunting of game and wildlife and farming on marginal lands.

Mankessim is the second largest town in the district interms of population and it is an important commercial town, which contributes immensely to the revenue generation of the district and has a lot of potentials in game resources (ibid). In a paper presented by the district cultural officer in 2006, Mankessim literally means "big town" which gain its fame and popularity due to the fact that it was the first settlement of the Borbor Fantse in their migration to the coast. By 2000, its population was 25,481 (Ghana Statistical Service 2002).There is good road network, basic amenities such as telecommunication, postal agency, health centers, police post among others. It also has a small scale pottery industry and a market centre.

Eyisam on the other hand is more rural with a population of 1,367(ibid) who are predominantly farmers and traders. Comparatively, it lacks certain basic amenities such as health facilities, postal services, telecommunications (fixed lines) and there is high rate of diseases such as cholera and diarrhoea. In addition, inadequate farm inputs and lack of agric extension services to farmers are among the causes of low crop production.

The urban community of Mankessim was chosen for the study because of its vibrant economic activities and the fact that its market is the destination for game hunted in the surrounding villages. Further more, since upon entering the bushmeat market in the town, various actors in the trade could be identified, it is a probable important point for educational campaigns and other interventions in order to make the trade a sustainable one since the livelihood of many depends on its sustainability. Eyisam was also chosen because of a number of bushmeat trading points located along the highway (Accra-Cape coast road) between it (Eyisam) and Mankessim. Furthermore, most of these traders along the road reside in Eyisam. Since most of the inhabitants are predominantly farmers, hunters could also be accessed.



Figure 1.1: Mankessim market
Source: Own photo

FIG. A MAP OF MFANTSIMAN DISTRICT SHOWING THE STUDY AREA, MANKESSIM.

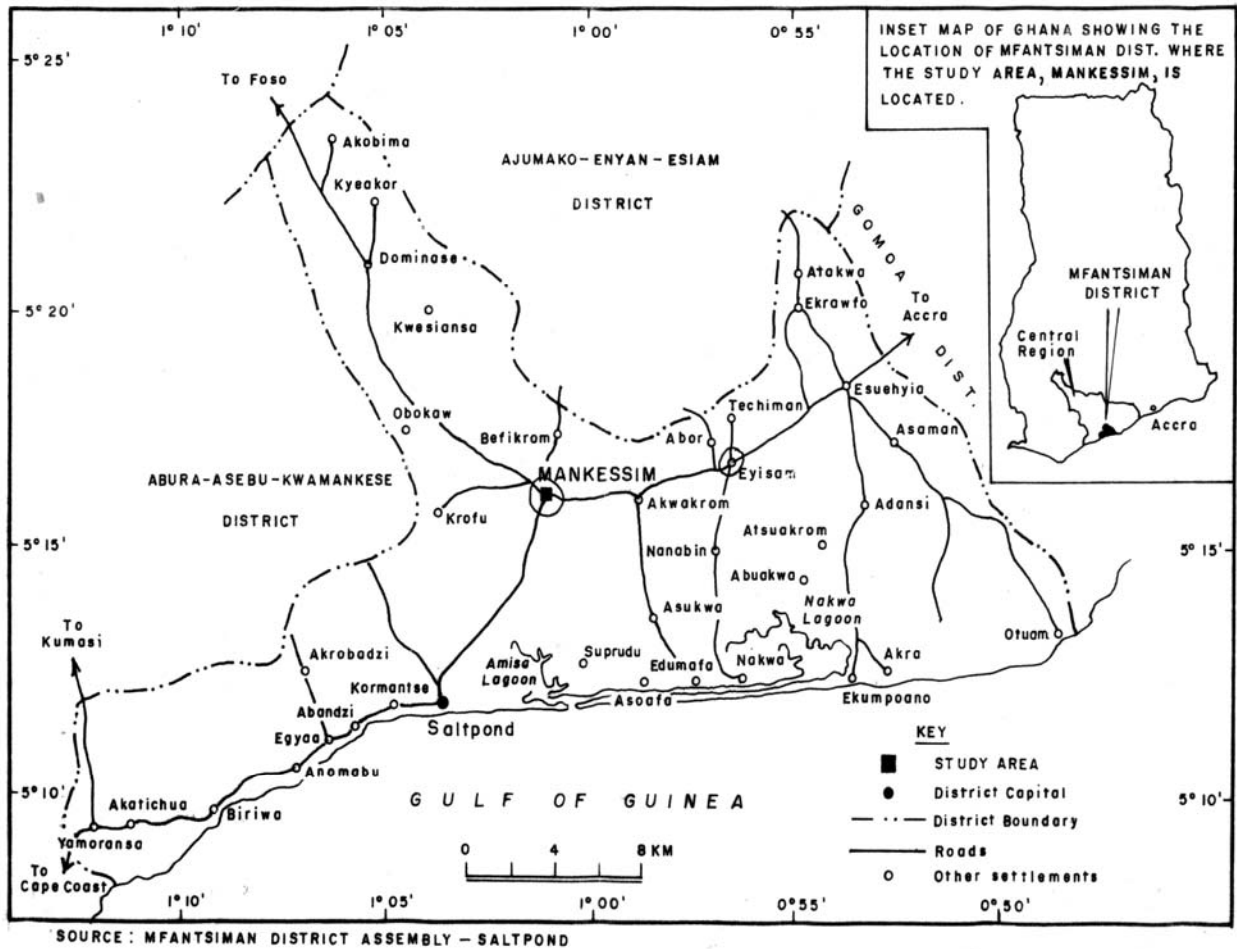


Figure 1.2: A map of the Mfantseman district within the Central Region of Ghana

Source: Survey Department

1.7 Presentation of chapters

The study is presented in seven chapters. *Chapter 1* provided a general introduction into the study whilst the theoretical bases of the study are considered in *Chapter 2*. Here, the concept of livelihoods and political ecology were discussed in ways which brings to light how people build their livelihoods upon the five capitals identified by Ellis (2000). However, in the processes of making a living, over stretching of environmental resources occur so there is the need for effective implementations of rules and regulations regarding the use of these

resources. The use of political ecology helps to explain why the ineffective implementation of these rules and how they could affect fauna resources.

Chapter 3 deals with the methods used in collecting data for the study and analyzing the results. It also presents reasons why both qualitative and quantitative methods were used and how they were applied on the field and analysis of the data collected to achieve the objectives of the study. Problems encountered were also outlined.

In presenting the field results for analysis, *Chapter 4* describes the bushmeat trade in Mankessim and its environs bringing to light the actors of the trade and how they carry out their activities. *Chapter 5* considers and explains into details how the people build their livelihood around the bushmeat trade and other income generating activities bringing into light why people find the trade an attractive job and the possible out comes of over dependence on fauna resources.

The government and some non governmental organizations are making some efforts in creating public awareness and organizing communities in ways in which wildlife resources could be managed in a sustainable way. *Chapter 6* focuses on these and further shows how there is the need to introduced alternative wildlife resources especially to people involved in the bushmeat trade and communities who depend on non timber resources for a living. The contributions of the Center for Biodiversity Utilization and Development in the development of alternative wildlife resources will also be discussed in this chapter.

The final *chapter, 7*, presents the conclusions and recommendations.

1.8 Summary

The chapter began with pointing out the importance of non- timber forest products in the lives of people living along forest fringes in the global sense. It also showed how hunting had moved from a stage of providing food for the family to a commercial activity in Africa and Ghana in particular. It also pointed out some of

the negative effects of indiscriminate extraction of wildlife resources and the problem the study hopes to tackle. Further more, the set objectives for the study, the profile of the study area and an out line of the various chapters were also presented.

The next chapter discusses the theoretical and analytical frame work of the study.

CHAPTER 2 THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Introduction

Theories and concepts are very important when undertaking a research. Chisholm 1975, (Cited in Holt-Jensen, 1999) defines theories as an articulated system of ideas or statements held as an explanation. They could also be said to be a coherent group of general propositions used to explain a class of phenomena (Holt-Jensen 1999). A theory is an important part of a research and it is important to intimately bind theory, methodology and practice.

In this chapter, the theoretical framework which embodies the theoretical concepts on which the study is based will be discussed, bringing out their merits and demerits and finally, showing how they will be useful to the study.

According to Bilsborrow and Geores (1994) most environmental problems are necessarily linked to the size, characteristics and concentration of population as well as its practice (technology of resource extraction, resource use and resource disposal). This issue has several theoretical implications for the subject under study because the effective management of timber and non timber forest product can not be discussed without referring to the existence of people and communities whose extractive activities affect these resources which are important for their social and economic wellbeing. The study focuses on the relationship between human and their environment in terms of the driving factors which encourages increase exploitation of wildlife resource, showing how important these resources are to the building of people's livelihoods, and what specific interventions are in place for the sustainable management of these resources and the provision of alternative wildlife resources, with reference to the sustainable use of fauna resources.

The concept of resource has been categorized according to use and limits into renewable and non renewable resources. Non renewable resources are fixed in

supply and are exhaustible if properly managed in their exploitation. Renewable resources on the other hand are those that are capable of regenerating and thus are not totally exhaustible. Forest products including vegetation and wild animals belong to this category of resources. The existence of these resources for future consumption is dependent on how these resources are managed within the social context that they are found.

The study will be based on the and the Concept of Livelihood by focusing on the framework for micro policy analysis of rural livelihoods and the theory of Political Ecology because of their relevance to the means through which people build their livelihood and theme of resource conservation and management.

2.2. The concept of livelihood

Livelihood in simple terms is the means of living. It could also be defined as the financial means by which one live¹ Ellis (2000) pointed out that this form of definitions are narrow because they depict livelihoods as merely synonymous to incomes. According to Chamber and Conway (1992), livelihood comprises the capabilities and assets and activities required for the means of living. This is important because of the attention given to the links between assets and the option people have in practice to pursue alternative activities that can generate income levels require for survival (Ellis 2000). The term capabilities according to Sen 1993 (cited in Ellis 2000) refer to the ability of individuals to realize their potentials as humans in the sense of being² and doing³. They refer to a set of alternatives that a person can achieve within his or her economic, social and personal characteristics. Assets (or capitals) refer to five types which are natural, physical, human, financial and social which people utilize for their survival.

¹ www.wordnet.princeton.edu/pert/webwn?s=livelihood

² To be adequately nourished, free from illness and so on

³ Exercise choice, develop skills and experience, participate socially among others

Ellis (2000) is of another view of the explanation given to livelihoods by Chamber and Conway because he point out their explanation confuses process and outcomes since capabilities both influences and are influenced by personal and household livelihood strategies as they evolve over time. Furthermore, he also pointed out that the identification of the five types of assets for survival is not very comprehensive since the notion of access to these capitals have been subsumed. Access according to Scoones (1998) rules and social norms determine differential ability of people to own, control, otherwise claim or make use of resources such as land and common property.

A more comprehensive definition of livelihood which brings to light the notion of access to assets is that by Ellis (2000). It states that livelihoods comprise the assets, the activities and the access to these that together determine the living gained by the individual or household. He identified five types of capitals (assets) which promotes peoples means of living and these are; natural, physical, financial, human and social capitals. These assets are like building blocks upon which households are able to undertake production, engage in labour markets and participate in reciprocal exchange (ibid).

2.2.1 Natural capital

These comprise land, water, and biological resources that are utilized by people to generate means of survival. Basically, they are natural resources available in the environment.

Land is an important asset and the issues of land are of great importance in the existence of mankind and especially people in the developing world and Africa in particular, FAO (1985). This is because, it is needed to produce food and other raw materials. In Ghana, over 60% of the population live in the rural areas and their main stay is agriculture (mainly crop farming). Taking the economy as a whole, agriculture is its main support but production, that is, the size of land cultivated, the amount of harvested produce available to the farmer among others is closely linked with land tenure and agrarian patterns of the rural population

engaged in it. Africa is in crisis over food production and the hunger and poverty situation is due to our land tenure system (ibid). Land tenure (which is the system of legal rights and obligations governing the holding acquisition use and disposal of land) in the country is governed by both customary practices and enacted legislation. This makes the value of land differ from one ethnic group to the other. Arko-Adjei (2005) has identified four broad categories of land administration in the country. These are stool and skin lands, family and clan lands, individual lands and public or state land.

Stool and skin lands are those vested in the highest traditional authority in trust for the subjects. The name stool and skin signifies the symbol of authority in a particular locality. Ethnic groups in the Northern and Upper regions of the country are subjects of the skin lands while those in the southern part are subjects of the stool lands. The chief or king who is the occupant of the skin or stool holds the land in trust for the community such that administration and managerial functions are solely his responsibility. Family and clan lands are owned by clans and lineages such that land is shared among the various family units passed on from generation to generation. Public lands are lands that have been formerly acquired by the state in the interest of the public and are vested in the president on behalf of and in trust for the people.

On the other hand biological resources especially wildlife resources are owned by the state and protected by legislations. However, traditional authorities have also put in place rules and regulation to control the access and utilizations of the wildlife resources in their jurisdiction.

2.2.2 Human Capital

Human capital refers to the labour available to the household, which are its education, skills, and health (Ellis 2000). Education, according to the chambers dictionary (1998), is instructions aimed at strengthening of the power of the body or mind. This is to enable people develop and put their potential into maximum

use. Among the various forms of education in the country, the two important forms are, formal (classroom) and informal (acquisition of skills) education. Reports from the Ghana Statistical Services indicated that, by 2003, the Central Region of Ghana had an increase in adult literacy rate from 47.2% in 1997 to 51.9% in 2003. In the same way, youth literacy also increased from 67.4% to 71.4%. Also there has been an increase in the access to school both at the primary and secondary levels.

The second form of education which is the informal type is the means through which people especially the youth acquire various skills. This is a very important way for people who could not complete their formal education or have an interest in pursuing some vocations to acquire skills which they can use to generate income, develop and put their potential into maximum use. Furthermore Ellis (2000) pointed out that; human capital is increased by investment in education and training (which could be positively affected by macro policies in a country). This indicates that, policies or measures that will positively have effect on formal education and the promotion of vocational education or skills training will increase the human capital people possess and this would promote better household welfare.

2.2.3 Financial Capital

Financial capital on the other hand refers to the stock of money to which households have access. These are usually savings and access to credit in the form of loans. There are various sources of credit facilities in the Mfantseman District and among them are governmental, NGO and private sources. Apart from the availability of credit from the various Rural and Commercial banks, there are also funds available for groups and individuals to access for various projects especially in agriculture. These are; Social Investment Fund (SIF), Community Based Rural Development Project Fund, The Poverty Alleviation Fund and Credits from the Ministry of Food and Agriculture. In addition to these, there are private funds from the Sinapi Aba Trust and from friends and family.

2.2.4 Social Capital

The term social capital captures the idea that social bonds and social norms are important for sustainable livelihoods O’Riordan et al (2002). The value of this term was identified by Tonnies in 1887 and was brought to a wider attention by Putnam (1993, 1995) (ibid). Coleman describes it as “the structure of relations between actors and among actors that encourages productivities”. This aspect of social structure and organization act as a resource for individuals to use in order to realize their personal interest. (Bromley 1993: 3, cited in O’Riordan et al 2002). Moser (1998) explains this invaluable asset as social capital which is that reciprocity within communities and households based on trust deriving from social ties. A web definition of this asset mentions it as a networks of relationships among persons firms and institutions in a society together with the associated norms of behaviours, trust, cooperation that enable society to function effectively¹.

In line with the above, people utilize their relationship with family members and friends to survive in their everyday lives and other situations, as Ellis (2000) puts it, in times of severe livelihood crises. Social capital lowers the cost of working together and facilitated cooperation. Pretty and Ward 2001(cited in O’Riordan et al 2002) identified four aspects of this capital namely, connectedness, networks and groups; relation of trust; reciprocity and exchanges; and common rules, norms and sanctions.

2.2.5 Physical Capital

These are assets that have been created by human beings. Ellis (2000) defines them as capitals that are created by the economic production process. They are objects such as buildings, irrigation canals, roads, tools, machines and so on. These are producer goods, which are goods that are purchased or create in order

¹ www.personal.umich.edu/~alandear/glossary/sahtml)

to create a flow of output into the future. They could also be referred to as any non-human asset made by humans and used in production¹ .

2.3 Access to the capitals

Ellis (2000) pointed out that, income earning activities are means of translating assets into livelihood strategies but in doing this, there are some mediating factors. These could hinder people's access to these capitals or could enhance their access to them. Asset status of households are mediated by social factors (social relations, institutions and organizations) and trend and shock factors (which are external factors). Income generating activities of households as they access the five capitals in the presence of the mediating factors are composed of natural resource based activities such as the cultivation of food, livestock, collection and other non farm natural resources. Furthermore, it is also composed of those activities of non natural resource based such as trade, rural manufacturing among others. However, as people pursue these activities, it has effects on their livelihood security and at the same time on the natural environment as shown in Figure 2.1.

2.4 Limitation of the framework

The process of rural livelihood formation is complex and it is difficult for a two dimensional diagram to capture the dynamics of livelihood systems that in practice involves numerous feed backs and complex interaction between components Ellis (2000). This is one important limitation of the framework of Figure 2.1. In addition, though this definition and explanation of the concept of livelihood brings to light the notion of access to assets, Ellis pointed out that it fails to convey change over time and adaptation to evolving circumstances because livelihood construction is an ongoing process and changes over time. Assets can be eroded, built up or destroyed. Access to resources and opportunities may change to households due to shift in norms and events. However, using the framework in Figure 2.1, the way in which the hunters and traders translate the five capitals in their environment into livelihood strategies and analyzed further

¹ http://en.wikipedia.org/wiki/physical_capital .

the vulnerability context within which they do this, including the effects of these livelihood activities on environmental sustainability, will also be brought to light.

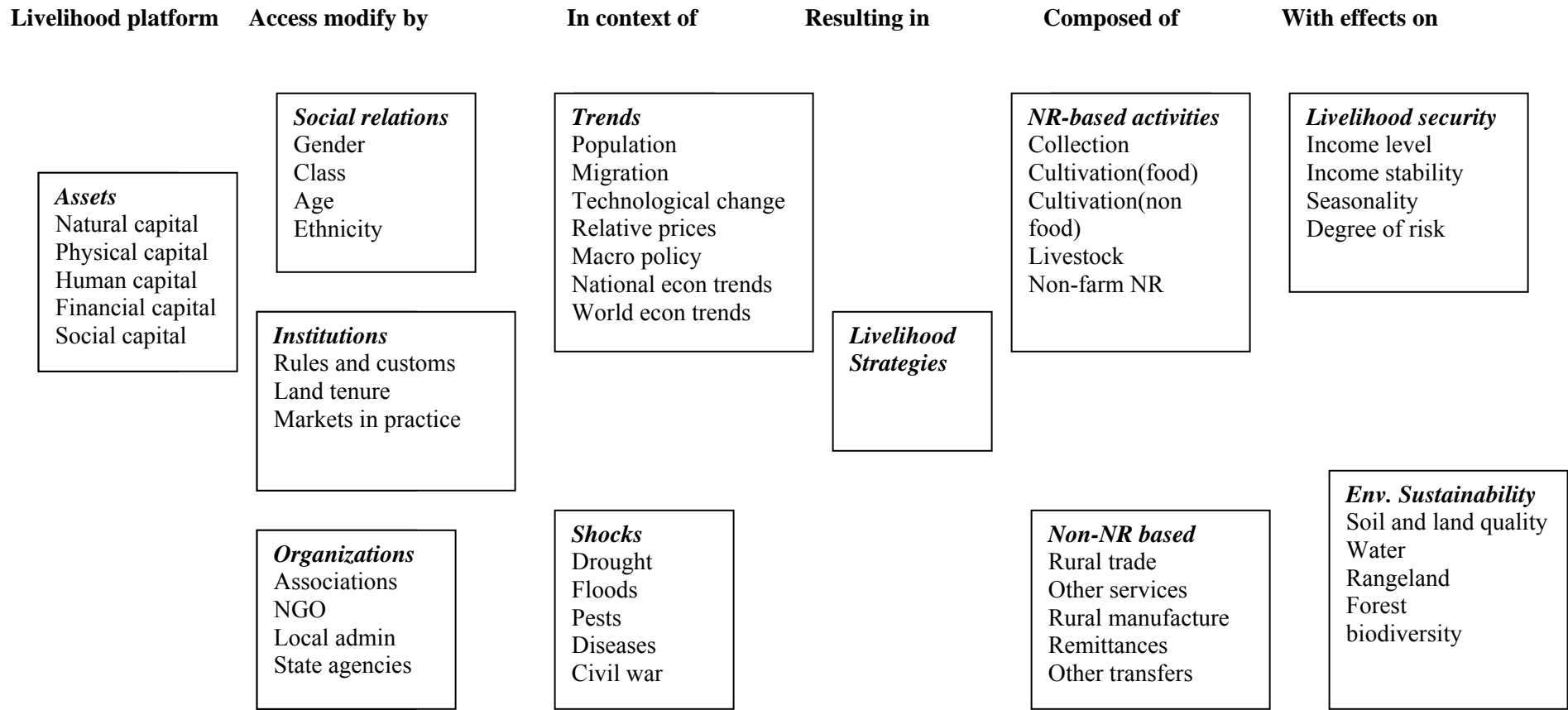


Figure 2.1 A framework for micro policy analysis of rural livelihoods
 Source: Ellis (2000)

2.5 Political ecology

Scholars have referred to political ecology as a research agenda, an approach or a perspective and there are significant differences in the way it is used, in some cases there is little overlapping in meaning (Neumann 2005). One meaning builds on the emphasis on place in political geography exploring how local ecology might influence the structure and conduct of politics, whilst another related meaning is to apply the principle of ecology to politics either metaphorically or in the sense that ecology provides (ibid). But a common usage of the term is in reference to environmentalism as a political movement.

There are two main theoretical thrust that have influenced the formation of political ecology and these are political economy and ecological analysis (Greenberg et al 1994) It integrates cultural ecology and political economy into one analytical frame work. Blaikie and Brookfield (1987) pointed out that it combines the concerns of ecology and broadly defined political economy. Together, these encompasses the constantly shifting dialectic between society and land based resources and also within classes and groups. It emphasis that, human environment relation at the local regional and global scale can be understood only by analyzing the relationships of patterns of resource use to political economic forces (Grossman1993). It explains linkages in the conditions and change of the social environmental systems with explicit consideration of the relations of power. The theory explores these social and environmental changes with normative understanding (Robbins 2004). In other words, it stresses that, not only that ecological systems are political, but also that our very idea about them are delimited and directed through political and economic processes. This could be linked to what Neumann (2005) explained as the major source of the term which could be found in the radical critiques of mainstream explanations of the environmental degradation in the global South. The central premise of these main stream explanation is that ecological problems are at their core social and political and not technical or managerial.

The study focuses on the use of political ecology from the perspective of the political ecology of biodiversity conservation. According to Neumann (2005), political ecology is an approach to examine both the ecological efficacy of the creation of national parks to biodiversity protection and understanding the politics that produce and are produced by it. Biodiversity has become the main rationale for environmental interventions worldwide with the corresponding fade in the emphasis on other resources (ibid). This perspective is used to bring to light how the global environmental movements has influenced local resource protection in Ghana to such an extent that little attention is given to the enforcement of regulations concerning resources in unprotected areas, and the possible consequences of the ineffectiveness of these regulations on the sustainability of the livelihoods of people who depend on these resources.

Ghana is a signatory to many conventions to preserve nature. By 1998, the country has ratified five international conventions concerned with wildlife conservation and these are;

1. Convention on International Trade
2. The Ramsar Convention,
3. Convention on Biodiversity
4. African Convention on the Conservation of Nature and Natural Resources
5. Convention on the Conservation of Migratory Species of Wildlife.

Since the enactment of the first wildlife law in 1901, the priority of the government is to concentrate on protecting areas which has been identified as rich in biodiversity and protecting species that has been identified as endangered. This led to the creation of nature reserves all over the country. With about a third of it's funding from external donor agencies. According to the Wildlife Department (1998 a) plans are under way to create more reserves with the aim of putting 10% of the total land area of the country under protection in order to comply with international accepted guidelines. Protected area creation and management has become the primary focus of the Wildlife Department with about 90% of its staff

deployed in the field to protect and manage them and channeling of limited resources into these areas, giving little practical attention to wildlife education (ibid) In terms of labour, only 10% is available for other activities and taking care of resources outside protected areas.

Resources outside protected areas were given attention in the 1990s when people involved in the trade in wildlife were required to obtain a license and specific animal species are allowed at designated hunting season just to mention a few.

One may ask at this point what my focus is. Establishment of the conservation of biodiversity in areas that they are thought to abound is a global trend and as indicated earlier, external organizations are involved in their establishment and maintenance, and the concerns of global warming for instance, is leading to the funding mechanisms where rich polluting nations pay the cost of sinking carbons elsewhere, so it is important for the country to exploit these opportunities for conservation activities (Wildlife Department 1998 a). Attention is given to resources in protected areas with less emphasis on resources in unprotected areas because these resources do not seem to have the same financial support as those in protected areas. The activities of wildlife management is within the objectives of the donors and their main focus is on protected areas

Political ecology has been criticized by Vayada and Walters (cited in Robbins 2004), who argued that the move away from apolitical human ecologies of the past had gone too far producing an analytical weak and dogmatic research trajectory where political economic forces always determine ecological outcomes. In other words, the theory places too much emphasis on political and economic processes. Other scholars are, however, of the view that, rather than a clear and coherent theory to account for environmental change, political ecology offered haphazard contextual and ad hoc accounts following claims of explanation with no coherent privileging of central driving and systematic tendencies.

Despite the criticisms, this theory will be useful in bringing to light the outcome of the inadequate attention given to wildlife resources outside protected areas due

to inadequate funding and man power and their possible effects on fauna resources within the district.

2.6 Summary

This chapter has outlined the theoretical base for the study. It began by mentioning and explaining the concept of livelihoods with a focus on the framework for analyzing rural livelihoods in addition to the political ecology of biodiversity conservation by reviewing some literature on these and bringing out their strength and weaknesses and how appropriate they could help in conceptualizing the study.

With the conceptual and analytical frame works explained, in the next chapter, methods employed in collecting analyzing and interpreting data for the study are outlined and discussed.

CHAPTER 3 METHODOLOGY

3.1 Introduction

Methodology is a coherent set of rules and procedure which can be used to investigate a phenomena or situation within the frame work dictated by epistemological and ontological ideas (Kitchin and Tate 2000).

In line with the above, this section deals with appropriate methods of gathering information within the frame work of theories that are being used. It concentrates on description of the subjects of the study, techniques for collecting primary and secondary data. Furthermore, data collection instruments like interview, questionnaire, focus group discussion and direct observation used in collection of information on the field were discussed bringing out their advantages and disadvantages. Finally, it touched on the methods of analyzing the data collected and the problems encountered on the field and how they were dealt with.

3.2 Sources of data

The sources of data for the study include primary and secondary sources. Primary data were derived from the field and the secondary data were drawn from books journals, conference proceedings, progress reports, articles on related studies, the internet and other publication that has background information relevant to the study.

3.3 Study population

The population for the study include three categories of people and these are hunters, men and women involved in the retailing and whole sale of bushmeat, Chop bar (traditional food restaurant) owners and consumers of bushmeat.

Snowball sampling technique was used to derive a sample of five hunters and a purposive sampling method was used to select ten wholesalers (made up of five men and five women) and five chop bar owners. Simple random sampling was used to select fifty consumers.

Since most of the hunting is done outside the Mankessim Township, a contact person who knows the terrain very well was sought in order to get to the first hunter. Through the interview, a rapport was created and this hunter was the path way to the next until all five were identified and interviewed. Furthermore, since in most

Ghanaian markets traders in similar commodities sit together at the same stand or shed, it was initially thought it will be easy to locate these women trading in bushmeat but the market situation was such that they were not located at one place but located at different places. They were accessed with the help of a contact person. The consumers who responded to the questionnaire were selected from shop owners, drivers and residents. With these, there was access to people who will cook bushmeat on their own and those who will buy already cooked one from the chopbar.

3.4 Pre-testing of instruments

Pre-testing is a sound practice to double check the quality of social scientific instruments for collecting data before putting them into use (GESIS 2006). This is important to determine if questions and terms are understood by the respondents. The American Statistical Association (1997) pointed out that pre-testing is central to the planning of every good survey and it is critical in identifying questionnaire problem. After questionnaire and interview guides were designed, taking into consideration the objectives of the study, a day's pre- test was carried out outside the study area in the city of Accra. The trained field assistant administered the questionnaire to the residents in the neighborhood while the researcher tested the interview guides by interviewing the traders and chopbar owners at the bushmeat market in Abogbloshie (in Central Accra).

After the pre-testing, flaws in the questionnaire and the interview guide were identified and rectified. For instance among other things, it was identified that the local names of the animals must be used when asking consumers about their preference since they could not identify their favorites choice when the name is written in English so some translations were done with the help of officials from the Wildlife Department.

3.5 Methods of data collection

Data collected from the field for the study was through qualitative and quantitative means but emphasis was placed more on using qualitative techniques in order to get appropriate information to meet the objectives of the study. Qualitative data consist of words, pictures and sounds and are generally unstructured and are not easily

converted into numeric format (Kitchin and Tate 2000). It could also be said to be a research whose findings are presented in words and not in numbers (Baker 1999). Qualitative tools used in deriving information from the field were interviewing and direct observation. Frey and Oishi¹ define interviews as a purposeful conversation in which one person asks a prepared question and the other answers them. Interviewing allows the production of a rich and varied data set in a less formal setting and it allows a more thorough examination of experiences, feeling and opinions that close questions could not capture (Kitchin and Tate 2000).

Structured close and structured open ended together with group interviews were used. According to Nichols (1991), a closed structured interview is a type where the range of possible answers to each question is known in advance. This technique was useful in collecting socio-economic data on respondent. This approach is more standardized using a prearranged list of answers for the respondents to choose from allowing information to be quantifiable and compared. This is because respondents have different social and economic background (education level, family situations and so on) and this allowed for identifying how the respondents build their livelihoods Eventhough this is very useful, there is little room for flexibility because of the fixed nature of the question and response.

The second technique used in collecting majority of the primary data is structured open-ended interview. In this technique, questions are highly structured and standardized but consist of open- ended questions (Kitchin and Tate 2000). By using this, respondents were not restrained to categories. They gave answers based on their opinion and what they know and felt, that is their personal thinking coming from within them. This was used in gathering information from the hunters, wholesalers, chopbar owners and key informants from CBUD, the Wildlife Department and Conservation International. It was useful because the traders were able to talk about their job operations their family life and other aspects of their lives. Though it allows

¹ <http://www.aber.ac.uk/media/student/aeo9702.html>

for little flexibly, this technique allows for comparability of response considering the fact that questions were standardized and the response diverse in all respect.

Furthermore, group interview was also conducted for a group of young men who go on group hunting. Wimmer et al (1997) defines group discussions as a research strategy used in understanding audience and behaviours. Kitchin & Tate (2000) pointed out that it is a useful supplement to one-to-one interview. It brought out the important features of group hunting as compared to individual hunting and also some information that were not made available during the interview with the individual hunters were captured here due to what Nichols (1991) explained as a snowball effect whereby the contribution of one person sparks a new idea in another respondent. The danger in using this method he went on is that, there is a potential influence of one or two respondent on the remaining members of the group. This can negatively affect the outcome of the group because group pressure may influence the comment made by others.

In addition, to the above techniques direct non participant observation was also used in gathering information. Robson (2002) pointed out that, the actions and behaviours of people are central aspects in virtually any enquiry and a natural and obvious technique is to watch what they do, record, describe analyze and interpret what has been observed. It was used to collect information on the day to day business activities of the wholesalers. Kitchin & Tate (2000) observed that, using this technique, the researcher is a detached observer of the situation. A safe location was chosen not far from where they operate and their activities observed over a period of time. In order for the subjects to behave normally, they were not informed about the presence of a researcher in the area and information was recorded as the observation went on. Information from here was used to complement those from the interviews as they bridge discrepancies in what people say and do. In fact considering the amount of time available for the research, this was scheduled carefully to derive the maximum out of the limited time available.

In addition, as mentioned above, some quantitative means were also used in collecting information on the field. Quantitative data are generally structured and consist mainly of numbers or empirical facts that can easily be quantified and analyzed using numeric techniques. Robson (2002) wrote that, they are mostly used because of their descriptive purpose because they provide a wide range of “people’s characteristics” and relationship between such characteristics. The tool used in taking this form of information on the field was the questionnaire. It was used in taking socio-economic data of consumers of bushmeat, their preference, and access to bushmeat among others. This method of acquiring information are falsely prestigious because the findings are seen as a product of a largely uninvolved respondent whose answers owe more to some unknown mixture of politeness, boredom and a desire to be seen in good light than to their own true feeling (ibid). In order to minimize this, open ended question were asked together with the closed ended ones to enable respondents express what they think and feel to involve them that is making their opinion an important part of their response.

Furthermore, direct counting of carcasses displayed on sale including weighing them and recording their prices were also carried out. This is important because, the study is about the bushmeat trade, this data helped in determining the type of animals traded in and the volume of trade during the study period.

3.6 Case study approach

Case study is the development of detailed intensive knowledge about a single case or a small number of cases (Robson 2002). It involves a detailed examination of relatively few persons or items and helps to conduct an in-depth analysis of a particular phenomenon (Casley and Lury 1987). Bushmeat trading activities are carried out in other towns and villages within the district but the hub of activities is within Mankessim and its environs

Robson (2002) further explained that using this approach, information is usually collected through a range of techniques such as observation, interviewing and

documentary analysis. As stated in section 3.5, both qualitative and quantitative techniques were used in collecting data for the study. This approach does not only help in explaining and describing phenomenon by studying few cases but also, provides systematic way of looking at events collecting data, analyzing and reporting results¹.

3.7 Data processing and analysis

Data processing is the manipulation of data. It applies to any process that converts data from one format to the other². Data analysis could be said to be the act of transforming data with the aim of extracting useful information and facilitating conclusions. In doing these, both qualitative and quantitative methods were used according to the methods used in collecting the data.

3.7.1 Qualitative

There is no clear and accepted single set of conventions for analyzing qualitative data (Robson 2002). Primary qualitative data collected on the field were mainly response from interviews and outcomes of direct observation. Tape recordings of interviews were transcribed right after the day's interview sessions. The large number of data gathered was brought under manageable limits by firstly, organizing the social and economic characteristics of the subjects in a table format. Secondly, responses under similar questions were grouped to identify their similarities and differences that is how people are affected similarly or differently by the same situation. Thirdly, a flow chart was used to simplify how the trade is carried out including the actors involved.

Furthermore, it has been identified by scholars (Mikkelsen 2002, Robson, 2002, Kitchin and Tate 2000) that in qualitative presentation and analysis words are mostly used. In the light of this, responses were related to the objectives of the study and taking into account the secondary data available, various themes were identified under which data was analyzed.

¹ [www.http://en.wikipedia.org/wiki/Case_study](http://en.wikipedia.org/wiki/Case_study)

² http://en.wikipedia.org/Data_processing

3.7.2 Quantitative

This form of analysis is quite opposite to that of qualitative. While the former is based on the use of words, this one involves the use of figures and diagrams. The questionnaire was processed and analyzed using this method. All the responses to a particular open-ended question were re-copied and headed by the text of the question. Each response is preceded by the code given to its question and this helped in developing smaller categories out of a lot. It was done by sorting similar responses into one group. Robson (2002) mentioned that, this process of analyzing open-ended question has the effect of turning the answers to a define set of a standard response. Implying that if care is not taken, the response might loose its individual quality. He therefore suggested the coding categories must be such that minimum of relevant information are not lost. Although efforts were made to bring into manageable limits the vast responses to the open ended questions, care was taken not to limit the categories in order not to loose vital information.

In addition, the close ended questions were also coded and descriptive statistical tools such as tables and graphs were used in presenting them. This was combined with the responses from the open ended to explain trends in the figures. These together with the qualitative data were complimented with data from documentary sources.

Also, the total number of each animal specie recorded is presented on a table with its corresponding average weight and price. The value of trade for each specie is derived by multiplying its price by the total number of carcasses counted on display.

3.8 Reliability and validity of the study

Validity has been explained as the degree to which the finding of a study is interpreted in correct way (Kirk and Miller 1986, cited in Mikkelsen 2002). It determines whether the research truly measures that which it was intended to measure or how truthful the results are. Kitchin and Tate (2000) indicated that validity concerns the soundness, legitimacy and relevance of a research theory and its investigation. They identified two forms of validity issues in the conducting of a research and these are those related to theoretical and practical issues. The type that

related to theory concerns with the integrity of theoretical construct and ideas that supports and provides foundation for the research. In the light of the above, theoretical base of the study was carefully chosen bearing in mind the research problem and its objectives. In addition to the above, the second type of validity which relates to practice concerns the soundness of the research strategies used in the investigation and the integrity of the conclusions that has been drawn from the study implying that data generating techniques are sound measuring what they were supposed to measure without introducing errors. Also, correct method of data analysis was chosen leading to a result that truly represents the data collected. This was achieved by employing both qualitative and quantitative methods of data generation and analysis but greater emphasis was placed on qualitative tools due to the in-depth information sought from the subjects. Considering the above, it could be said that the study has a valid theoretical base and also valid methods were used in drawing conclusions

Reliability on the other hand refers to repeatability or consistency of finding. Robson (2002) mentioned that consistency and repeatability is mostly applied to quantitative survey and with qualitative ones, credibility and dependability among others is more important. Considering the fact that appropriate theoretical base and methods were used in the collection and analysis of the data, and also, the researcher was personally involved in the collection and analysis of the data where as much as possible tried not to be bias and avoid errors, the result of the study could be said to be credible and trust worthy.

3.9 Challenges

There are problems and challenges in every research and this one was no exception. The first was the limitation of time. Considering the mass of primary and secondary data that has to be collected, the time allocated for the study was too short. Therefore in order to get enough information as possible within this time, two field assistants were trained to help collect primary data on the field. Also, the period for the research

was planned such that some secondary data was collected before going to the field and the rest were taken after collecting the primary data.

Secondly, there was some difficulty in getting respondents especially the women traders to respond to the interviews because they initially did not believe the study was for academic purposes. One woman later confessed that they could not understand how a woman would be going round weighing and counting dead animals if she does not work with the “wildlife people”. It was after a while when the interviewing went deeper than where and how they get their supplies to their family situation and how they built their livelihoods that they became relaxed and a better rapport was built to such an extent that they volunteered information more than what was needed even though the interviews were interrupted every now and then because they have to attend to customers.

Thirdly, the hunters go to hunting at night or at dawn and since they are also farmers most of them could not honour interview appointments so the period between 7pm and 8pm was chosen when they are back from the farms. With this, all the hunters identified for the study were interviewed successfully.

Finally, I would say that there is a general inadequate documented data in the country as a whole and access to information is not that easy.

3.10 Summary

This chapter focused on the methodological approach adopted for the study. I began by pointing out the source of data for the study. The nature of the research necessitated the adoption of both qualitative and quantitative approaches. It described each approach and outlined the advantages and disadvantages. Further, it described the population for the study and the sampling techniques that were used. Qualitative instruments such as structured closed, structured open ended and focused group interviews for collecting primary data such as information from trader, chopbar owners, hunters and officials from CBUD, Conservation International and the Wildlife Department were also discussed. In addition, questionnaires were used to

sought the views of consumers of bushmeat. In the later parts of the chapter, explanations were made about how the instruments were pre-tested and the methods used in analyzing the data. The reliability and validity of the study was also outlined and finally, challenges that were met in the course of the study were presented.

In the next chapter the bushmeat trade in the Mfantseman district with attention on trading activities in the Mankessim market and along the road between Mankessim and Eyisam would be described. Also hunting activities by people within Mankessim, Eyisam and the surrounding areas would also be described and discussed including consumers' access and preference of bushmeat.

CHAPTER 4 THE BUSHMEAT TRADE IN MANKESSIM

4.1 Introduction

This chapter deals with the presentation of field data collected and aimed at meeting the objectives stated in the earlier chapter of the study. It will focus on describing the bushmeat trade which includes the methods of extraction, characteristics of the actors of the trade, the types and sources of bushmeat in the study area through to the choice and access of bushmeat by consumers.

Mankessim is an urban town and its importance in the district is mainly due to commercial activities and one of these activities is the bushmeat trade. The trade has evolved over time and has developed into a network of hunters, wholesalers and retailers whose activities are interdependent such that one can not function without the other. From the field survey, it was noticed that, the trade is carried out in a chain with actors interdependence on each other. The trading chain begins when a hunter hunts and disposes the carcass for money. There are four ways in which he disposes off his kill, which is the different channels through which consumers get their bushmeat as in Figure 4.1. It may be consumed by the hunter and his family, secondly, could be sold to neighbours in his community or to wholesalers, and finally, it could sold to chopbar owners (retailers).

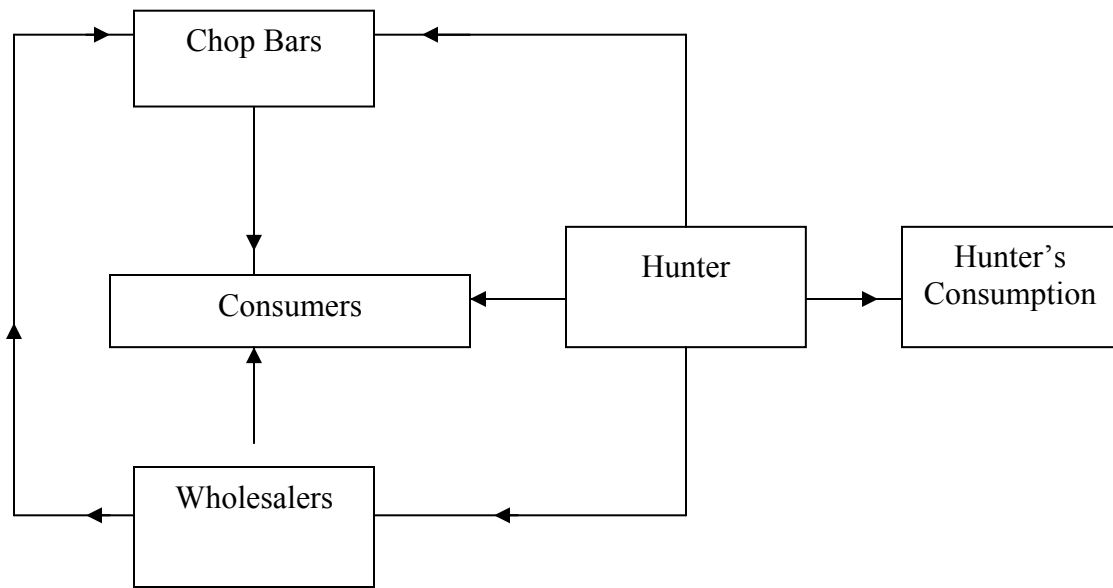


Figure 4.1 : A chart showing the different channels through which consumers get their bush meat

4.2 Methods of extraction of bushmeat

Hunting is the practice of pursuing animals to capture or kill them for food, recreation or trade in their product¹

It is the occupation of males and from the field study, all the hunters that were interviewed were males and they have not heard of or seen a woman ever going for a hunt. The average length of hunting experience among the hunters was 12.2years (8-16years) and their ages ranges between 20 and 50 years. Furthermore, two groups of hunters were identified as studies from other parts of the country had indicated (Ntiama-Baidu 1998, Conservation International 2002 a). These are full time hunters and part time hunters. All the part time hunters interviewed are hunter-farmers and at the same time artisans. They have skills in carpentry, masonry, metalwork (steel bending) and photography. The other group, which is the fulltime hunters, were relatively younger and they engage in group hunting and reside in the Mankessim township. This does not mean that there are no hunter-farmers residing here. Also group hunting and full time hunters could be found in some surrounding villages Information from the focus group discussion indicated that only two out of the group hunters (15 in number) have acquired informal trade skills and 9 of them have basic level education

¹ <http://en.wikipedia.org/wiki/Hunting>

whilst the remaining have no formal education or informal training. It also noticed that hunting was a temporal job and they will stop when they get a “proper” job.

Usually, hunting activities are carried out during the night and early hours of the day. These times are, according to the hunters, conducive because it is when the animals normally come out to eat and perform other social activities. These hunters kill anything they come across and do not take into consideration if the animal is gravid or have young ones.

There are many ways of hunting the world over but the particular type used by a society is dependent on their socio-cultural practices. Five methods of hunting in the country have been identified and these are shooting, setting traps and snares, the use of dogs cutlasses and clubs, the use of fire and poisoning of animals. These methods could be used individually or combined for more efficiency. Out of these, only two are legal and approved by the Wildlife Department and these are shooting and the setting of traps (Conservation International 2002 a). Group hunting, night hunting and the use of hunting light are also practices that have been prohibited.

Four of these methods were identified during the field study and these were; shooting, setting traps and snares, the use of dogs, cutlasses and clubs and the use of poison. Hunters do not rely on one method of hunting (for instance shooting alone) but use other methods interchangeably as and when the need arises.

4.2.1 The use of guns

Shooting of animals is one important hunting method. Traditional hunting societies use weapons like spears, bows and arrows and blowguns with poison darts to shoot animals (Marten 2001). With the introduction of firearms by the colonial masters, the use of the shot gun has become one effective means of hunting.

The gun on the shoulder is one element used in identifying a hunter. All the hunters interviewed use guns in their operation. According to Conservation International (2002 a) the use of guns accounts for 60% of the bushmeat supply on the Ghanaian market. Marten (2001) also explained that the introduction of guns enable hunters to kill as much as they could. All

these buttress the point that the use of shot guns is the most efficient way of extracting bushmeat

Owning a gun is expensive so is its use in hunting. Guns used by respondents were either inherited from their father, belong to a relative or hired at a fee.

4.2.2 Use of snare

Almost all the hunters interviewed who use guns also use cable snares in trapping animals. The predominant type of snare is a noose usually set along the trail of animals. There are two types; foot and neck snare. When an animal steps on a pressure pad, it releases a bent over pole which springs up to tighten the noose around the animal leg. This is a foot snare and it is usually used in trapping large animals. The other is the neck snare which captures small animal as they try to pass through the cable noose that is perpendicular to the ground. Robinson et al (2000) explained that cable snares are widely used in most hunting communities in Africa because they are less expensive to acquire and they also generate higher returns per hunter per day and there fore more suitable for commercial bushmeat production.

4.2.3 The use of dogs cutlass and clubs

In addition to the methods above, the use of dog, cutlass and clubs was also identified as being used by people to hunt in the district. Dogs sniff and track down animals usually rodent animals and lead their master (hunter) to them where they are clubbed, attacked by cutlass or shot at. Hunters who engage in group hunting usually use this method than hunters operating individually. This helps them to cover a wide area in a relatively shorter period since they depend on the dogs to find and retrieve the animals. It also allows the hunters to pursue and kill prey that would otherwise be very difficult or dangerous to hunt. This form of hunting (group) is illegal. According to an official from Conservation International, the use of this method in hunting is not sustainable because young animals are also attacked by the dogs and are often left behind because they will be of no use. Also when animals managed to escape from the grip of the dogs or from the cutlass and club attacks, most of them can not survive the injury. Furthermore, the amount of fauna extracted at a particular time within an area is more than what a hunter operating alone would extract within the same period.

4.2.4 The use of poisonous chemicals

The use of chemicals to poison animals has been found by Conservation International as the second (32.5%) widely used method of hunting in the country. Locally brewed poisons with indigenous materials and those of foreign imported ones such as that of pesticides are used by hunters. According to the chemical science division of the Ghana Standard Board, an analysis of pesticide residue in both smoked and fresh bush meat in 2002 revealed traces of organophosphorus and organochlorine and carbonate compounds. Their analysis showed that chemicals belonging to the carbonate classes is the predominant due to the widely use of the pesticide Furadan.

Furthermore, information gathered on the field pointed to the fact that, hunters in the district use some amount of chemicals in killing animals. The predominant type used is the traditional one which they claim is not toxic to the human body when the animals are consumed. Conservation International (2002 a) further identified this traditional preparation as the bark of the tree “Nkradadua” grinded and mixed with fermented human urine and broken bottles. These are smeared on food as bait for the animals and they die after eating them. It is difficult to identify animals killed this way on the open market because of the massive campaign against it and the reaction of the consumers. 80% of consumers within the Mankessim Township said they would prefer domesticated animals especially grass cutter because with that they can be sure that chemicals were not used in killing them.

Animals observed on sale by the wholesalers all had open wound on their bodies indicating gunshots or trap wounds. Normally those poisoned do not have any injury on their bodies. Further investigations revealed that animals killed by poison are later shot in the head before being sold to the wholesalers such that consumers will not be suspicious.

4.3 Wholesalers/retailers

Both men and women are involved in this aspect of the trade but each has a specialized role and special locations for their sales. Females involved the trade in Mankessim range between the ages of 30 years and 80. Interestingly, these women do not have market stalls as many

market women but have specific locations where they receive and display their animals. Three of these locations were identified during the study and they are; right at the entrance of the lorry station opposite the Ghana Commercial Bank, beside the main taxi rank and the third in a house beside the Ghana Commercial bank. These points of sale do not look and sound like permanent trading places, but these women have been trading here for many years.

At these three major locations, 13 wholesalers were identified. One important characteristic about all of them is that they display their wares on the bare ground closely together such that it is not possible to tell at first glance that they belong to six or more people.



Figure 4.2: Displayed wares of female wholesalers

Source: Own photo

Further more, traders along the road between Eyisam and Mankessim are all males .They are both retailers and wholesalers and sell both smoked and fresh meat. Their establishments can be identified by erected shelter supported by four poles and the continuous emission of smoke from their wood stoves, with dressed carcasses on them as in Figure 4.3. The ages of

the men ranges between 15-65 years and they work in groups of 3-6, consisting of friends and or relatives with a leader who controls the affairs of the business. There are two forms of group; first, that of friends and or relatives whereby each member has his own source of meat, but come together to sell at one joint. Here, the eldest becomes the leader just to ensure the welfare of the group. The second type is the one that is established by one man who employs other males and pays them daily wages. Their main task is processing and selling of the meat.



Figure 4.3: Processed bushmeat on sale by male traders

Source: Own photo

4.4 Chopbar operators

All five chopbars visited have bushmeat as their major protein source. Important among the various species identified was grasscutter which the operators explained is the favourite of most consumers. One of them went further to point out that, most of her customers will turn

away if bushmeat is not on the menu (usually during the rainy season when animals are scarce) and sales are usually low during these times. The chopbar operators were identified to usually have three types of sources which are fish soup, goat and bushmeat soup. From the responses of the operators, it was evident that, bushmeat is what draws patrons to these chopbars since fish and goat meats are common protein sources for most household. Bushmeat therefore is central to the survival of most chopbar business.

In addition, these operators do not buy their meat from any source for fear of buying animals that has been poisoned but rather, from recognized hunters who they trust use “proper” methods of killing these animals and wholesales who buy “decent” carcasses as one operator explains... *nowadays you can't trust these hunters...because they want quick money. I have to ensure that people who eat here do not get sick but come back healthy to buy again...people will not buy from me anymore if get sick when they eat from here so I have to make sure the meat is good*, (Grace, Mankessim).

4.5 Type and source of bushmeat

Different types of animals were identified during the one week study. According to the women they accept any animal for sale but during the period of the study, reptiles and primates were not identified. Table 4.1 shows the type of bushmeat identified on the market and the quantities. It could be noticed that among the four species identified, grasscutter (*Thryonomis swinderianus*) is the most common animal hunted and brought for sale with a total number of 210 constituting 58.7% of the total number of animal species identified. This was followed by Maxwell duiker (82), Royal Antelope (56) and Bush Buck (10). This confirms the observation by (Ntiamoa- Baidu 1997, cited in Conservation International 2002) that the grasscutter remains the most preferred bushmeat in terms of the volume of trade and preference in the country.

Table 4.1: A table showing the volume and type of bushmeat traded in Mankessim Market

One week (5 days) study of the type of animal species, quantity and weight at the three trading points in Mankessim.

<i>Animal specie</i>	<i>No. of animals countered each day</i>					<i>Total no.</i>	<i>Av.wt (kg)</i>	<i>Total wt</i>	<i>Price per animal</i>	<i>value of trade</i>
	Day1	Day2	Day3	Day4	Day5					
Grasscutter (Akrantie)	8	15	17	10	15	210	4.5	945	¢70,000.00	¢14,700, 000.00
	13	20	10	17	18					
	15	12	16	14	10					
Maxwell Duiker (Otwe)	5	6	8	5	8	82	6.8	557.6	¢65,000.00	¢5,330,000.00
	6	9	7	3	5					
	4	3	6	4	3					
Royal Antelope (Adowa)	5	3	4	6	4	56	2.0	112	¢100,000.00	¢5,600,000.00
	4	5	3	3	4					
	2	2	4	6	1					
Bush buck (Owansani)	2	-	-	1	-	10	30.0	300	¢500,000.00	¢5, 000, 000.00
	1	-	1	1	1					
	-	1	-	1	1					
Total						358		1,914.6		¢30,630,000.00

Source: Field data

It was noticed from the field that the traders receive their supplies from hunters from the surrounding villages including Eyisam and from Mankessim town itself. They also, they sell their meat fresh and whole. Studies from other parts of the country showed that among other means of acquiring the meat, these middlemen often travel to the farm gates to get the meats from the hunters (Conservation International.2002 a). The trade in Mankessim has some unique features because, as indicated, both men and women are involved in selling of the meat but the women traders never go to the hunters. Instead, the hunters or their wives bring the meat to them in the market place as early as four in the morning. By 1pm, trading activities with the hunters and the general public is over, because the premise has other users. The same could not be said about their male counterparts on the trunk road between Eyisam and Mankessim. Although some hunters bring them the animals, they usually go round the villages buying from the hunters. This is so because these women traders are constant buyers and will never disappoint the hunters when they bring their kill. Furthermore, they have established friendship with them in such a way that each trader has hunters who supply to her on regular basis. These hunters will not sell to any trader but their regular customers in normal situations. In addition, the female traders most often than not supply the hunters with hunting aid to show their commitment.

4.5.1 Cost of bushmeat

Bush meat is a special delicacy in Ghana, but its price is not stable as it is subject to bargaining, and also influenced by two major factors; the cost of transportation and hunting efforts.

As already indicated, due to the urban nature of Mankessim, hunting is not done in the city but in the suburbs and surrounding villages. According to Cowlishaw et al (2005), majority of bushmeat is hunted outside the city so it requires transportation to the market. Hunters who travel to Mankessim to sell to the women add their transportation cost to the price of the animal before the profit of the wholesaler is added. For instance, a hunter from Kwesiansa said he will sell a 5.8kg of grasscutter for ₵60,000.00¹ in his village but for ₵70,000.00 when

¹Cedis(¢) is the currency of Ghana1US dollar=9484 Ghanaian cedis as at 1st October 2006
Source: www.oanda.com/convert/classic

it is brought to the market. For this same weight (5.8kg) the wholesalers will sell for ₵85,000.00 for consumers in Mankessim and for ₵110,000.00 when it reaches Accra. This is so because the trader factors into the price her transportation cost from her home to the market and back in addition to what she wants to make as a net profit. Furthermore, the scarcity of a particular species also determines its initial price from the hunter. Apart from grasscutter which is said to be a prolific breeder, the hunters claim it is not very easy to hunt the other species identified on the market so they are relatively expensive compared to the grasscutter.

In addition, it is important to point out that the pricing of these animals by the hunters is not based on scientific measuring system. One hunter explained that, lifting the animal to feel its weight and making visual assessments of its size is more than enough to determine the price. So the prices are based on the categories of large, medium and small. For instance, a 4.5kg of grasscutter could be said to be a medium size animal with an average price of ₵70,000.00 (with the wholesalers). Interestingly enough, these prices are almost the same throughout the market. Perhaps, extended years of trading and hunting experience have enabled these traders and hunters to give prices to their carcasses with little variations.

4.6 The processing of bushmeat

Processing bushmeat for sale vary from place to place. Though the end product might be the same (smoked) the process of doing this is in two forms. The first is dipping the carcass in boiling water for the hair on its body to be soft enough to be scraped with a knife as presented in Figure 4.4. The second way is exposing the carcass to flames to burn off the hairs after which they are open up and smoked. It seems that meat hygiene and health status of the people processing the meat is not a priority to the District Assembly. Health inspectors do not visit these people periodically as they do to domestic meat processors.



Figure 4.4: Female wholesalers processing left over carcasses

Source: Field data

This is not a case peculiar to trader in neither Mfantseman district nor Ghana but to the whole of the West Africa sub region. Ntiamoah-Baidu (1997) commented that, there are practically no rules and standards regarding bushmeat processing and marketing. For instance, animals could be in traps for a day or two and even more before taken to the village and then transported to the market. Most often these are near decomposition and are immediately smoked to put them in good “shape”. These, according to some male traders, are cheaper to buy from the hunters and they (traders) gain more after “treating” and selling them. Furthermore, it was evident that carcass parts, especially those of the larger mammals, often contain maggots



Figure 4.5: A male trader processing bushmeat

Source: Field data

This is because they are larger and in order to have the smoked flavour, they are put on low heat which cannot penetrate deep into the meat. If there is a delay in selling them, the inner part of the meat will begin to decompose after some days.

Also, the process through which the carcass is prepared for smoking needs a lot to be desired. They are most often opened up, spread and pinned on dirty platforms to have a wider surface for the heat to take effect as shown on Figure 4.5. Since these people do not work on paved floors it is possible the meat could be contaminated. In the same vein since there is no safety standards it is difficult for the most experienced consumer to distinguish between carcasses killed from poisoning and those from approved methods.

4.7 Problems encountered by actors of the trade

Just as there are occupational hazards in every sphere of life, so there are hazards in bushmeat trading. Problems encountered in the acquisition of meat by the wholesalers and the hunters were recorded on the field. The wholesalers complained about false weight of animals by cheating hunters. This they do by blowing air into the animal to make it look large, which if not well examined by the trader could cost more than its actual price. Also, as explained above, the wholesalers most often give hunting inputs to the hunters to show their commitment so that they will sell their kill to them. But more often than not things do not happen as expected and their investments do not yield anything. This makes them lose a lot of money.

In addition to the above, hunters also have the problem of people stealing their trapped animals. When traps are set, they are visited every day or every other day sometimes every three days depending on the availability of fauna in the area. Due to this they have to take time off their farming and other activities to be visiting the traps all the time. Furthermore, group hunters sometimes hurt their colleagues because they claim it is difficult to see properly at night when the moon is not up. There are oral stories in Ghana which tell how hunters mistaken their colleagues for animals and shoot at them. Also during periods of intense rainfall (between March and July), the animals do not usually come out, so fewer catches are made during these times which affects their income.

4.8 Consumers of bushmeat

These are the people at the end of the bushmeat trade chain. They are a very important group because they are like fuel to the whole trading system. It is their patronage and demands that is keeping the trade. During the questionnaire survey, the views of people of all ages and both sexes on bushmeat and its trade were sought.

4.8.1 Socio-economic characteristics of respondents

The ages of the respondents range between 15 and 59 years made up of 60% male and 40% female. Out of these, 60% are married, 24% are single and 8% are divorced. A majority 58%

of these respondents ranked bushmeat as their first protein choice as in Figure 4.6 and grasscutter accounted for 52% of the choice of these people (Table 4.2).

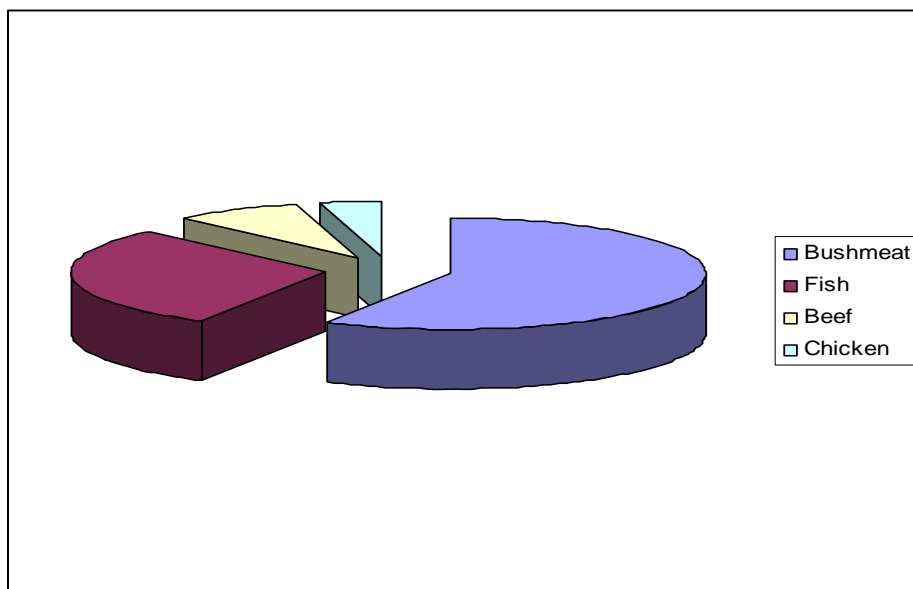


Figure 4.6: Preferred source of protein (first choice)

Source: Questionnaire survey (N= 50)

Table 4.2 A table showing consumers' choice of bushmeat

Preferred choice	Percentage of respondents
Grasscutter	52%
Others (Duikers, Bush back, Antelope, Monkeys)	48%
Total	100%

Source: Field data

Bushmeat is preferred by majority of the people because among other things they said it was not fatty, has good taste and because they eat natural food from the wild, they are believed to very healthy to the human body. One respondent ventured saying that due to this reason he becomes more intelligent anytime he consumes bushmeat. Ntiamoa-Baidu (1997), pointed out that people hunt or purchase bushmeat for a variety of reasons. Whilst some depend on it as their only protein source or could not afford other sources, it is a luxury item for some people who eat them on special occasions. Also, its nutritional value indicated that, it is better than domestic meat because they tend to be low in fat, higher in protein and vitamins.

Fish was the second highest preferred protein source. Respondents pointed to the reason that, fish is also a, healthy protein source, had no disease like the two and four legged animals. More importantly, they are not trapped with poison.

4.8.2 Access to Bushmeat

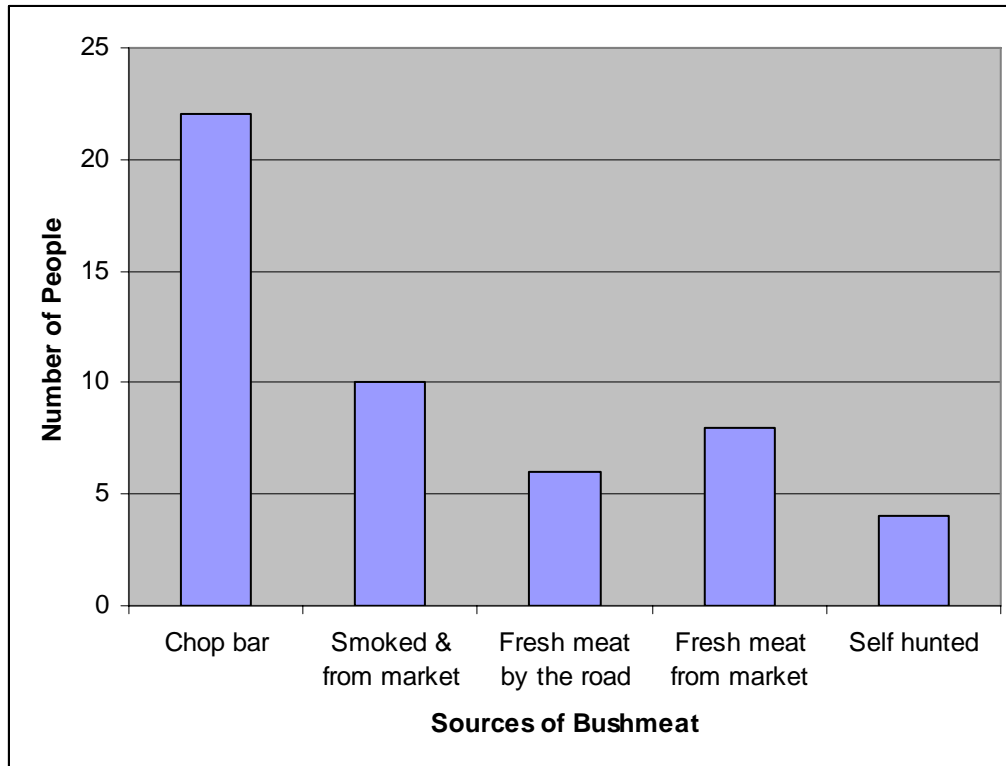


Figure 4.7 A chart showing where people normally get their bushmeat
Source: Questionnaire survey (N= 50)

As shown in Figure 4.7, majority of consumers (22) get their bushmeat from the chopbar. This has to do with affordability which also affects their pattern of consumption. These people who obtain their meat from the chop bars see bushmeat as cheap and they consume it almost every day. Those who get it from the wholesalers in the market (8) and by the road (from the male traders) (6) pointed to the fact that bushmeat is expensive so they consume it during weekends and on occasions. They will eat it more frequently if the prices were lower. This is so due to the fact that, it will take a consumer ₦2000.00 to get bushmeat from the chopbar whilst this same consumer will spend ₦70,000.00 to ₦80,000.00 to buy a whole

animal from the wholesalers. Consumers who trap their own animals are the intermediate and are the lowest group (4). They consume it when they trap one and they do not when their traps are empty. On a whole 72% of the consumers would eat bushmeat more often if it becomes cheaper.

4.9 Summary

The chapter mainly focused on the methods of extraction of bushmeat which pointed to the use of guns, traps and poisoning, explaining each methods binging out their advantages and usefulness. It also described the characteristics of the actors of the trade including the types and sources of bushmeat available. Furthermore, the factors affecting the cost of bushmeat and the way it is processed were also explained. Finally, the problems encountered by the actors of the trade and the preference of consumers were also brought to light.

The next chapter deals with the bushmeat trade and other livelihood activities of the people. It examines the people's access to the five livelihood capitals and the contribution of the trade to their means of living among other livelihood activities.

CHAPTER 5 THE BUSHMEAT TRADE AS A MAJOR LIVELIHOOD STRATEGY

5.1 Livelihood activities of the people

This chapter explores in to details the livelihood activities that the traders are engaged in which include subsistence farming, practicing of vocational skills and the bushmeat trade itself, bringing to light the factors that has promoted the effective running of this trading activity. Also an attempt has been made to show the variation in cash income in bushmeat trading activities and subsistence farming. The final part of the chapter explores the possible effects of making bushmeat a trade commodity, and its possible implications for the environmental sustainability of fauna resources.

5.2 Subsistence farming

One important livelihood activity identified as practiced widely in the study area is subsistence crop farming. All the male traders and hunters spoken to have farms where they cultivate mainly tuber crops, cereals, and vegetables. The cereals, especially corn, are planted at the onset of the rainy season. Land on which these cultivations are done, is administered through the customary tenure. Farmers do not buy these lands but acquire them through their family heads because they are entitled to them as they are part of the family and are supposed to pass on these lands to generations after them. Two of the hunters interviewed from Eyisam are not natives but acquired the land they cultivate through the family of the native women they married. According to them, they would have acquired the land for their farming activities if they had not been married to these women, but it would be on terms such as crop sharing with the landlord.

This situation with customary tenure is only ideal for subsistence farming (FAO 1985). The largest farm recorded was two acres. The cultivation of larger tracts of land by these farmers is hampered by a number of factors. Firstly, the population in most extended families is on the increase and it is important for every member who wants to cultivate the land have access to a portion. As FAO (1985) explain, in customary tenure, members are usually limited to an area which they could cultivate using simple implements which would hardly be above five acres, this is to prevent the concentration of large tracts of land in the hands of few individuals. Secondly, the use of simple implements such as hoes and cutlasses does not

permit large farm sizes because the farmer uses his energy in preparing the farm and as fatigue sets in, his ability to increase his farm size is reduced. Also, because the land must be equitably shared among family members, only limited number of acres could be made available to a person at a time. These are the problems associated with customary form of land tenure which usually governed people in rural areas and it results in low crop yield (UN University 1986) and a major contributor to rural poverty. The Mfantseman District Assembly (2002) pointed out clearly that, land tenure (the customary form) is one major problem and the cause of low crop yield in the district.

Furthermore, as the system of acquisition of land limits the size of farm that they could cultivate, the limited knowledge of the availability of credit from the government through the District Assemble (such as; The Social Investment Fund (SIF), the Community Based Rural Development Project Fund and the Poverty Alleviation Fund) for agriculture activities and their fear of defaulting the payment of loans is also impeding the expansion of their farms. As in the words of one trader...*yes I have heard of some people (NGO) who give loans to farmers but I don't want to take money from the bank because it will be difficult for me to pay back...How can I even go and get the loan when I don't have any property (collateral) to show them...Look, I am getting money from the meat I sell but if I get money I will make a bigger farm ...* (Albert, Eyisam).

5.3 Practicing of vocational skills

The acquisition of vocational skills is very important as pointed out in chapter two. The district has an adult literacy rate of 47.9 % and it is part of the bottom five among the 13 district in the region (Ghana Statistical Service 2003) It is important to clarify that acquisition of vocational skills is not solely for school drop-outs but it is an important avenue for them and people who have no formal education at all to, acquire trade skills to equip them selves to make decent living.

Most of the traders are school drop-outs or have no formal education at all. The male wholesalers and the hunters have acquired some form of vocational skills ranging from metal work (welding), carpentry, masonry through to auto engineering (“fitting” work) and

photography. Four of the female traders said they have skills in dressmaking, catering and hairdressing. Apart from the photographer who is still in active business, all the other male traders have, low or no demand for their skills. However, on occasions such as Christmas and other festivities, the carpenter and the mason get clients who pay them to repair their properties. Due to the seasonality of income from their trade skills, they have all become subsistence farmers and can be referred to as trader–farmers and farmer- hunters

5.4 Bushmeat trading

This was identified as an important livelihood activity which provides cash incomes for households engaged in it. Some of the traders have been engaged it for more than a decade and through direct observation and interviewing, a number of factors were identified as promoting the running the trade and these are;

a) The availability of fauna resources and less start-up capital

Though there is no documented inventory of fauna resources within the district, the MDA (2002) pointed out that the district abounds in natural resources including wildlife. One trader (woman) claims she has been trading in bush meat for twenty-two years and since these resources are not in protected areas, there is no much restriction on their extractions. Coupled with high demand for bushmeat, they seized the opportunity to make a living

In addition to the availability of fauna resources, the trade does not need a large start up capital. Most of the traders began with funds from family members and some times hunters give the animal to them on credit to be paid for after sales as one trader explains;

Ei! Loan from the bank? Do you want the police to come and arrest me for not paying back? What do I need the money for anyway? I can always get animals to sell and pay later because the hunters know that we are always here and will not run away with their money. (Comfort ,Mankessim).

It is important to mention that most of the traders spoken to especially the males and the group hunters mentioned this factor is one of their motivations to enter the trade.

b) The second most important factor which is promoting effective trading activities is the availability of a well established trade network and trust between the actors of the trade. The establishment of networks in trading activities is important for the survival of the trade

especially in agriculture products (Overå 2006). Traders therefore establish a chain of networks between colleagues, suppliers and customers (ibid), for effective trading. Therefore when traders continue to get regular supplies from their suppliers without fail and their regular customers keep coming, there develops a lifelong friendship between colleagues who regards themselves as relatives and help each other in times of need (Lyon 2000).

In the light of the above, bushmeat traders in the Mankessim market and along the Eyisam-Mankessim road are highly networked with their suppliers, customers and fellow traders, but as shown in Chapter four, there exist differences in operation of these two category of traders, and this reflects differences in the levels of networks with suppliers, customers and follow traders. Each trader at the market has well established network of suppliers (hunters) and customers (other retailers and chopbar owners). The number of hunters who supply a trader with carcasses range between four and six. Though they supply to the same trader, more often than not, there is little or no interaction between the hunters. In the same way, the traders have customers who comes from the surrounding towns like Anomabo, Saltpond, Cape coast and from the capital city of Accra just to mention a few.

Furthermore due to the long interactive relationship between the traders and the customers, the traders knows the type of carcass each customer wants and they (traders) become worried when a customer arrives and they could not meet their demand as in the worrying words of Believer (a trader) *“Oh! That is Alhajiah coming, she is my antelope customer but I don’t have some today. Ah! I hope she agrees to come back tomorrow”*. The customer-trader relationship is such that a customer will only buy from another trader if the customer and the trader are convinced that the carcasses on display are not what the customer desires particularly in terms of animal size, or the trader does not have the type of animal she wants as in the case of Believer and Alhajiah. On the other hand, if for instance trader **A** has everything her customer wants but for some reason the regular customer of trader **A** wants to buy from trader **B**, she (trader B) will refuse to sell to the customer. This behaviour by the traders is one of the unwritten codes of ethics and it seems to stem out of mutual dependency and cooperation between co traders to help each other make sales for the day.

The male traders on the other hand, do not have regular customers since they sell to travelers along the road but they also have a strong relationship between their suppliers (hunters).

In addition to the above, one other important element of the traders' informal relationship with their suppliers, customers and co traders is trust. The social standing of an individual could easily establish her in the market that is; she could get training from her mother, a start up capital from her husband or other family members and be introduced to a supplier (hunter) by a colleague. But for this new trader to increase her trading activities and have a well established network with her suppliers and customers, she needs to be trustworthy and have to work with trust-worthy people. There will continue to be a good relationships between suppliers, traders and their customer if they maintain being trust-worthy to each other. For instance, a trader must make sure she satisfies the need of regular customers and they (the customers) should make it a point to buy from one trader in most cases. In the same way as indicated earlier on, traders have some level of trust for their suppliers (hunters) to the extent of giving them hunting inputs to supply them with carcasses. If a hunter defaults this contracts by selling to another trader, their relationship will be severed.

Also, the behaviours of these traders at the market are guide by unwritten code of ethics as mentioned earlier. Overå (2006) mention that in large markets like those in Accra, the leaders of the various traders (market queens) make sure that people who flout laid down regulations are sanctioned, but no leader was identified among the female traders. Traders regulate trading activities such that there is sanity in their operations. This they do in many ways and noticeable among them is that, traders do not move from one trading point to the other (say moving from trading point 1 to point 2) but get established at one point where she forms her networks. Also, since they display their wares together, when a buyer is moving towards a particular trader, the others do not call for her to have a look at their wares. If a trader makes the mistake by calling on this buyer, her behaviours is rewarded by verbal abuse from other traders.

From the above, it could be seen that, trustworthiness, maintaining good social relationships and depending on each other for support are important elements in promoting smooth trading activities.

c) Infrastructural developments such as such as the Mankessim market, the Accra-Cape-coast road and other minor roads mostly feeder roads linking rural communities to Mankessim, in addition to these, the easy access to guns and other hunting equipment, refrigerators and in recent times, mobile phones are important facilitators of the trade.

As noted earlier, most of the customers of the male traders by the Eyisam-Mankessim road are travelers. According to these traders, their customers are mostly tourists and other travelers returning to Accra and beyond from the Central region. They (traders) therefore become more accessible to these travelers who are usually in moving vehicles. Many young men took advantage of the opportunity provided by the construction of the road and established bushmeat trading points along it. These traders are concentrated along the right side of the road (when traveling from Mankessim to Accra) and this confirms the fact that their customers are travelers moving towards Accra as in Figure 5.1. In the same vein, the various rural feeder road network linking rural areas to Mankessim facilitates the transportation of carcasses to the traders in the market. The traders (market women) claim that since it is easy for the hunters to bring the carcasses, deliveries are quite regular. Swift (1998) explained that, roads among other things facilitates the movements of people between places offering different income-earning opportunities, they create markets that otherwise would not come into existence (cited in Ellis 2000).



Figure 5. 1: A male trader advertising is meat to travellers

Source: Own photo

In addition, to the above, electricity is also another important infrastructure that has brought improvement in the trade, especially, its expansion to the rural areas. This has been a holy grail for most government in the country¹ because of the benefits that rural people would derive from it. Hunters who could afford deep freezers or access to them through other means keep their kills in them and take them to the market after accumulating the number they think is economical to travel with to the market. Deep freezing they also pointed out slows the decomposition process of the carcasses. This is important in preserving the leftover carcasses (if they are not beyond a certain level of decomposition) such that they could be sold as whole the following day.

Furthermore, improvement in the telecommunication in the country is also having impact on bushmeat trading activities. In the past, physical deliveries of information, sending of letters or the use of communication centres were the alternatives for people who do not have fixed

¹ www.solar-light.com/rural_electrification.html

phone lines in their homes or offices. According to Overå (2006), since most traders are illiterate or semi literate, verbal communication remains the most important mode of information exchange and this explains why cell phones have become the most appropriate communication technology among traders, following the liberalization of the telecommunication market in the country. Most of the traders were visibly holding their mobile phones on which they communicate with their customers and suppliers. This communication between trading partners keeps them well informed and could reduce transportation cost.

5.5 Comparing the bushmeat trade to other livelihood activities

This section deals with two main issues. The first is the comparison between the bushmeat trade and previous income generating activities of the female traders. Attention is given to the market women in this respect because, the male traders and the hunters have subsistence farming as their first income generating activity and are still engaged in it. Secondly, the incomes of the actors of the trade will be compared to bring to light the differences in income brought about by ones position in the trade. And finally, cash incomes from subsistence farming will be compared to that of bushmeat trading to show the important contribution the bushmeat trading activities is making towards the cash incomes of the traders.

5.5.1 Other livelihood activities

It was established that, in terms of additional income generation activities, the male traders and the hunters are engaged in subsistence farming (explain in section 5.2) apart from the bushmeat trade, and seldom practice trade skills they have acquired. Bushmeat trading is the sole income generating activity for the female traders and most of them have depended on the buying and selling of bushmeat for a period between six and twenty-two years. They were involved in other income generating activities which include petty trading, fish mongering and dressmaking. Some of them took over the trade from older family members whilst most of them were introduced to it when their former trades could not provide enough to meet their family demand as Yaa explained;

...When I was sewing, I find it difficult to provide for my family because my husband was unemployed and when people bring their materials to me to make dresses for them, they don't come to collect the dresses ,meaning I don't get the income I am supposed to get. All my apprentices had to stop their

training because business was very bad. It was a friend who has been helping me with money who introduced me to the trade. Now, I don't borrow money to feed my family. As you can see I have even employed people to help me prepare the meat for sale. (Female wholesaler)

Due to the increase in the demand for bushmeat and the profitability of the trade, the traders seized the opportunity to improve their lives. Most of them have between four and twelve people in their household and their husbands work in the informal sector with no stable income. These women are mostly responsible for their family's welfare which consists of their own children and that of other relatives. They explained, they are not engaged in any other economic activity, and that the proceed from the bushmeat trade is better than what they have formally been doing despite the fact that the animals have not been "coming" as they used to; ...*What other job can I do now? I think this is ok. I know my profit as soon as I buy from the hunters and I will make sure I get it, so by the end of the day I don't touch my capital, it is only the profit I spend. This work is not too difficult. I mean interms of the strength I put into it. Can't, you see that a lot of old woman are also doing it? The only problem is that we spend most part of the day in the market and by the time you get home you have to lie down and rest and can not do any other trading activity.*

Believer (female wholesaler)

These women further explained that it will be difficult for them to attach other economic activity to their trade because after trading activities, they have to process the left over carcasses to prevent it from going bad. This extra activity after sales and their place as mothers and wives could be the reason why they could not attach any other economic activity to what they are doing now.

5.5.2 Cash incomes

It was evident from the response of the traders that the income accruing from their business plays important roles in meeting their everyday expenditure. For instance on Table 5.1 a minimum income of ₵300,000.00 per week for a female wholesaler is far above the national minimum daily wage¹ of ₵10,500.00 (equivalent of \$1.1) making ₵63,000.00 week. In

¹ Minimum Daily wage in Ghana as at January 2004 was 10,500 cedis
Source: <http://www.ghanaweb.com/GhanaHomePage/economy/statistics.php>

addition, whilst the minimum monthly salary of people in wage employment will be ₦252,000.00 (based on the minimum daily wage), that of a female wholesaler for instance will be ₦1,200,000.00, with an annual income of ₦9,600,000.00, far above the annual average household income (₦1,464,000.00) of the Central Region. From these, it is evident why the bushmeat trade is an attractive job as in the words of one trader “...*this job is not bad at all. If you open your eyes well and concentrate on it, you will be able to get lot of things that you want in life because what you get on each anima (profit) is determined by you*”... (Yaa, wholesaler).

Also it could be seen from this same table that incomes of the traders vary. Considering the minimum weekly income of the three actors (hunters, female wholesaler and male traders), that of the hunter is the least with (₦150,000.00), followed by the male wholesalers (₦200,000.00) and the highest is that of the female wholesaler with ₦300,000.00.

Cowlshaw et al (2005) indicated that the hunter's price makes up 73% of the final sales price so with this one may say that the hunter makes more money than the other traders. But, the income (net profit) indicated in Table 5.1 could be explained in terms of the number of animals sold by each of these actors in a day, week or month. The number of animals that each trader sells in a day are not hunted by one person but several hunters and these women act as collectors whose volume of trade in a day is higher than that of the individual hunters who brought them. One trader could have about five different hunters who supply her with carcasses so at the end of the day she would sell more than that hunter and hence make more net profit.

Table 5. 1: Estimated net income available to bushmeat traders

Trader	Estimated income range per week (profit made in 6 days)	Estimated income range per month	Estimated income range per year * (from 2nd December to 31st July)
Female wholesalers	¢300,000.00- ¢420,000.00	¢1,200,000.00- ¢1,680,000.00	¢9,600,000.00- ¢13,344,000.00
Male wholesalers	¢200,000.00- ¢300,000.00	¢800,000.00- ¢1,200,000.00	¢6,400,000.00- ¢9,600,000.00
Farmer- hunters	¢150,000.00- ¢240,000.00	¢600,000.00- ¢960,000.00	¢4,800,000.00- ¢7,680,000.00

Source: Field data

Estimated average income per week is the average of the income of the respondents the week before the data collection began. (A week in this analysis is 6 working days that is from Monday to Saturday) These are estimates because they do not keep records of their sales.

* These are estimates for eight months from the 2nd of December to 31st of July that is right after the lifting of the ban on hunting and the last month before the ban starts.

In addition to the above, the male traders and hunters also earn some cash incomes from their farm produces as indicated in Table 5.2 There is inadequate data on the production and consumption of agricultural produce in the district. However, national statistics available shows that, majority of maize growing households in the country do their harvesting during a three month period that is July, August and September with the peak in August which accounts for over 40% of total annual harvest (Ghana Statistical Service 1995). Root and tuber crops and plantain are usually harvested with the peak at the end of the year. Sales for these crops follow the same pattern as their harvest, that is root and tuber crops are sold throughout the year whilst maize is sold when in season. Also, the value of production consumed by rural households in 1999 was estimated to be ¢603,000.00 (Ghana Statistical Service 2000)

Comparing the estimated average annual cash income of what one hunter-farmer derive from his farming activities in Table 5.2 and that of hunter **A** in Table 5.1, it could be seen that whilst his estimated annual cash income from his farm proceeds is ₦700,000.00, the minimum annual income from the trade in bushmeat will be ₦ 4,800,000.00. Here he earns more cash from hunting than his farming activities. Based on the annual consumption of home produced food of rural dwellers of ₦603,000.00, it could be deduced that, the total annual value of production of hunter **A** for instance, is ₦1,303,000.00 (what is consumed in addition to the estimated cash income), which does not measure up to half of what he earns from hunting.

Table 5. 2: Cash incomes earned from subsistence farming

Position	Activity	Land Area	Produce	Estimated Annual cash Income
Hunter A	Farming and gathering	2 acres	Vegetables, cassava, Yam plantain, maize snails	₦700,000.00
Hunter B	Farming and gathering	1 acre	Maize, vegetables, cassava Mushrooms, snails	₦550,000.00
Wholesaler A (Male)	Farming and gathering	2 acres	Cassava, plantain, cocoyam, maize, vegetables, Mushrooms, Snails	₦600,000.00
Wholesaler B (Male)	Farming and gathering	2 acres	Maize, Plantain, Cassava yam Mushrooms, Snails	₦1,000,000.00

Source: Field data

Estimated annual cash income from farming activities is the proceed that was not consumed but sold for cash.

5.6 What are the implications of commoditization of bushmeat?

In Chapter four, it was indicated from evidence on the field and that from other parts of the country (Cowlshaw et al 2005, Ntiamoa Baidu 1997), that the trade is driven by demand by consumers. People will pay high prices to have their favorite game on their dinning table. This demand could be said to be favourable for the business because it has provided jobs for many people who are earning incomes to meet their family needs. Despite these important contributions to people's lives, the continuous demand by consumers could be disadvantageous to the animals in the wild, the consumers and the traders in the long run. As noted in chapter 2, these livelihood activities have effects on income levels, its stability and on biodiversity among others. It has been pointed out clearly in some research works (Conservation International 2003, Ntiamoa Baidu 1997, Cowlshaw et al 2005) that over exploitation of fauna resources is resulting in the decline in animal populations in the wild and local extinction of some mammals especially large ones have been recorded. Most of the traders at the Mankessim market could not identify any decline in supply but admits a seasonal decline in supply (during the rainy season). The fact is that the market is constantly being supplied with bushmeat to meet the demands of the growing number of consumers. This does not necessarily mean that extraction is in balance with the rate of regeneration but rather the territory within which hunting is done is widened. For instance according to the hunters, in recent times they have to trek longer hours before getting their catch which some time ago, they could get in areas around their farms.

Furthermore, not only have the hunting territories extended but also various ways of increasing the number of animals killed at a time has been devised by hunters. As hunting now is not primarily for food but rather for income, the more killed and sold, the better the income and welfare of the trader. The situation is what Marten (2001) refers to as an unequal relationship between the human social system and the ecosystem. This unequal relationship is further aggravated by the use of new technologies such as the use of automatic rifles and poisoning of animals. People often cause extensive environmental damage when they adopt

new technologies which they do not know its environmental consequences (ibid). For instance the use of chemicals in hunting (as elaborated in Chapter 4) does not only have devastating effects on the health of consumers but also on the health and population of animals in the wild. Traditional methods such as the use of traps, bows and arrows and so on were and still are selective and not effective enough to damage animal population. These were said to be sustainable way of hunting. Sustainability, according to Conway (1985) is the ability of a system to maintain productivity in spite of major disturbances such as is caused by intensive stress or a large perturbation (cited in Ellis 2000). People should hunt and make a living but it should not be in such a way that the rate of regeneration of animals will be slower than the pace of its extractions in the country.

Marten (2001) therefore, believes that in order to maintain a sustainable resource use and a healthy relationship between the human social system and the ecosystem, the human society has evolved rules and values. In Ghana, most traditional areas have specific animals or animal that should not be consumed by the people, it is a taboo to do so and there are sanctions for offenders. It could be that these are means devised by the traditional leaders to regulate the use of these resources. It is also important to mention that, it is not by branding the killing of a particular animal as a taboo that prevents people from killing them but also the people sometimes believe these animals are gods and needs to be revered. This practice depends on the values of a particular traditional area. For instance in the Central region within which the study area is located, the Royal Antelope is the totem of the people of Ekumfi and Abrem traditional area (Conservation International 2002 b) while the Bushbuck is of the people of Efutu. These animals are sacred but in recent times they have been categorized as animals at risk of extinction due to the bushmeat trade. As will be seen in the next chapter, the government has also put in place certain measures in the form of laws and policies to protect and regulate the use of fauna resources so as to promote its sustainable use but there are problems of enforcements of these regulations.

In addition, the commoditization of bushmeat has made people build their livelihood on the trade and this could be detrimental because as Ntiamo-Baidu (1997) pointed out intensive hunting is only profitable in the short run. This means in the long run, exploitation over and

above the productive capacity of wild animals will lead to scarcity. When this happens there could be serious effects on the welfare of the households involved on the trade. This call for people to diversify their livelihood base which could be a backup if trading activities declines or find alternatives to wildlife resources, as would be discussed in the next Chapter.

From the above, it could be identified that, though the commoditization of bushmeat is providing many households with income it could also be disadvantageous to animals' population and welfare as it will be to human health and household incomes in the long run.

5.7 Summary

This chapter began by pointing out other livelihood activities engaged in by the traders such as subsistence farming and vocational trade, bringing out the skills they have acquired and how they are utilizing them. It further explained the factors that are promoting the bush meat trading activities and how there are variations in the cash incomes earned from the bushmeat trading and subsistence farming bringing to light why it is a lucrative employment opportunity for many people. Finally the environmental sustainability of the trade was explored in terms of its implications to livelihoods that depends on it and the welfare of fauna resources in the district

The next chapter examines the efforts by government and NGOs to regulate fauna resources in unprotected areas.

CHAPTER 6 EFFORTS TO PROMOTE BETTER WILDLIFE MANAGEMENT

6.1 Introduction

As people continue to depend on the extraction of wildlife resources for their everyday consumption and cash income, the ability of these resources to sustain the livelihoods of future generations could be at stake. Wildlife conservation draws on two distinct traditions and these are, the utilitarian approach, which is of the view that, other species are there to be used for human benefit and conservation involves the best way to maintain the flows of those benefits. The second holds the view that, other species are there to be looked after and not use (Adams 2004). The former view became popular at the beginning of the 21st century when some people began to argue that conservation should be built around the idea of “sustainable use”. Adams explained that, this phrase includes the idea of the fact that wildlife use is an imperative choice of people especially the poor in the pursuit of their livelihoods and the possibility that use can provide incentives to conserve biodiversity. The concept of sustainable use was first articulated in the World Conservation Strategy which defines it as the use of an organism, ecosystem or other renewable resources at a rate within its capacity for renewal.

In the light of the above, to enable people extract and use wildlife resources on sustainable basis, the government of Ghana has put in place rules and regulations including management programmes for wildlife resources out side protected areas. These regulations and management programmes including the activities of some civil societies such as Conservation international and the Ghana wildlife society in the promotion of public awareness will be discussed. After the discussion on the regulations and management programmes on these resources outside protected areas, I will attempt to establish a link between to inadequate attention to these resources and the ineffective implementation of these regulations. The final part of this Chapter will deal with the efforts by the Centre for Biodiversity utilization and Development (CBUD) in producing alternative wildlife resources and its importance for rural people and many under employed and unemployed youths including how these could help make the bushmeat trade sustainable

6.2 The Wildlife Department of the Forestry Commission

The Forestry commission of Ghana is responsible for the regulation of utilization of forest and wildlife resources, the conservation and management of those resources and the coordination of policies related to them¹. This commission embodies various public agencies that perform functions of protection, management and regulation of forest and wild life resources. These are the Forest Services Division, Wildlife Division, Timber Industry Development Division, Wood Industry Training Centre and Resource management Support Centre. For the purpose of the study, much attention will be give to the efforts by the Wildlife Division in the management and regulation of forest and wildlife resources.

This division began as a branch of the Forestry Department of the Ministry of agriculture responsible for wildlife issues. In 1965, it became a full fledged line agency of the ministry of forestry known as the department of game and wild life which later was changed into the Wildlife Department after the adoption of the forestry policy of 1994 (ibid). It is responsible for all wildlife in the country and administers 16 wildlife protected areas, 5 Coastal Ramsar sites and the Accra and Kumasi Zoos among others. Among the objectives of this important department, more light will be thrown on how three of them are being operationalized. These are; the promotion of the management and development of wildlife outside protected areas ,development of linkages with NGOs and agencies whose activities impact on wildlife, and the promotion of public awareness and education on wildlife management issues.

The wildlife division has identified that the country is richly endowed with natural resources and they serve an important role in the cultural history, national development and economic prosperity of the country. Also, these resources are important for the livelihood of people living in rural areas. According to the Wildlife division Policy for Collaborative Community Based Wildlife Management (2000), the wildlife resources of the country have been severely depleted and this raises serious concerns for future economic development and sustained rural livelihoods. As mentioned earlier, both government and traditional rulers have put in place rules and regulations concerning the utilization of wildlife. The first wildlife law, the Game preservation ordinance in 1901 was followed by the wild animal preservation act of

¹ www.fcghna.com/forestry-commission

1961. After the establishment of the department of Game and Wildlife in 1967, the wildlife conservation policy was published paving way for the Forest and wildlife policy of 1994. This is a very significant Policy because it recognizes the role of local communities and indigenous knowledge in the conservation of forest and wildlife. Furthermore, in order to articulate this policy, a plan of action was developed called the wildlife development plan over a six year period (1998-2003).

6.2.1 What were the wildlife management programmes in the development Plan?

To stick to the objectives of this study, more attention will be given to the plans of government in connection to management of wildlife outside protected areas since wildlife resources in the study area belong to this category.

Among other things, the government in the 1990s established a license system where hunters and traders in bushmeat are issued with license. This began when the Wildlife department transferred the issue of the bushmeat trading license to the District Assemblies (DAs) in order to decentralize this responsibility and also to retain some revenue to the DAs (Wildlife Department 1998 b). Under this system people who wish to trade in, capture or hunt wild animals have to possess a valid license. This license shows the type of species and number to be hunted, the means of capture and the district within which the hunting activity is going to take place (Wildlife Conservation Regulation 1971 L.I. 585). In the same vein, people who want to trade in wild animals (like the wholesalers) also have to get a license which will show the species they will trade in. These licenses are valid for six month and are issued at a fee depending on the specie one wish to trade in or hunt. An official at the Wildlife Department explained that, hunting of a Royal Antelope for six month for instance, will attract a license fee of ¢200,000.00 and Grasscutter, a fee of ¢100,000.00. The traders have a flat rate of a ¢100,000.00, this the wholesalers confirmed at the market. The DAs are supposed to retain 80% of the revenue accruing from the issuance of licenses within their district and pay 20% to the government. From the field, it was noticed that all the hunters interviewed (except the group hunters) claimed they had hunting license but could not produce them when they were asked to show them. On the other hand, the wholesalers boldly showed their trading license though most of them have expired ones. The official from the

Wildlife Department went further to explain that, despite the decentralization of this license, the DAs do not issue the bushmeat trading license but that of the Assembly to collect revenue from traders. This creates conflicts and makes the work of the Wildlife Department ineffective in some districts since the 20% is used for monitoring and supervisory works. Although the Mfantseman district assembly has been tasked to issue this license, all the traders were issued directly by officials from the wildlife department who pay periodic visit to them. A survey conducted by the wildlife department to assess revenue generated from the issue of this license showed that, from 1991 to 1996, the DA did not issue any license and therefore generated no revenue from it.

Secondly, the government has institute an annual close season from the 1st of August to the 1st of December every year during which no person was allowed to capture or destroy any animal except certain specified species (e.g. grasscutter)(Conservation International 2002 b). The purpose was to protect pregnant animals and those that were nursing their young during this period. It was supposed that the four month period was long enough for most mammals to wean their young ones. Despite this regulation, a survey by Conservation International in 2001 during the annual close season showed that species displayed on the open market include endangered, rare and wholly protected. Traders interviewed, that is, both hunters and wholesalers said they do not trade in any species during this period apart from grasscutter but one of the hunters disclosed that they usually process animals other than grasscutter and sell to chopbar operators. Also since there are no effective means of monitoring what hunters kill, one hunter explained that *...I am a hunter and when I go to the forest I kill any animal that we eat. It will be hard for me to see Adowa (Royal Antelope) and let it go free. I know that big animals do not give birth to plenty young ones so we have to take our time when hunting them but sister, man must eat...* (Atta from Eyisam).

Thirdly, there are varying degrees of legal protection to species through their inclusion on appropriate legislative schedules. This range from schedules which provides complete protection for some animals through those that offer protection to young animals and adults followed by young ones to schedules that permits limited hunting of certain species and the permission to hunt down some species to reduce their numbers since increase in their

population will be a threat to agriculture or the human life (Wildlife conservation Regulation 1971 L.I.685). To add to this, the regulation also state clearly that, group hunting is prohibited and offenders will be sanctioned according to the law.

Although there are some provisions made by government to regulate the use of wild life resources in unprotected areas, there seems to be little enforcement of these regulations (as could be seen from the case of the hunting and bushmeat trading license). Wildlife outside protected areas are still treated as a free resource resulting in over exploitation, habitat loss, decline in wildlife population and extinction of vulnerable species (Wildlife Department 1998 a). In order for the utilization of these resources to be adequately regulated there is the need to accelerate the process of decentralizing the management of wildlife by involving communities who utilize these resources. Ghana is not the first to try to pass ownership right and management of wildlife to local communities within which they occur. In 1975, for instance, an act was passed in Zimbabwe to allow private land owners to own wildlife on their property which had formerly been the property of the state (Adams 2004). In order to allow people on communal lands to benefits from wildlife on their land, the Communal Area Management Programme for Indigenous Resources (CAMPFIRE) was set up where district councils apply for authority over wildlife within their jurisdiction. This allowed many local communities to set up CAMPFIRE committees and auctioned the rights to hunt to safari companies.

Adams (2004) further explains this Programme has been widely celebrated by conservationist as a win-win-win solution, that is, a strategy that uses wildlife to tackle poverty, create wealth for poor people and promotes sustainable use of resources. The decentralizing of administrative and political powers to the people at the grassroots is believed to encourage them to adopt eco-friendly views on wildlife and other natural resources. Successes involving communities in natural resource management in southern Africa has led to these approaches used by other countries. In relation to the above, the Wildlife Department has developed a community wildlife management approach known as Community Resource Management Areas (CREMA) Programme and solely structured for management of resource outside protected areas. It a geographically endowed area with

sufficient resources where communities of farmers organize themselves for the purpose of sustainable resource management (Collaborative resource management unit, wildlife division 2004).

The underlying principle of this approach is that if natural resources are given value and communities are given the authority to manage them, they will have the incentives to utilize on sustainable basis and conserve natural resources. This approach will therefore create financial incentives for farmers to use and manage natural resources on a sustainable basis by giving them the management rights. In order to achieve success in the presence of complicated land tenure relationships and unevenly distribution of resources, an organizational structure based on the existing local decision making structures is to be developed. This structure has two elements and these are the Community Resource Management Committee (CRMC) and the CREMA Executive Committee. With this system the chief and his elders are at the top on the level of decision making, together with the Assemblymen and key opinion leaders within the community. Majority of the membership is to be made up of farmers who have organized themselves into groups and together with their leaders they develop a constitution that is backed by the bye law of the District Assembly.

Furthermore, the department believed the Programme will among other things improve sustainable use of wildlife resources because its successful implementation will foster a greater collaboration between them and the farmers and the community at large, such that, with the leaders of the communities involved and the farmers in groups they can carry out their educational activities with more efficiency. In addition, income for farmers is also believed to be improved in that as the communities have control of access to their resources by external groups and individuals, among other things they can sell the rights to hunt to people outside their community leading to greater wealth creation and poverty alleviation. For instance, this programme is being carried out with communities around the Mole national park in the Northern region to reduce the people's dependence on the resources of the park.

6.2.2 Education and creation of public awareness

Before the 1990s, public wildlife education received very little practical attention because the limited resources available were used in securing protected areas. But from the 1990s however, efforts has been made to promote public awareness on wildlife issues through the Wildlife Department and civil societies (Wildlife Department 1998 a). The department has field officers who perform some educational activities especially during the annual close season (the period between 1st August and 1st December when there is a ban on hunting). This was confirmed by the traders, who pointed to the fact that periodically the officers come to remind them of the animals that were and not to be hunted during the period.

6.3 Civil societies

A more detailed educational activity is carried out by civil societies through their members and the media. Some of these societies are the Ghana Wildlife Society, Conservation International, Friends of the Earth just to mention a few. In the paragraphs below, the activities of the Ghana wildlife society and Conservation international will be outlined and discussed.

6.3.1 The Ghana Wildlife Society

This is the biggest environmental NGO in Ghana in the crusade against environmental degradation and for that matter biodiversity conservation in the country¹. It is a, charitable environmental organization which seeks to conserve wildlife in all its form to ensure a better environment and improved quality of life for all mankind. Memberships include adult members, junior members and corporate bodies. By 1994, there were over 400 wildlife clubs (the junior wing) with over 14000 members throughout the country. It is believed that when these young ones become environmentally conscious it can have impact on the people living within their community

In addition, the society through its educational and public awareness unit carry out regular visits to schools and communities using talks, slide shows, symposia, durbars among others to get messages of conservation to people. This body also collaborates with media houses where they give live education on issues concerning sustainable environmental resource use

¹ www.earthwatch.org

and the importance of conservation. This reaches a wider audience since most people in rural areas living close to these resources have radios and can listen and appreciate the resources in their environment. Furthermore, they also indicated that training workshops and camp meetings are organized for club members which are conscious efforts to create and sustain the interest and concern for the environment and wildlife¹. Publicity materials such as polo shirts, stickers and publications are also said to be means through which the public are educated on matters concerning the environment.

6.3.2 Conservation International

This civil society was established in 1987 to engage in ecological research and studies, conservation activities mainly in environmental hot spot that needs urgent conservation measures for the sake of biodiversity² with findings from the world, leading American-based corporations such as the Bank of America and J P Morgan Chase and Company, tropical agro-food business and food retailers and Entertainment business such as Sony Pictures Entertainment and Walt Disney Company Foundation among others (Adams 2004). According to their conservation strategies, they believed that unregulated fishing, hunting and trade in wildlife products, unsustainable agriculture among other activities are depleting many biodiversity species which will adversely affect indigenous people who depend on productive ecosystem to meet their daily needs. In responding to these crises, publications on their web site indicated that, high-biodiversity wilderness, biodiversity hotspot and key marine regions (these are areas with high concentration of biodiversity) were identified and the establishment of the Centre for Applied Biodiversity Science helps to collect and interpret data about biodiversity and develops strategic plans for conservation³.

The activities of this organization in Ghana in their quest to conserve biodiversity are diverse and but for the purpose of the study, their activity in the area of what they call the “bushmeat crises” in Ghana is elaborated. According to the report on the awareness Campaign on the Bushmeat Crises, the main aim of the project was to raise public awareness of the threat imposed by the bushmeat trade (Conservation International 2004). They claim the project re-

¹ www.ghanawildlifesociety.org

² www.com/environment/interview/13/index.html

³ www.conservation.org/xp/CIWEB/strategies

awakened sociocultural and scientific concerns for the rapid extinctions of wildlife species throughout the country. It was said to have a positive impact on the trade, protein sources, and protection of totems and development of alternative bushmeat supplies. At this point one may ask that, how could this achievement be sustained if the underlying factor which is making the bushmeat trade attractive to people are not tackled?

In addition to the above, the report continues to explain that, the awareness campaigns were carried by meeting and discussing issues concerning conservation of totems with stockholders which includes policy makers, traditional authorities and the DAs. Furthermore, messages on the importance of conserving the countries fauna resources were developed in five local languages and English and broadcasted on the radio and TV. Also, wildlife images and interviews throughout the country on the bushmeat crises were compiled and produce in short documentaries and drama and broadcasted on the local media. In addition, local artists were contracted to write songs including posters and other visual images.

From the above presentations, It could be said that, the likeness of the objectives of these organizations (to conserve biodiversity) and their expertise in environmental education backed by their capacity to access of both local and foreign experts on various conservation issues necessitated the Wildlife Department to off load to them the aspect of public education and awareness creation on the sustainable use of wildlife resource in unprotected areas.

At this point, it could be deduced from the above that the government has put some measurers in place in managing on sustainable basis wildlife resources outside protected areas. Studies on the assessment of long and short term benefits involving communities in wildlife management in Southern Africa Adams (2004) explained showed that there were isolated successes but in most communities, among other factor, incomes from wildlife were small and the cost of the wildlife often exceeds the benefits. I have not yet come across any document which has assessed the impact of CREMA. The successes mentioned in communities around the Mole national park did not indicate if it was a long or short term success. As the bushmeat trading activities continue to be an important source of cash come for most communities endowed with wildlife resources, couple with increasing demands and

under employment and general unemployment for school leavers and people with informal skills as explained in chapter five, it is likely that, laid down regulation on wildlife resource managements will not be adhered to which could result in the unsustainable use of wildlife resource.

In the same vein, as the DA has no office where these traders could go for their licenses, it will be difficult to generate money for the Wildlife Department to carry out monitoring activities (such as the adherence to the annual close season, and ensuring that every hunter and trader is issued with a licenses among others) in the district. Also the application for the license does not make provision for the traders to provide information on the source of their carcasses. These hinders the district's ability to have information on the quantity of fauna resources within the district including their rate of extraction so that constructive interventions could be made when deemed necessary because the trade as explained earlier is an important livelihood activity for many. Furthermore, the inability of the district to provide employment opportunity for people especially the youth is increasing the number of people involved in the trade which in the long run will affect the availability of these fauna resources.

From the presentations, it could be seen that though efforts has been made by the government to regulate these resources in unprotected areas, implementations and enforcements of these are very low. Perhaps it could be because of inadequate funding and field officers from the wildlife department to see to the adherence to these regulations. In Chapter 2 it was pointed out that, the bulk of funding for wildlife management activities are from external donors and their main focus is on protected areas. Activities in these areas are so much that about 90% of the human resources of the department are in protected areas. So one may ask that, if a district is not able to raise enough money through the issuance if hunting licenses what then happens to the monitoring of activities within that district? There has not been any effort to put together the hunters within the Mfantseman district and to ensure that they are hunting and selling species indicated on their licenses. The hunters pointed out that they have no organized association but they receive information once a year reminding them of the annual close season when the wildlife officers come round to remind the general public. People are hunting and selling bushmeat all over the district and if the Wildlife Department deem it

important to send field officers to remind people of these regulations and to issue them with licenses, is an indication that the sustainable use of fauna resources in the district is important.

In addition, the wildlife department has instituted the CREMA programme because of the ineffectiveness of former regulations, traditional regulations have broken down and if enough manpower and funds were deployed to ensure the effective implementations of these regulations in unprotected areas, communities endowed with these resources will use them wisely.

People continue to hunt and sell protected species during the close season, and hunting is done without appropriate licenses because sanctions are ineffective. These make it easy for the youths to enter into the trade.

6.4 Alternative wildlife resources

The question here is not whether the bushmeat trade is good or bad but what could be done to enable it continue to sustain the livelihoods that depends on it and at the same time not adversely affecting wild animals. Among other measures as mentioned above, cultivation of wildlife as a “crop” (Figure 6.1) could reduce the dependence on animals in the wild. Adams (2004) pointed out producing wild animals as source of meat became important for conservationist in the 1960s. Wildlife cropping is not a new idea in Ghana though it is not in the form of what pertains in southern Africa. No evidence of documentation of local people practicing wildlife cropping was found, this activity was however not new to most of the hunters because they have heard of other hunters trying to domesticate animals caught in traps which were still alive and not severely injured. Some were successful but the animals could not breed and in most cases, they did not survive. In an attempt to generate an alternative source of wild animals which could be managed effectively by the rural poor it will be important to do it in such a way that, these animals will not destroy their farm crops or become menace in the community and could be managed effectively by groups or individuals.

In line with the above, The CBUD is one centre in the country which is making efforts in developing alternative wild life resources. This centre exist to coordinate the process of identification of potential product of the biological food sources in Ghana which are engendered, marginalized or under utilized and to support and facilitate the development of their production processing and commercialization (CBUD 2004). It was established in 1999 with funding from the Royal Netherlands Embassy in Accra. Its main role is to facilitate, coordinate and develop appropriate technologies. In carrying out its activities, it goes into partnership with institutions such as religious groups, NGOs, government ministries, DAs, mining companies among others. CBUD offers the training in the cultivation of their products and the partner institutions provide start up capitals for the trainees. According to the 2003 annual report, by this time, it was in partnership with one hundred and forty-six institutions in eight of the ten regions in the country. They had the highest number of partnership in the Ashanti and the least in the Northern region. In the Central region, among the ten partners three are NGOs and one a DA.

At this point, one may ask what are the indigenous biological resources developed by CBUD and how is it perceived to be improving the lives of people especially those living in rural communities, the unemployed and under employed youth? Chiefly among them are grasscutter, snails and indigenous leafy vegetables. These food stuffs are believed to be delicacies of many Ghanaians and their domestication will ensure an all year round production providing stable sustainable income for people involve in their production.

6.4.1 In what ways are these products beneficial to people and wildlife resources?

According to the CBUD (2003), one of their important partners was the Ministry of Manpower Development and Employment. It contracted the center to train over five thousand youths who were interested in agro based business under the Skills Training and Employment Placement Programme (STEP). These people are a fraction of the total number of unemployed people who registered during the 2001 Nationwide Unemployment Registration. Just as mentioned and explained in chapter five, the ministry also pointed out that majority of these people have various vocational skill but a generous 26.5% of them would like to spend their time in agriculture and ago related jobs. The report went on to

explain that CBUD's products, especially grasscutter and snails, were chosen because the ministry has recognized that there is high demand for wild resource such as bush meat and it will be more profitable for unemployed youth to get involved in their domestication.

The World Bank acting through the Forest Services Division of the Forestry Commission has identified five Globally Significant Biodiversity Areas (GSBAs). Communities living around and within these areas have been depending on these resources for many generation; farming, hunting and gathering among others. In a bid to conserve these resources and to involve the interest of the communities in the conservation of these resources, the World Bank sought to engage them in alternative livelihoods. Since these communities live close to and have been depending on these wild resources, it seems prudent to involve them in income generating activities that they are familiar with, also, since their activities are to be financed by the Community Investment Fund, it is important to go into activities that have high demands. This is one reason why CBUD was contracted to facilitate the capacity building component of the project where beneficiaries acquire skills in livestock rearing, grasscutter farming snail farming among others. It is believed that with the high demand for these products especially for snails and grasscutter the people will not have to depend entirely on wild sources. Whilst they are improving upon their livelihoods they are at the same time helping to conserve biodiversity.

Furthermore, mining companies such as AngloGold and the Ghana Manganese Company (GMC) as part of their social responsibility programmes have identified some of the wildlife products developed by CBUD to provide sustainable alternative livelihoods for people living within their mining enclaves. The GMC, for instance, in conjunction with the Wasa district Assembly established a hundred million micro credit facility for eighty snail farmers within the Nsuta mining enclave and AngloGold facilitated the training and establishment of 1008 snail farmers, 100 grasscutter farmers and 189 in medicinal plants and indigenous leafy vegetables (ibid).



Figure 6.1: A grasscutter farm

Source: Own photo

This presentations may sound like the success story of a centre which is trying to develop and encourage the use of domesticated wildlife resources in the country but their activities were identified by this study because of their potential to;

- Provide employment for the unemployed and under employed especially the youth
- Provide an all year round supply of bushmeat especially grasscutter (the favourite of consumers)
- Enable traders, and hunter-farmers to diversify their income generating activities and
- To sustain the bushmeat trade and reduce extraction of wild fauna resources.

The Mfantseman District Assembly is not yet into partnership with CBUD but are in the process of registering unemployed youths under STEP. An official from the planning department explained that the DA is aware of the importance of the products of CBUD in the

welfare of the people and that they have plans of going into partnership with them soon. When DAs go into partnership with CBUD, there are financial implications, probably, the DA has other priorities hence the delay in going into such partnership though there are vibrant bushmeat trading activities in the district coupled with high rate of unemployment and low crop production.

From the above discussions, some important conclusions could be drawn that;

1. The wildlife department is aware of the importance of resources outside protected areas and the need to regulate their use to promote their sustainability but they are limited in the amount of financial resources for supervising and monitoring these resources since 20% of the amount raised through the issuing of license is to be used for these purpose. The Mfantseman district was not able to issues any license between 1991 and 1996 when a survey was conducted and there is no data available for licenses issued between 1996 and 2006. The DA pointed out that, one environmental problem of the district is over hunting of fauna resources but little efforts has been made to take inventory of these resource and make sure that people adhere to the regulations of the wildlife department.
2. The Wildlife Department has identified that regulations concerning resources outside protected areas are not effective that called for the institution of the CREMA Programme But as indicated the attention is on communities around national parks. Despite the vibrant bushmeat trading activities in the study area, there is no documentation of the establishment of this programme in the district.

6.5 Summary

This chapter examined the measures put in place by government to regulate the utilization of wildlife resources by discussing issues such as the establishment of CREMAs, issuance of bushmeat trading license, legislative prohibitions among others. It also presented the activities of the Ghana Wildlife Society and Conservation International in the areas of public education and awareness creation on the conservation of biodiversity. The final part looked at importance of the biological products developed by CBUD in the sustainable use of wild life recourse.

The next chapter is the concluding chapter of the study.

CHAPTER 7 SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

In this last chapter of the study titled; *The Bushmeat Trade, livelihood Securities and Alternative Wildlife Resources: a study of trading activities in Mankessim and its environs*, the major findings are summed up followed by the conclusion. Also, a presentation of the relation of the theories adopted to the findings of the study and pointing out the geographical dimensions of this research. Some brief recommendations are also given as well as pointing of an area of further research.

7.2 Summary of findings of the study

The study has sought to examine the bushmeat trading activities, its contribution to people's livelihoods and measures in place to promote better management of wildlife resources in Ghana by focusing on activities within the Mfantseman district in the Central Region. The first objective was to describe the bushmeat trade in the District, focusing on activities within Mankessim and its environs. The rationale behind this objective is that, since the study will be examining the contribution of the trade to the means of living of the people involved in it, it was important to get an insight of the bushmeat trading activities bringing to light how trading activities are carried, who the actors were including the type of species traded in and the views of consumers since they are important in trading activities.

It was confirmed as pointed by some researchers (Cowlshaw et al 2005, Ntiamao- Baidu 1992, 1997) that the trade involved a chain of actors beginning from the hunter, through to the wholesalers, retailers (chopbar operators) and consumers. These people are well connected and depend on each other. One interesting thing about the trade in the study area is the separation of trading activities base on gender which is also determined by the location of the trader. Traders within the main Mankessim market are females and sell their carcasses fresh unprocessed with customers mainly retailers and chopbar owners. On the other hand, a group of traders were also identified between Mankessim and Eyisam who are predominantly males and trade in processed carcasses and their customers are travelers from the Region to Accra and beyond. In addition to these it was brought to light that though the use of poisonous substances in hunting has been outlawed in the country, some hunters in the

district are still using them in hunting. Also, no safety standards are available for the processing of bushmeat which could result in consumers consuming unwholesome product.

It was further established that, bushmeat trading is the sole income generating activity for the market women but the hunters and male traders are involved in subsistence farming. It is interesting to point out that with a minimum national daily wage of ₦10,500.00, the lowest monthly income of a hunter (who earns the lowest among the traders) is far above that of people in formal employments. Also, the highest average cash income from crop production (₦1,000,000.00) is far below that from the lowest annual income from hunting (₦4,800,000.00) this brought to light that, the trade is contributing to most of the cash expenditures of household involved in it.

The findings established in this second objective of the study helped to find out the underlying factors which encourage people to extract fauna resources for commercial purposes. As pointed out above, there are high rates of unemployment in the district to such an extent that not only are school leavers not finding jobs but also people with vocational skill such as carpentry, masonry just to mention a few. It must be added that this is not a special problem to the district but the nation as a whole. These coupled with the increase demand for bushmeat and the high return that it brings to its traders, it has become an attractive alternative self employment avenue for many people. In addition to these, the ineffective implementation of hunting regulations has made it easy for people to enter into the trade without the appropriate licenses for having fire arms and for hunting.

Furthermore, as people continue to extract fauna resources from unprotected areas, there is the need to regulate the use to promote their sustainability. It was found out that, the government have in place measures to manage these resources in the following areas; 1) the creation of CREMAs 2) Institution of an annual closed season when there is a ban on hunting 3) Establishment of a license system for hunters and trader in wild animals 4) Provision of varying degrees of legal protections to species through their inclusion on appropriate legislative schedules and 5) promotion of public education and awareness creation which is mostly carried out by civil societies. These measures look very beautiful on paper but their

implementation is ineffective. Community Resource management Programmes are yet to be established in the study area and in terms of compliance to existing regulations, most of the traders had licenses that had expired and had no idea where to go to for a renewal. The hunters had no hunting license though they have heard of it and neither do they have one for possessing fire arms since in most case the guns are rented or inherited. In addition, people will continue to hunt protected species even during the close season because there are no adequate monitoring systems in place.

Finally, the activities of the Centre for Biodiversity Utilization and Development in the development and training of people in the acquisition of skills in the production of alternative wildlife resources such as grasscutter, snails, and indigenous leafy vegetables has been identified by the study as an important way of sustaining livelihoods that depend on the bushmeat trade. This is because it could promote an all year round production of the favourite bushmeat of consumers (grasscutter) and diversify the income generating activities of the people by engaging them in the production of other wildlife products. In addition, the training and acquisition of skills in the production of these products has provided jobs for many unemployed youths, people living in mining enclaves and promoting biodiversity conservation in Globally Significant Biodiversity Areas.

With these findings it could be said that the objectives of the study has been achieved.

7.3 Conclusion

The act of hunting and gathering of wildlife resources for home consumption is as ancient as mankind but it has moved from a state of being a resource for the household subsistence to an important trade commodity because many people both urban and rural dweller have developed likeness for it due to diverse reasons. In the district, regulations on hunting and the license system instituted by government is not very effective due to inadequate monitoring mechanisms and the inability of the DA to have an office which will see to the issuing of these licenses. Though the DA stated clearly in their development plan that over hunting of animal species is a problem in the district, the activities of the bushmeat traders does not seem to be an issue to the DA.

The bushmeat trading activities in Mankessim and its environs is vibrant. If the issue of youth unemployment, whereby school leavers and people with vocational skills can not find job placements or access credit facilities (due to high lending rates and other barriers) to establish their own businesses, is not tackled, many people will continue to enter into the trade and wildlife management measures might not be very effective.

Finally, as trading activities are going on as smoothly as usual, the fauna resources within the district is not considered to be under any serious threat but the situations where by hunters now move further inland before getting their kill and the assertion by the traders that “the animals used to some time ago than now” points to the fact that these resources are being over exploited and the need to intensify management measures. The bushmeat trade in the district and for that matter the whole of the country will continue as long as consumers continue to have appetite for “the smoked flavoured bushmeat.” Attention should therefore be given to these resources outside protected areas in terms of effective wildlife management measures because, the sustainability of the trade is important to the livelihood production of the people.

7.4 Relation of theories to findings of the study

In chapter two, of this study, the theoretical framework was presented based on the concepts of livelihood and political ecology. In this section, the relation of these concepts to the findings presented in section 7.2 would be assessed.

7.4.1 Accessing and translation of capitals into livelihood strategies

The bushmeat traders in the production of their livelihood activities harnessed the five capitals within various vulnerability contexts. The natural capitals identified were mainly land and fauna resources. Male traders and hunters cultivate these lands on subsistence basis and the availability of wild animals also forms the foundation upon which the bushmeat trade stands.

Physical assets, such as roads, electricity, deep freezers, mobile phones hunting equipments are important to the survival of the trade. Simple farm implements such as cutlasses, hoes axe among others are important in subsistence farming. In addition to these, there are also a

number of credit facilities such as the Social Investment Fund, Community Based Rural Development Project Fund, The Poverty Alleviation Fund, Credits from the Ministry of Food and Agriculture in addition to private funds from the Sinapi Aba Trust and those from friends and family.

Social capital in the form of social network and trust is also very important in the production of livelihood activities of these traders. It helps them in the acquisition of land for farming including the help of family labour and establishment of contacts between their suppliers, and customers and at the same time building of cordial relationships between fellow traders.

In terms of human capital, though most of the respondents do not have formal education, they have improved upon their potentials by learning various trade among them are carpentry, masonry, auto engineering (“fitting”) catering, dressmaking among others. Though they seldom earn cash incomes from these skills because of inadequate demand for them, these are important asset they have acquired for life.

Access to these capitals especially land and fauna resources are modified by local institutions such as land tenure which determines the amount of land that farmers could cultivate and wildlife conservation regulations which prohibits the hunting of certain species, including the institution of the annual close season and the license system. Organizational influence such as environmental education by civil societies, interventions by CBUD and the establishment of CREMAs could improve the availability of fauna resources and trade skills of the people.

Increase demand for bushmeat is a trend that is stimulating the extraction of fauna resources. However, climatic condition such as change in weather especially during the rainy season creates low supply of bushmeat during certain periods. In addition, high lending rates by financial institutions are also hampering the traders’ access to financial capital resulting in their inability to expand their farms.

Bushmeat trading and subsistence farming were identified as the major livelihood activities of the traders. However, the lower vulnerable context within which bushmeat trading

activities take place which includes the ineffective implementation of wildlife regulation coupled with the profitability of the trade enabled the traders to concentrate on it as a major livelihood activity from which they get relatively high and stable income as compared to subsistence farming. In addition to these activities, the cultivation of alternative wildlife products will not only increase the availability of fauna resources as pointed earlier, but also provide the people with diverse livelihood activities which they could pursue on sustainable basis. Increased livelihood activities will reflect stable sustainable incomes as indicated on Figure 7.1.

7.4.2 Ineffective implementation of Wildlife regulations

Though people have been extracting and using fauna resources in unprotected areas for many years no specific attempts were made to regulate their use. It was not until the 1990s when a license system and an annual close season in hunting were institutionalized. Here, 20% of the license fee the DAs collect goes to the Wildlife Department for monitoring and supervision work within the district. Less attention has been given to resources outside protected areas in terms of direct funding by government and donations from foreign institution. Whilst the Wildlife Department has acknowledge the important role these resource play in the social and economic life of rural communities, it is limited in cash funding and human resources to be deployed to unprotected areas where fauna resources abound to ensure that people are adhering to the regulations. Instead of putting in efforts to make sure that existing regulations work, the CREMA programme is now being instituted.

Resources in unprotected areas have been subject to regulations which are very beautiful on paper but ineffectively implemented on the ground. Perhaps, because it is not yet in the priorities of the government, since establishment of protected areas is a global agenda coupled with the recent call for awareness creation on climate change, further attention will be given to securing protected areas leaving people who flout wildlife regulations in unprotected areas to go unnoticed which could result in the unsustainable use of these resources with implications for livelihoods that are dependent on them.

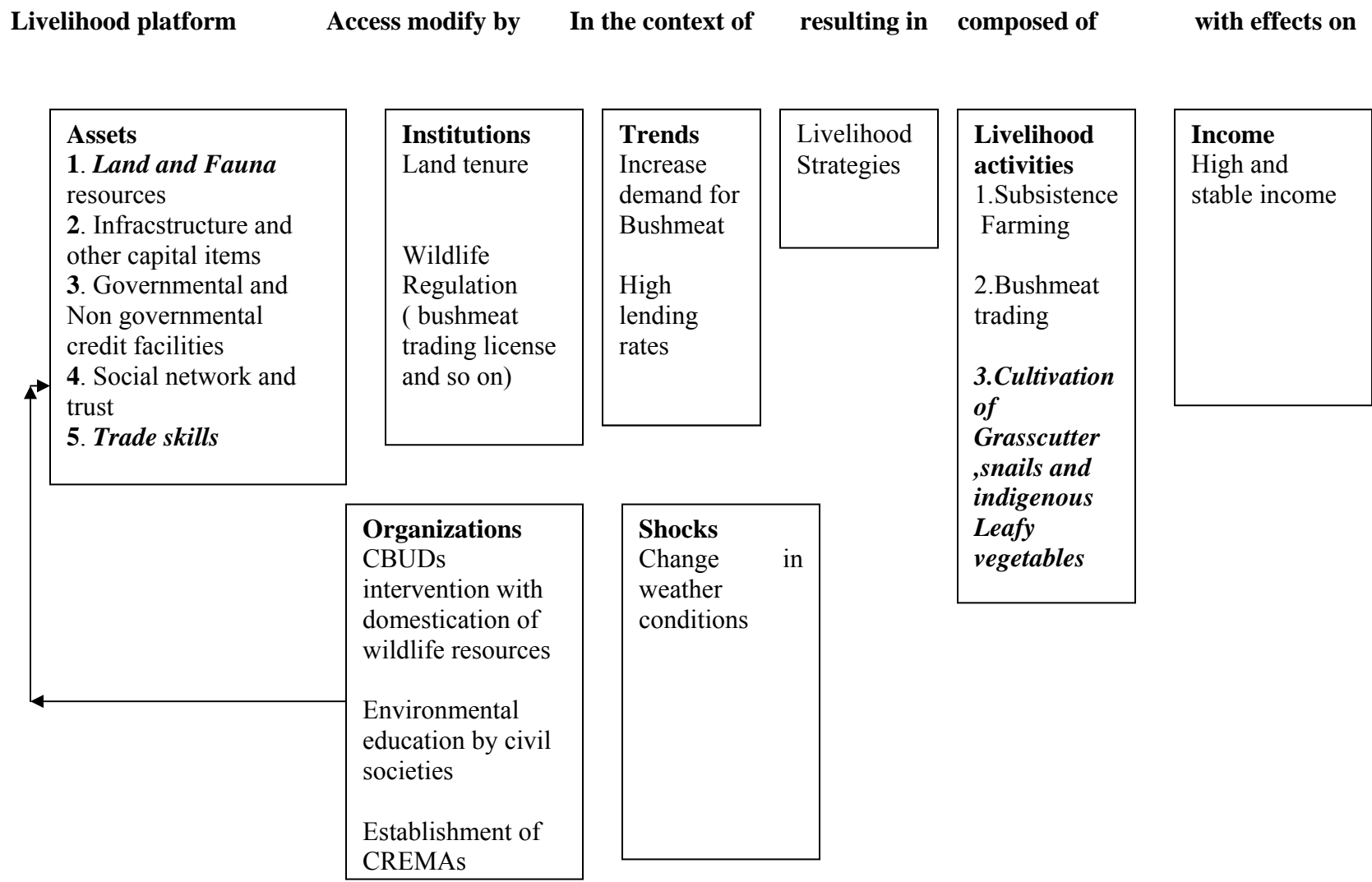


Figure 7.1 Adapted framework for micro analysis of rural livelihoods

7.5 The geographical dimensions of the study

The study falls within the broad category of Human Geography and in specific terms Cultural Geography and Ecogeography. According to Holt-Jensen (2000), Cultural Geography focuses on the material and non material aspects of human culture. Culture is the totality transmitted behaviour patterns, arts, beliefs, institutions and all other products of human works and thoughts (www.answers.com/topic/culture). Cultural Geography studies these elements of people's way of life. The study focused on the process where by people produces their livelihood around the bush meat trade. It was concerned with how wild animals are extracted, processed and sold. It also dealt with the crop production aspects of the people's lives and how it also contributes to their means of living.

In addition to the above, the study was also concerned with the probable consequences of the unsustainable extraction of wildlife resources as people continue to produce their means of living, and what the human society is doing to mitigate these negative effects. This is in the study of Ecogeography which is focuses on the interactions between man and the natural environment.

Furthermore geography is concerned with locations and the studies of phenomena are usually within clearly defined geographical areas. The study satisfies this by stating clearly the absolute and relative locations of the area within which the study was conducted.

7.6 Recommendations

Before I make any recommendations, it is important to present the views and suggestions of some interested parties on how the bushmeat trade could be sustained. These are traders, hunters and civil societies

7.6.1 Suggestions on the sustainability of the bushmeat trade

7.6.1.1 By traders (male and female)

As the livelihoods of many of the traders depend on the sustainability of the trade, their suggestions are important. Most of them acknowledged the fact that, the use of chemical

substances in hunting is hazardous to human health and destroys younger animals that are not desirable by consumers. Since most of these animals are shot after being killed with these chemical substances (in order not to make traders and consumers suspicious) they pointed out that, it is not easy for them to distinguish between the animals killed the “proper” way and those killed with chemicals. They will welcome any attempt by the DA to provide them with education in distinguishing between these two different sets of carcasses.

They also have concerns about the irregularity in the supply of animals due to variations in season and other reasons they could not explain. They suggested that the DA should take steps to introduce them to the domestication of grasscutter which could promote an all year round supply of bushmeat.

7.6.1.2 By hunters

There is ready market for bushmeat and the cash from the proceeds play an important role in their lives. It is therefore important to find ways and means through which this could be sustained. Though most of the hunters spoken to could not make any concrete suggestions as to what should be done, one of them suggested that, if they could have access to credit facilities such that they can expand their farms, hunters will not strive to kill as many animals as possible at a time for more income.

7.6.2 By civil societies

Many of the bushmeat traders think when we talk about the need to protect and conserve our animal resources, we are trying to crash their livelihood supports. It is important for them to identify that we are not asking them to stop the trade but how we can all come together to find ways of making it sustainable. I suggest we re-institute the traditional totems which prevents the killing of certain species within particular traditional areas. In most cases, traditional rules when properly instituted are effective.

Official, Conservation International, Ghana

In addition to the suggestions above, I would make suggestions on three issues and these are that;

1) The system of issuing license to trader and hunters seems to be a good idea. It will be important for the Mfantseman district assembly to have a well established office where traders could access these licenses. In addition, traders should be asked to provide information on the source of their supplies when applying for licenses and this should be updated any time licenses are re renewed. This will be useful in identifying areas in the district where intensive hunting is done such that intervention measures will be effective

2) It was established that, people saw the trade in bush meat as an opportunity to make ends meet. It will be important for the DA to take seriously the issue of job creation for the youth. People who complete vocational training should be properly set up. This could reduce the incidence of young people entering in to the trade.

3) Finally, many people in the district depend on the hunting and selling of bush meat in making a living. Issues of conservation fauna resources are not yet a priority of the DA. Perhaps it is due to the fact that, people are hunting from unprotected areas. But if measures are not taken to manage these resources, the livelihoods that depend on them will be at stake.

7.7 Area of further research

It was pointed out in earlier presentations that, the institution of the CREMA programme is a new development in the Wildlife Department's quest to promote sustainable utilization of wildlife resources outside protected areas. It will be interesting and useful if the impact of this programme on the sustainable use of fauna resources is assessed.

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Appendix

Appendix 1

Interview Guide

1. Social and economic background of hunters, wholesalers and chopbar owners

Formal Education	Basic(Primary-J.S.S)	Secondary	Tertiary				
Informal Skills	Cloth making	Hair dressing	Sewing	Carpentry	Masonry	Mechanic	Other
No. of people in household	2	4	6	8	10	12	More than 12
No. in School	2	4	6	8	10	12	More than 12
No. in any form of skill training	2	4	6	8	10	12	More than 12

Hunters

- Any additional income generating activity apart from hunting
- What other job do you do apart from hunting
- How did you acquire the land for farming and what do you cultivate
- Would you like to expand your farm
- What credit facilities can you access in this district
- How much did you earn from sales of your crops last year
- Have you learnt any trade
- How do you become a hunter
- What type of animals do you kill and how do you kill them
- Do you pay anything to landlords for hunting on their property
- How much do you earn from hunting(in a week)
- Do you have a hunters association
- Do you receive any form of environmental education?
- Are you aware that there is a period when there is a ban on hunting
- Do you have a hunting license
- Do you think the bushmeat trade is affecting the availability of animals?
- What problems do you face in your hunting activities

Wholesalers

- Where and how do you get your carcasses
- What type of animals do you sell
- What other income generating activity do you apart from this trade
- How much did you earn from your sales last week
- What is your spouse occupation
- Are you aware that there is a period when there is a ban on hunting
- Do you have a bushmeat trading license
- Do you have an association
- Do you get periodic environmental education
- Have you learnt any trade skills
- Any desire for the expansion of business
- Which credit facilities will you access if you need money to expand
- Problems encountered during the acquisition and sale of meat
- Opinion about the bushmeat trade compared to now compared to previous years

Chop bar owners

- What protein sources are served here and which one customers prefer
- What types of bushmeat are usually preferred by your customers
- Where and how do you get your carcasses
- Types of bushmeat usually bought for business
- How regular is your supply of bush meat from it source
- Are you aware of a period when there is a ban on hunting
- Do you have a bushmeat trading license
- Do you have any trade skills
- Any desire for the expansion of business
- Which credit facilities will you access if you need money to expand
- How will the business will be affected if bushmeat is not served
- What problems do you encounter in your acquisition of carcasses
- Opinion about the supply of bushmeat compared to previous years
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Centre for Biodiversity Utilization and Development

- The importance of this centre
- Their view on the current state of extraction of fauna resources
- What the centre is doing in terms of the provision of alternative wildlife resources
- How they disseminate information and new technologies to local people
- What challenges do they face and what is their hope for the future

The Wild life Department

- The importance of this department
- Their concern about the bushmeat trade(how it has affected animal population)
- Which animals are endangered and what they are doing to protect
- The importance of the close season of hunting and any other regulation and what the outfit is doing to for people to comply
- Which types of animals could be hunted without restriction and why
- What challenges is the outfit facing in order to control over exploitation of animal

Conservation International Ghana

- What are the concerns of the organization about the bushmeat trade
- That are the activities of the organization in this area
- What are your future plans concerning ways to make the bushmeat trade a sustainable one

Appendix 2

Questionnaire for Consumers

The questionnaire below is for a Masters of Philosophy (Development Studies) student. As part of the programme, a research is being conducted on; *the bushmeat trade, livelihood securities and alternative wildlife resources: a study of Mankessim and its environs*. She would be grateful if this questionnaire could be completed with the correct information. Information provided would be treated as confidential

Social Background

Sex: Male Female

Age

Occupation:

Marital status: Married Single Divorced

Educational level: Basic education Secondary Tertiary

Choices of bushmeat

1. a. When given the chance to choose between these protein diets: chicken, beef, fish and bushmeat, which one will be your 1st, 2nd, 3rd and 4th choice

Beef Chicken Fish Bush Meat

- b. Please give reasons for your choices.

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- a. What type of bush meat do you like?

Monkey Grasscutter Antelope Bay Duiker Bush Buck
 (Akrantie) (Adowa) (Odabo)
 Red Duiker Maxwell Duiker Tortoise Yellow back Duiker.
 (Kabonkye) (Otwe) (Okwadu)
 Others

b. Any reason for your choice?

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Access to Bush Meat

2. a. Where do you usually get your bushmeat?

Chop bars Smoked one from the market Fresh kill by the road
 Self hunted

b. Do you sometimes find it difficult to get your favorite meat from the source above

Yes No

c. Do you think meat from your source in 2a is cheap compared to the sources?

Yes No

Please give reasons for your answer

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3. a. How often do you eat bushmeat

Everyday Weekends Occasionally Other

b. Why do you eat bushmeat during the time chosen above?

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.....
.....

c. When given a choice, will you alter the times that you take bushmeat?

Yes. No

Please give reasons for your answer.....

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Acceptance of interventions

4. If animals in the wild are domesticated would you prefer them to those killed in the wild

Yes No

Give reasons for your answer.....

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.....

5. If only one type of animal is permitted to be hunted, will that affect your demand for bushmeat?

Yes No

Please give reasons for your answer

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Awareness of rules and regulations

6. Do you know there is a law prohibiting hunting during certain periods of the year

Yes

No

7. a. Are you aware of any other regulation concerning the hunting and sale of animals

Yes

No

b. If yes, could you please mention it?

.....

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Opinions about the bushmeat trade

8. Do you think the commoditization of game is affecting animal population in the wild?

Yes

No

If yes, what in your opinion could be done to stop this trend?

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9. a. What in your opinion is the cause to the commoditization of game?

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b. What in your opinion could be done to reduce the rate at which animals are hunted for food?

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