

NORWEGIAN UNIVERSITY OF LIFE SCIENCES



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Dedication

To my daughter Wesonno Lorraine Jarawura, God bless you for sacrificing to stay away from mum under one year to enable her come this far in life. You are always God's love. To the Kwoyigah family, I say thank you for standing by me when 'the wind of life' was blowing against me. Most importantly to the Almighty God who made me live to declare His goodness.

Abstract

The thesis studied the nature of institutional arrangement around biofuel production and how this arrangement has shaped the production outcome of biofuel companies and community development. The study was conducted in two communities of the Yendi Municipal Assembly of the Northern Region of Ghana. In this area, a biofuel company called Biofuel Africa Limited has acquired areas of land and cultivated *Jatropha* plantations. A total of 32 informants were interviewed to arrive at information need to answer the research questions. Theoretical propositions of legal framework, property rights and regimes and local norms were used as the bases for analyzing how *jatropha* production could thrive in an environment where there is the lack of substantive renewable energy law. The findings showed that local norms and laws from related fields of agriculture are not enough to regulate biofuel production in the country. The study revealed that legal pluralism creates clashes among various normative systems rather than collaboration in a given economic activity like biofuel production. The findings further revealed that government agencies designated to handle upstream biofuel activities in the country are not effective in their roles except the Environmental Protection Agency.

The findings also revealed that currently biofuel companies are worse off in terms of production as financial support and local people's support are limited. Notwithstanding the challenges that the absence of a renewable energy law has created, biofuel production in the communities has provided employment opportunities resulting in an increase in local people's income thereby improving their living standards. Facilities like dams and grinding mills have also been provided by the company to the local people.

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1 INTRODUCTION

1.1 Background of the study

Issues of climate change have gained political prominence in recent times about how climate change can affect energy consumption and the world economy in the long. Coupled with this is the desire for countries to obtain energy security through the search for alternative means to cope with ever increasing oil and gas prices. One of the proposed alternatives is the use of renewable energy (Jull et al.2007).

The search for alternatives to replace non renewable energy with renewable energy was therefore found in biofuel. Whiles developed countries stand the chance of becoming energy independent and reduce carbon emissions through biofuel, developing countries see it as an opportunity for a new trade in biofuel of which these developing countries are naturally endowed to cultivate biofuel feedstock and to also increase their domestic resilience to oil price shock through domestic biofuel production capacity (Schoneveld 2010).

Biofuels, according to Giampietro et al. (1997) “is any type of liquid or gaseous fuel that can be produced from biomass substrates and that can be used as a (partial) substitute for fossil fuels...” (pp. 587) Common examples are ethanol, methanol, and biodiesel. According to Antwi et al (2010), ethanol and biodiesel have been the two major liquid biofuel reported to have exceeded 53 million litres in 2007 up by about 43 per cent from 2005. Ethanol alcohol according to Giampietro et al. (1997) can be obtained by yeast- or bacteria-mediated fermentation of sugar crops, such as sugar-cane, sugar beet, and sweet sorghum, or of starchy crops, such as corn and cassava whiles biodiesel can be obtained from oil crops such as soya bean, rapeseed, sunflower and palm. Biodiesel is with the European Union, the United State of America and Canada even though the United State of America is also into ethanol (Jumbe et al. (2009). Brazil is a country noted to have one of the oldest and most competitive biofuel sectors dating back to the 1970s where ethanol is derived from sugar can (Schoneveld 2010). In Africa, Malawi is counted among the few countries to have history about biofuel. The country produces bio-ethanol from sugar cane molasses since the early 1980s. Countries like India and some African countries such as Ethiopia, Ghana, Kenya, Malawi, South Africa and Zimbabwe have also started using jatropha to provide fuel.

1.2 Problem statement

It is realised that most countries in Sub Saharan Africa still do not have clear policies for renewable energy development, with some depending on existing policies which cut across different government sectors making the coordination of roles in renewable energy development very difficult. “In the past, attempts to nurture new industries have failed to yield the desired result because there has been clear framework which allocated the requisite mandates to the relevant institutions. This led to duplication of efforts and lack of direction” (Energy Commission 2010, Pp.21).

As noted by Jull et al. (2009), even weak institutional provisions can hinder the development of the bioenergy sector and act as a disincentive for private investors or entrepreneurs wishing to join the sector. They further added that ‘law is an important tool for mediating otherwise intractable regulatory problems, including tensions between development of the fledgling sector and other issues such as environmental management, economic development and food security’ (pp.15). According to Schoneveld et al. (2010) about 1.1 million hectares of lands mostly used for *Jatropha* plantations have already been acquired by biofuel investors without any government incentives or regulations targeting biofuel development. (Schoneveld et al 2010).

Ghana is yet to have a renewable energy law. However, a draft law on renewable energy has been passed in November 2011 by parliament but yet to be signed by the president of the country (Energy Commission 2012). This implies that up to date biofuel activities have been done without any legislative backing. The country does not have a central institution within the energy sector capacitated to manage the approval or enforcement of national regulatory requirements. This problem is widely noticed and lamented in the country’s Energy Ministry. The absence of such a law has made some communities have their lands destroyed (the vegetation cover of such lands stripped) or taken over completely by foreign companies without any proper compensation. For instance the people of Alipe near Kusawgu in the Northern Region had the vegetation of large stretch of land destroyed by Biofuel Africa Limited without any compensation¹. It took the efforts of Bakari Nyari, Vice Chairman of the Regional Advisory and Information Network Systems (RAINS), and a member of the Ghana and African Biodiversity Network Steering Committee and some team members to bring such a menace to the public domain. However the company was never punished for deforesting the land and also for not compensating the local people.

¹ www.biofuelwatch.org.uk

This study intends to gain an in-depth knowledge of how the absence of a renewable energy (biofuel) law is affecting biofuel activities in the country. An additional purpose is to look at the extent to which these institutions such as conventions and norms (informal laws) in the Ghanaian society protect local people interests and reduce conflicts regarding the use of land for jatropha (a non edible crop) which competes for land with food crops. The study focuses on jatropha Curcas production in the Northern Region of Ghana where jatropha plantations are created by a Norwegian biofuel company called Biofuel Africa.

1.3 Objectives

The thesis has two main objectives

- To identify the informal regulatory structures at the community level that deal with natural resources management and sharing of benefits thereafter.

I will examine norms, conventions and other arrangements that guide the use of resources especially land for farming. In Ghana, norms play a crucial role in guiding behaviour and code of conduct. They are observed alongside formal rules and where the later is absent the former takes a centre stage since they are even old and traditional. This information is necessary as it will determine whether there is the need for renewable energy law in the country. This objective also invariably measures the enforcement capacity of local norms in regulating behaviour.

- To identify the consequences of the absence of renewable energy law in the country using Biofuel Africa Plantation as a case study.

This objective aims at investigating the impacts of the absence of a renewable energy law on both biofuel companies and the local people. A situation where there are no formal legislative instruments put in place to streamline activities, cases of conflicting interests among various but different actors involved may arise. This objective is very crucial since it will provide information by way of suggesting the need for this law and the fundamentals that need to be defined in the content of such a law.

1.4 Structure of thesis

The thesis is divided into 6 (six) chapters. The first chapter provides background information about the topic of the thesis. The thesis has two broad objectives under which a brief explanation will be made for each. The second chapter talks of the profile of the study Municipality. Issues of physical, social and demographic characteristics of the area will be shown here. Chapter three makes available information about the approach to the study of the thesis topic. In this case, a qualitative dimension is adopted. Data collection methods and procedures as well ethical issues are among those to also be discussed here. Chapter four captures exiting literature about biofuel globally and in Ghana in particular. This will provide me with some information about what has been done elsewhere regarding biofuel. It will also serve as a yardstick against which I can measure my study objectives. Chapter five is the core of the research. This discusses the norms of biofuel communities in the Northern Region. It provides an insight into what the local people perceive about their relationship with biofuel companies. The profile of the study area in chapter two will provide background information for understanding how the local people codify rules to ensure the judicious use of local resources. The last chapter provides a summary of the research findings. It further makes suggestions by way of recommending on what could be done to ensuring a win-win gain by both local communities and the biofuel companies.

2 PROFILE OF THE STUDY AREAS

This chapter examines the physical, climatic, socio-economic, political characteristics and other related but relevant conditions that are peculiar with the study communities. These conditions constituted the factors for the location of a biofuel plantation in the Northern Region of Ghana.

2.1 Physical and socio-economic characteristics

This depicts the physical, geographical and social characteristics of the municipality. This has a bearing on the conditions that influenced the choice or the location of the site of the jatropha plantations. For instance, the availability of natural resources like land and cheap human labour on one hand and social factors such as norms and conventions on the other hand.

2.1.1 Location of the municipality

The municipality is located in the eastern corridor of the Northern Region of the Republic of Ghana between Latitude $9^{\circ} - 35^{\circ}$ North and $0^{\circ} - 30^{\circ}$ West and $0^{\circ} - 15^{\circ}$ East. The Greenwich Meridian thus passes through a number of settlements – Yendi, Bago, Laatam, Lumpua, Gbetobu, Gbungbaliga and Nakpachei. The municipal shares boundaries with 9 districts; Saboba, Chereponi and Zabzugu/Tatale districts to the east, to the south are Nanumba and East Gonja. To the west are Tamale Municipality and Savelugu/Nanton and to the north are the Gusheigu and Karaga districts.

In terms of size, the municipality is ranked sixth (6th) in the Region in terms of surface area with a land mass of 5350sqkm.

2.1.2 Demography

According to the 2000 Population and Housing Census (PHC), the population of the municipality is 133,145. Various ethnic groups make up for the population of the municipality with the Dagomba ethnic group constituting the majority. The other ethnic groups include Konkomba, Akan, Ewe, Basare, Chokosi, Hausa and Moshie. The population is largely rural, with about 62% living in the rural areas while 37.4% are in towns. The population growth

rate is approximately 2.9% per annum. The main religious groupings are Moslems, Christians and Traditionalists.

2.1.3 Political characteristics of the municipality

The Yendi Municipal Assembly was established in 1988 by PNDC Law 207, Act 462, and LI 1443. The Municipal Assembly (MA) was elevated to a Municipality in 2007. The Municipality is one of the Forty (40) Municipal Assemblies in the country and the only Municipality in the Northern Region. The Municipality is the capital of the Dagbon Kingdom and the seat of the Ya -Na the Over Lord of Dagbon².

The Municipal Assembly is made up of one Urban council and five(5) Zonal Councils; Yendi Urban Council, Kpabia Area Council, Jimle Area Council, Malzeri Area council, Gbungbaliga Area Council and Sang Area Council. The Municipal Assembly has 57 unit committees. There is supposed to be an update about the number of unit committees in the municipality but has not yet been done.

2.1.4 Climate and vegetation

Mean annual rainfall for the municipality is (January-December) 1,125mm. Mean wet season rainfall for the municipality is (April-October) 1,150mm. Mean dry season rainfall (November – March) 75mm. Mean annual deficit is between 500mm and 600mm. Rainfall is seasonal and unreliable. Temperature ranges between 21⁰C – 36⁰C giving rise to high temperature range. The vegetation is of the tree savannah type in areas not affected by settlements and farming activities. The degraded savannah type of vegetation is found around settlements and heavily cultivated areas. The rampant and extensive bush burning is having a marked effect on the vegetation and consequently the climate. High temperatures make the environment uncomfortable for both biotic and a biotic organisms to function effectively. Economic trees in the municipality include ubiquitous Shea trees, dawadawa, mango and cashew.

2.1.5 Soil

Basically, sedimentary rocks of predominantly volcanic sandstone, shale and mudstones are found in the municipality. The soils derived from the above per cent materials range from laterite, ochrosols, sandy soils, alluvial soils and clay. The organic content is low and is

² www.ghanadistricts.com

increasingly worsened by the extensive bush burning and bad agricultural practices. This to a large extent accounts for the low yield per acre and its consequent food shortage during the dry or lean season in the municipality.

2.1.6 Current economy of the municipality

The Economy of the people is largely subsistence with Agriculture being their main occupation. Over 80% of the people depend on Agriculture for their livelihood. Out of the total land area of 535,000 hectares, arable land constitutes 481,000 hectares out of which only 15% is under cultivation (Yendi Municipal Assembly 2011)

Other economic activities include weaving, agro-processing (Shea butter extraction), meat processing, fish mongering, wholesale and retail of general goods, transport and many others. These activities are on a medium and small scale (Yendi Municipal Assembly 2011)

The potential of the Municipality in Agriculture is enormous. The land is suitable for the cultivation of cereals, tubers and rearing of animals. Animals reared include cattle, sheep, goats, pigs and poultry birds for domestic and commercial purposes.

A good number of the populace is engaged in small scale manufacturing business. They include smock weavers, blacksmiths, bakers, mechanics, Shea butter extraction and groundnut oil extraction.

2.2 Infrastructure distribution

The infrastructure development of the municipality is quite minimal. The Yendi township as a major urban settlement saps the energy of the other settlements. Consequently most of the infrastructure is skewed towards Yendi to the disadvantage of other settlements

2.2.1 Roads

The municipality is endowed with a total of three hundred and eighty-six kilometres (386km) road network. The municipality road network consists of fifty-seven kilometres (57km) major roads (first class roads) one hundred and forty-six kilometres (146km) secondary roads and one hundred and eighty-three kilometres (183km) feeder roads (second-class roads).

2.2.2 Health Facilities

The municipality has a government hospital located in Yendi and five (5) health centres located at Bunbonayili, Gnani, Adibo, Sang and Jimle. The municipality has four (4) other Community Health and Planning Services (CHPS) at Sunson, Dabogni, Kuni and Bofoyili.

2.2.3 Electricity

The Yendi Township in addition to Gbungbaliga, Adibo, Sang, Sambu, Gnani, Tusani, Sunson, Nakpachei, Zang, Malzeri and Gukpegu has been connected to the National Electricity Grid.

2.2.4 Water

Water supply in the Yendi Township is from the Ghana Water Company Limited (GECL) plant. Three hundred and fifteen (315) boreholes have been installed in one hundred and sixty-four (164) communities. There are plans by NGOs, NORPREP, CBRDP, UNICEF and the Church of Christ to provide more water points. NORWASP is also to provide spare parts for rehabilitation of broken down boreholes.

2.2.5 Post and Telecommunications

The district has a post office located at Yendi. The district is connected to the analog telephone system but bedevilled with frequent cuts in the lines. The services of private cellular phone companies such as MTN, OneTouch and Tigo help to complement the Ghana Telecom's services.

2.2.6 Schools

The municipality has the following educational facilities, thirty-four (34) Early Childhood Centre's, one hundred and seven (107) Primary Schools, twenty-three (23) Junior High Schools, two (2) Senior High Schools and one (1) Vocational School. The stakeholders are working hard towards the establishment of a Nurses and Teacher training colleges.

2.2.7 Banking

There are two banking institutions both in the Yendi town. These are branches of the Ghana Commercial Bank Limited (GCB) and Bonzali Rural Bank Limited. The Agriculture Development Bank Ltd. (ADB) has acquired a place to develop and re-establish a branch in Yendi town.

2.2.8 Market

The municipality has twelve (12) markets located at Yendi, Bunbonayili, Sang, Kpabia, Ghani, Nakpachei, Adibo, Sambu, Sakpe, Gbungbaliga, Nadundo and Jimle.

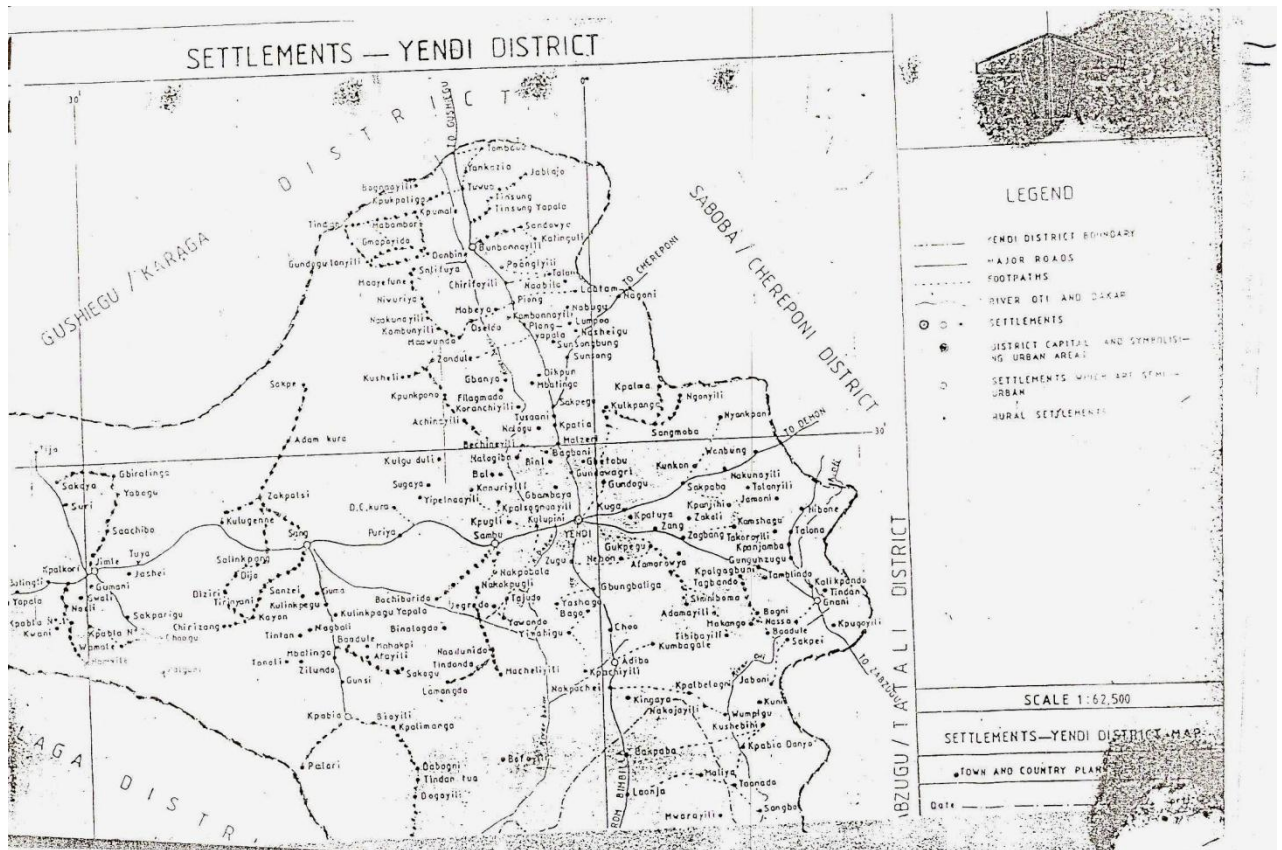


Figure 1: Map of Yendi Municipality

Source: Yendi Munnicipal Assembly

3 METHODOLOGY

This chapter discusses the methods that were employed in gathering the data for the study. The reason for the choice of the study areas will be explained here with the procedures and guidelines that were observed before, during and after factored in here also. The rationale for adopting a qualitative approach to conducting the study will be elaborated in this chapter too.

3.1 Choice of methodology

Those steps that a researcher follows in studying scientifically a research problem such as the research methods, techniques and the reasons for the choice of such methods are what constitute a methodology (Kothari 2004). The choice of the methodology therefore serves as a foundation upon which the research is placed and the lens for viewing the research problem.

Bailey (2007) sees methodology as not only the techniques for data collection but also includes the entire research, the decision of whether to tackle the research problem in quantitative or qualitative terms. Drawing from Morse and Richards (2002) who sees qualitative methods useful in understanding both sides of a controversial issue in a political or social situation by simplifying the given situation without tempering with its complexity and context, I approached the research from a qualitative perspective. This is because, biofuel activities especially in developing countries such as Ghana has attracted various discussions and debates in all fields of human endeavours. Whiles some view biofuel activities in developing countries as a panacea to improving living standards (poverty alleviation and local development) and promoting sound environmental and climatic condition by way of extracting carbon emissions from non renewable energy sources, others think that issues of food insecurity where arable land will be lost to biofuel crops will emerge. This I think will allow me analyse the biofuel situation in relations to general living conditions at the community level, if a qualitative approach is adopted.

3.2 The study areas

They study was conducted in two communities in the Yendi Municipality. These are Kpaacha and Chaase. These are communities which are about 4 km apart but host the biofuel plantations of Biofuel Africa. Both communities have their own divisional chiefs but are under the Tijo-Naa who is a sub chief. Both communities are made of people of the Dagomba ethnic group. These communities are also agrarian communities which are endowed with vast areas of land. Each of the two communities is 2 km far from the Tamale-Yendi road. The sites of the biofuel plantation are also close to this road. A population of about 500 make up for each research community. Mixed farming is the predominant economic activity of the people.

My choice of these two communities was influenced by the following; firstly both communities are agrarian in nature and endowed with vast areas of lands suitable for commercial agriculture but not much have been achieved in traditional farming. For instance agriculture in the northern part of the country is largely rain-fed, with traditional systems of farming still prevalent in this part, there is also poor technology with irrigation potentials still remaining untapped (Wolter, 2008). Therefore, a private company with the capacity to undertake such a venture in agriculture in that location was therefore welcome by the people.

Another influencing factor for the choice of the communities is that these communities host the jatropha plantations owned by Biofuel Africa, the first time a foreign investment in agriculture has been introduced in their areas of jurisdiction. Furthermore, the thesis intend to explore reasons why the people of such communities have agreed to lease out their lands to Biofuel Africa despite cases of conflict over land use for jatropha cultivation in other communities in the region (Bakari Nyari of RAINS)³.

Land acquisition in the study communities for jatropha production followed similar procedures as discussed by Schoneveld et al (2010). They noted in their study of biofuel production in the Ashanti and Brong Ahafo Regions that lands were acquired under customary tenure with companies directly engaged with Traditional Authorities who are the custodians of the land according to Customary Law and make decisions regarding land allocations in their jurisdictions. “..Traditional Authorities lease areas of land to companies for a period of between 25 and 50 years. While some companies opt for the payment of a yearly lease, other companies enter into profit-sharing agreements. Most companies also make

³ www.biofuelwatch.org.uk

(often unwritten) promises of social infrastructure, such as improved roads, boreholes, schools, and medical facilities” (Schoneveld 2010, pp.4)

3.3 Data collection process

Both women and men from both communities were included as informants for data collection. Group interviews were conducted with groups formed based on sex. The study communities are patriarchal in nature with men wielding power over women when it comes to decision making, general discussions of an issue or information sharing. Here, it is believed that the woman’s place is in the kitchen and therefore has no right to sit among men for discussion. Women are seldom seen among men during gatherings or discussions platform. To allow the women also talk, I therefore decided to group them separately not to violate any custom and to also allow them express themselves freely with fear. Recruitment to the groups was based on free consent. Key informants in the area include the chiefs of Chaase, Kpaacha and Tijo. Interviews were conducted at open places (under a tree) for the ordinary people while the chiefs were interviewed at their various palaces. The local manager of Biofuel Africa who resides in Tamale was interviewed there as the country. Before going for the data collection I contacted Steiner Kolnes, the country director of Biofuel Africa Limited via Emails to make appointment to interview him. He however directed me to Mr Adam Awal who he believe will be able to furnish me with the necessary information that I need. The security person who serves as the care taker of the plantations was interviewed at the site of the plantation. Other key informants include the District Planning Officer, an officer at the Ministry of Agriculture at the regional level, the regional Director of Environmental Protection Agency (EPA), an officer at the Energy Commission and an officer at Regional Lands Commission

3.3.1 Gaining entry

Entry into the community of study is one of the major and critical issues which contribute to defining the quality and quantity of one’s research data. A successful community entry has the potentials of granting a researcher large chunk of information within a short period of time and vice versa. Bailey (2007) defined community entry as a complicated process and the channel through which one can negotiate entry which contributes to defining the research outcome. In entering into the research community, there are gatekeepers who wield enormous power regarding the identification of one’s informants. They may be multiple and the researcher’s relationship with them has long effects on the flow of information seeking. The gatekeepers in my research include; the chiefs of the two study communities, the linguists, elders and the security person at the *jatropha curcas* plantation site.

I entered into the two communities with a trained researcher to assist me especially with the interpretation of the language and to assist me with research skills to gather quality data. He has worked as field researcher with institutes such as Overseas Development Institute and Centre for Democratic Development (Tamale, Ghana) and also being a Research Assistant at University of Ghana, Legon. I chose a man because in the northern part of Ghana women are considered to be less heard before men and this means that even without the language barrier, I could not have chosen a woman. There is a power imbalance between men and women with the former wielding much power and exercise control over all processes. The plantation at Kpaacha is by the Tamale-Yendi road side with a security point created there for the security person. It was easy locating him. I introduced myself as Ghanaian student studying in Norway which as part of studies ought to conduct a field work in on a topic related to my area of study to write up a master thesis. I also introduced John-Kwose Emmanuel as someone to assist me. The security man then showed us direction to the chief palace. We were able to meet the Chief of Kpaacha on the second day because our first visit was greeted with a wild bush fire near the community farms which compelled almost every male adult including the chief to rush to the farms to check on their stored farm produce. We firstly removed our foot wears before entering the hut and then greeted him by lying prostate on the floor of the hut (the researcher assisting me is familiar with the culture). He then ordered us to rise and sit. As custom demands, we were supposed to present Kola nuts to him before we could talk but we did not have Kola nut with us so we were asked to give out money as a replacement of the cola nut which we gave 5 Ghanaian Cedi. I then started my introducing myself with the researcher to assist to me. I also explain the topic of the study and why I chose his community. The chief then asked us where we come from in Ghana which we answered. The intern view process then began.

The topic of the research was made known as I explained to the security man at the jatropha plantation site; however the chief was initially reluctant to open up for fear of security reasons between him and the Tijo-Naa. We assured him of confidentiality of information and he finally agreed to respond to our questions. He was interviewed and with his help, the groups were also formed for interviews. This was on another day.

At Chaase, the entry into the community started with the chief. Based on experience by John-Kwose Emmanuel that in Dagbon, the house with the biggest mud hut is usually the chief's palace, we were able to easily locate the palace without asking anyone. It is also strategically located- the first house upon entering the village. The chief is very old and was

not healthy enough to answer all our questions. So his son, wife and the chief's spokesperson supported him respond to the questions. The entry procedures observed at the Kpaacha-naa's palace are also repeated here because both communities are Dagombas with the same culture. I then started my introducing myself with the researcher to assist to me. I also explain the topic of the study and why I chose his community. This chief also asked us where we come from in Ghana which we answered. The interview process then began.

As a researcher, I think that I was treated fairly by the community. Though as a female, I was given the maximum attention that I deserve. Questions were fairly answered as no questions was rejected or shallowly treated by the informants. The chief of Kpaacha-naa to my surprised corrected a statement I made about the negative consequences that the company brought upon the community. He stated that the company came with good intentions but some leaders and elites of the communities sabotaged the company's efforts. I was impressed by this. The Kpaacha-naa then asked me about my perception about the company's origin (just to confirm) and the contributions of Norwegians towards development in Africa since I am schooling in Norway. The interviews in the communities were opportunities for me to interact and exchange knowledge with the local people and to have some misconceptions cleared between myself and the people about the Biofuel Africa Limited.

3.3.2 Methods of data collection

To arrive at information capable of answering my research objectives, I chose to use various methods to gather the information. It must be noted that I blended both primary data with secondary data to address the topic. This implied that I visited both primary and secondary data sources. Within the category of primary data sources, I used focus group discussion, key and individual interviews of both men and women in the community, and key informants. Observation was also used.

Observation

The use of observation is very fundamental in most researches. It helps arrive at information about the physical state of an object or any matter under study. Marshall and Rossman (2007) see observation as a way of noting and recording systematically events, behaviour and artefacts in the social setting for a study. Kothari (2005) mentioned that Observation as a method is useful in research since it saves time and resources since it is carried out independent of informants willingness to respond.

Observation was in the research was used at the jatropha plantation sites to get some information about the physical states of the plantations. The state of conditions of farm implements and farm structures (farms steads) were observed. I took a walk round the plantations but could not cover the total length because of its size. For instance, from the observation, it yielded that the state of the plantations are bad as almost all the jatropha plants were burnt by wild fire. Farm implements like tractors, combined harvesters were seen with broken parts and left standing at the plantations. The general picture about the plantations depicted a place that has been abandoned for some time.

In-depth Interviews

Interviewing is ‘a conversation with a purpose’ (Kahn and Cannell 1957, quoted in Marshal and Rossman 2007). To give informants an ample of time and freedom to choose their responses to the topic, I made the questions semi-structured and open ended. This also ensured that informants who were mostly illiterates had the chance to contribute to the interviews as asked in Dagbane. The individual interviews lasted for 15 minutes. The individual interviews were held at people compounds.

Key informants

Marshall (1996) sees key informant an expert source of information, with this technique originally used in the ethnographic anthropology which has now spread to other realms within social science. More often, people around these people usually regarded as extraordinary and occupy position of responsibility and influence and their positions should be achieved rather than ascribed (Marshall, 1996). From the discussions it is realised that officers from Lands Commissions, Yendi Municipal Assembly, Regional Agricultural Units and the Chiefs of the studied communities make up the key informants in the study. I chose this category of informants because according to Marshall (1996) key informants based on their personal skills, or position within a society are able to provide more information and a deeper insight into what is going on around them. Marshall mentioned that such people’s positions are achieved but I think that chiefs in the study communities are key informants though their positions are ascribed (according to their culture), have special knowledge about their communities relevant to the research topic

During the interviews of these people, all of them chose to discuss the questions face to face with me except the officer at EPA who choose to administer the questions himself and wrote down the questions in the spaces provided. The chiefs of the study communities are illiterates

so I decided to read out the questions to them but officers at the Municipal Assembly, Lands Commission's and Energy commission decided that they will like to be interviewed instead of self administering the questionnaire, so I gave them the chance. The reason being they had no other time to answer the questions and they will prefer that I facilitate the process by asking the questions and noting down their responses.

Focussed group

This was another method that I used in arriving at the data. According to Bryman (2001), focus group is a form of group interview (because it involves more than one interviewee), with an emphasis placed on a fairly tightly defined topic with importance attached to the interaction within the group and the construction of meaning. May (2001) mentioned that the main difference between group interviews and focus group is that during focus group discussions, participants are motivated to talk to one another as opposed to answering questions of each person in turn. Bryman (2007) argued that focus group allows for people who have certain experience to be interviewed in a relatively unstructured way about their experiences. He added that the focus group offers the researcher with the opportunity to study the ways by which individuals collectively make sense out of a phenomenon and construct meaning around it. Aside these, interviewees in a focus group are also challenged by others through arguments and this makes available information to the researcher which may be hidden during conventional one-on-one interviews.

I used this method as a way of getting more information about the topic and to also confirm or refute some of the responses made during the one-on-one interviews. Women were grouped separately from men with 7 members in each group. The chiefs played enormous roles in getting the informants available for me. An announcement was quickly made in the village about the need for men and women who are free and willing to be put into groups to discuss issues related to biofuel production in the communities. The local people quickly gathered ranging from the young to the old. The discussions were held under trees however the individual interviews were held at people compounds

3.4 Ethical considerations

Throughout the various aspects of a research beginning from the selection of the topic to the publication of the research results, ethical considerations are given recognition (Bailey 2007). Ethics are dependent of researcher's values and that have the tendency of influencing

negotiations between the researcher, sponsors, research participants and gatekeepers (May 2001). May (2001) therefore sees ethics as those codes and principles that are shaped around moral behaviour. There is a debate about the importance of ethical consideration in research, as some feel that it is not necessary supporting their stance that the context of the research should determine the need and not necessarily observing or rules in all situations. I decided to identify myself with the deontologists, a category identified by Jackson (1995) and May (2001) as the process of conducting research where a set of principles are held in high esteem. Issues of informed consent, confidentiality and privacy were observed during the data collection and analysis. For instance, I made known my research identity, participants were chosen based on their free will with their consent sought. I am withholding the background information of all informants as this was an issue that even some of the chiefs put forward. Permission was sought from the security officer before I entered inside the plantations.

3.5 Limitations of the research

Security

The study communities are at the hub of a conflict zone in the Northern Region. There is a chieftaincy dispute between 2 sections in Dagbon who rise to the throne of the Yaa-naa who resides in Yendi (the traditional home of all Dagombas). In 2002, the Yaa-naa of Dagomba kingdom was murdered which led to serious conflict in the area. Up to date the heat is still on although efforts have been made to restore peace. There is currently no Yaa-naa (there are still on-going debates about who is qualified to occupy the throne) and this has affected the information needed for the research. The atmosphere of tension also scared me a bit the first day that I found myself in these communities.

Data gap

As at the time that I was gathering the data, efforts were being made to contact Tijo-naa for an interview. I was told that he travelled to Accra. I made series of contacts to get him but proved futile. I left the questions behind with my research assistant to administer in case he is seen around either in Tamale or Accra and returned to Norway. All efforts proved abortive to get him. No person was ready to answer the questions in his absence. He is a major key informant as far as the research work is concerned yet his information could not be obtained. This affected the quality of information gathered as the data analysis was poorly done due to lack of information to compare the views of the people leader/ divisional chiefs with that of

the Tijo-naa (sub chief) concerning some unsatisfactory comments levelled against him by the local people.

Informants	Number
Chiefs	2
Community focus group	14
Individual informants	10
Yendi Municipal Assembly	1
Regional Agricultural unit	1
EPA	1
Lands Commission	1
Local manager of plantations	1
Energy Commission	1
Total	32

Table 1: List of Informants

4 LITERATURE REVIEW

This chapter reviewed the exiting literature about some of the key concepts imbedded in the topic and how studies already conducted and similar to the topic have been treated. The chapter also identified some of the frameworks and approaches that are useful to discussing the thesis topic.

4.1 Institution

Scott (1995) defines institutions as the “cognitive, normative and regulative structures and activities that provide stability and meaning to social behaviour”. Also, Bromley (1989) referred to institutions as the “rules and conventions of society that facilitate coordination among people regarding their behaviour” (cited in Vatn, 2005. Pp.10). According to Rauf (2009), institutions may mean different things to different people and that the academic literature is no also very clear on its definition. He sees institutions as the rules, regulations, laws and policies that affect economic incentives and thus the incentives to invest in technology, physical capital and human capital. According to Helmke and Levitsky (2004), institutions are the rules and procedures (both formal and informal) that structure social interaction by constraining and enabling actors’ behavior. Following from these definitions, we can broadly define institutions as mechanisms of social structure that govern human behaviour.

It is generally accepted that institutions are of two different types; formal and informal. According to Rauf (2009) Institutions can be formal and as well as informal. Formal institutions can be laws, contracts, political systems, organizations, markets, etc. whereas informal institutions are norms, traditions, customs, value systems, religions and social trends. According to Helmke and Levitsky (2004), it is difficult to clearly state the difference between formal and informal institutions. However, “we define informal institutions as socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels. By contrast, formal institutions are rules and procedures that are created, communicated, and enforced through channels widely accepted as official. This includes state institutions (courts, legislatures, bureaucracies) and state-enforced rules (constitutions, laws, regulations), but also what Robert C. Ellickson calls “organization rules,”

or the official rules that govern organizations such as corporations, political parties, and interest groups” (pp.726).

“Institutions can be viewed both as formal and informal structures. The latter is made up of norms and conventions which help to give meaning to life. They are normally not written down, but highly internalised and almost invisible. In the distribution of resources under the informal structures, kinship ties and social positions play immense roles” (Vatn, 2005. Pp.9). However, formalised rules or structures such as the state, market and firms have grown in both power and influence in recent times. Formalised rules are adequately documented and are backed by significant power of coercion. Here, distribution of resources tends to be more or less based on the ability and willingness to pay (Vatn 2005).

It can be said that institutions play enormous roles in people daily activities regarding the use of resources. Individuals make choices that maximises their utility, and normally they tend to achieve their goals regardless of what happens to others. Therefore institutions that seem to protect the interests of others are normally seen by these individuals as a constraint to achieving their goals if the institutions are shaped to resolve conflicts that arise from the choices made. In this case, conflicts are prevalent and third parties are normally always involved in the process of resolution. In some other cases, coercion is used to elicit obedience. In addition, institutions are seen to be an enabling structure that helps to safeguard the interests of the members of a society. Thus in the case of institutions shaping human perceptions, values, ideals, needs and abilities which lead to rules have been internalised and conflict being at its lowest scale (Vatn 2005). According to Rauf (2009), institutions are employed in economics to reduce transaction cost, this is in the sense that clearly stated and transparent rules coupled with effective market conditions enable smooth business activities and this gives incentives for future investment. Also transparent and clear rules and regulations will ensure that from economic activities will be shared equitably. On informal institutions, Rauf (2009) mentioned that “Informal institutions are responsible for generating social capital; which has been considered as an additional factor of production in recent literature. Social and cultural norms impact the utilization of resources in many ways. People who share a common background, language, culture, and customs can mobilize their resources effectively towards creating positive synergies” (pp.26).

Concerning the general importance of informal institutions, Rauf (2009) stated that usually in most developing countries where the formal institutional architecture is either weak or in poor state, the formal institutions gain prominence for playing a more active role in economic activities. Helmke and Levitsky (2004) share a similar view with Rauf; they say that informal

institutions exist to complete formal institutions. This is because; formal institutions cannot cover all contingencies. In addition to this point, they mentioned that informal institutions may be a “second best” strategy for actors who prefer, but cannot achieve, a formal institutional solution. In some cases, actors simply lack the power to change the formal rules. Furthermore inventing informal institutions may also be a second best strategy where formal institutions exist on paper but are ineffective in practice. For example, actors create informal structures not because they dislike the formal rules, but because the existing rules—and rule-making processes—lack credibility.

On defending the use of informal institutions towards forest management, Pacheco et al. mentioned that although the some scholars often equated the term to chaos and disorganization and associated with illicit behavior such as corruption and clientelism, it is not so. It represents customary property rights or pre existing community rules for managing forest which have not been codified into law.

Institutions often play important roles in resource use as the help define the kinds of property rights that go with a given resource. Thus, there need to examine what property rights and regimes are.

4. 2 Property right and property regimes

According to Vatn (2005), property rights can be referred to the situation of “who has access to which resources or benefit streams and under what conditions” (Pp.253). This has to do with how access to resources is being distributed among members of a given social setting, and the regulations pertaining to its use. According to Anderson and Huggins (2003), property rights are the rules of the game that determine who gets to do what and who must compensate whom if damage is caused. They added that property rights can be formal or informal. This Honore (1961) outlined various conditions under which the rights discussed under Vatn (2005) above can manifest. To begin with is the right to possess the resource which has to do with the physical control over it. The next is the right to use the resource, which implies that others can have access to the other resources located on the said resource, for example, picking of fuel wood and fruits from a forest. Also, there is the right to manage, which means the right to decide how the resource could be put to use, among other things. Furthermore, there is the right to income, which signifies the earnings from the proceeds of the resource. Moreover, the right to capital includes the right to dispose of the resource. And while the right

to security is the immunity from encroachment, transmissibility is the right to transfer the resource into another hand. In addition, there is also the right that forbids the owner to put the resource into a use that would harm others. Finally, the owner of a resource also has the right to use his/her property to settle debt (cited in Vatn 2007).

Linking property rights to institutions (Liebecap 2004) stated that they are social institutions that define or delimit the range of privileges granted to individuals to specific assets, such as parcels of land or water.

On the other hand, a property regime is referred to as “the structure of rights and duties characterising the relationships between individuals with respect to a specific good or benefit stream” (Vatn, 2005. Pp.255). Property regimes are classified into four categories. These are private property which is in the hands of individuals, common property which is co-owned by members of a group, state/public property which is owned and controlled by the state or the public, and open access in which there is no hold on property.

4.3 Legal pluralism

“Wherever there were movement of people, wherever there were empires, where ever religions spanned different languages and cultural groups, wherever there was trade between different groups, or different groups lived side by side, it was inevitable that different bodies of law would operate or overlap within the same social field” (Tamanaha 2008,pp.7)

Hooker and Pospisil, (1979) refer to legal pluralism as the “incorporation or recognition of customary law, norms or institutions within state law”, or as the “independent coexistence of indigenous norms and institutions alongside state law, whether or not officially recognised” (cited in Tamanaha, 2007. Pp.390). This explanation of legal pluralism seems too restrictive in modern times as religious, economic and international aspects have been left out. Thus a more general explanation has been given by Moore (2000), to legal pluralism as “the whole aggregate of governmental and non-governmental norms of social control” (cited in Tamanaha 2007. Pp.394). Legal pluralism, from the above, can be explained as the multiplicity of legal rules binding a given society or group. It is present through all levels of human interaction from the local levels to the global scenes.

Cases of legal pluralism became clearer especially during colonisation. The British colonial administration especially used the indirect rule system in administering their colonies

whereby the colonial officials recognised and used the indigenous conventions and norms alongside that of the colonial authority. (Tamanaha 2008).

However, in some cases these two institutional structures overlap on areas of influence or jurisdiction. The outcome could either be a conflict situation or point of agreement.

According to Tamanaha (2008), a recent wave of legal pluralism is seen in globalization where the sovereign powers of states are changing. He noted that as a result of globalization, states are giving up some of their sovereign powers to control their affairs in certain economic, political and legal respects subjecting themselves to a higher authority. There is also the diminishment of the state's traditional legal functions as in the case of security where state security forces are giving way to private ones

Tamanaha (2007) outlined six categories of systems that compose legal pluralism. They are official legal systems, customary/cultural normative systems, economic/capitalist normative systems, religious normative systems, functional normative systems and community normative systems. But for the sake of this paper, only the first three systems would be taken into consideration. Firstly, the official legal systems are made up of the legal institutions such as the legislature, law enforcement agencies and the courts manned by highly trained and qualified professionals. It could be international, national or local in focus. Normally these legal systems coexist in their administration, and could generate conflicts at some point, for example international laws and national laws, or national laws and customary laws. Secondly, customary normative systems are made up of shared social regulations and customs, and institutional mechanisms such as the traditional councils of elders, reciprocity and traditional tribunals for dispute resolution (Tamanaha, 2007. Pp.397). Lastly, economic/capitalist normative systems consist of "capitalist production and market transactions within social arenas" (Tamanaha, 2007. Pp.398). This is made up of, among other things, contractual norms and practices, codes of conduct, multi-national commercial norms and the tenets of capitalism in the pursuit of business transactions (Tamanaha 2007).

All the above systems have features such as possessing binding authority, legitimacy, having normative supremacy and control over issues that fall within their scope (Tamanaha, 2000). These systems overlap at various levels of their administration making their coexistence a mutually existing, or a situation of conflict (see Figure 1 below). Sometimes also, their coexistence brings about inconsistencies normally due to their competing claims to authority. In one case, especially in developed countries, the state, with its highly structured legal systems, possesses the monopoly of legitimate coercion within its jurisdiction. In this case, all

the other systems become subordinate to the state. But in the other case, especially in developing countries, customary, religious and community systems might have ancestral origins, practiced over a very long period of time, highly internalised and entrenched and play a more significant role in the everyday life activities of the people. In this case, all the other systems including the state systems become subordinate to it (Tamanaha 2007).

In this situation, the state, according to Tamanaha (2007), employs three strategies in subduing the customary, religious or community institutions. First, it disallows the customary, religious and community institutions that are contrary to that of the state, but does not do anything to eliminate it. Secondly, the state systems try to integrate the competing customary, religious and community norms into its systems by formally recognising and supporting them. Finally, it declares contrary customary, religious and community norms illegal and takes further steps to repress these customary norms.

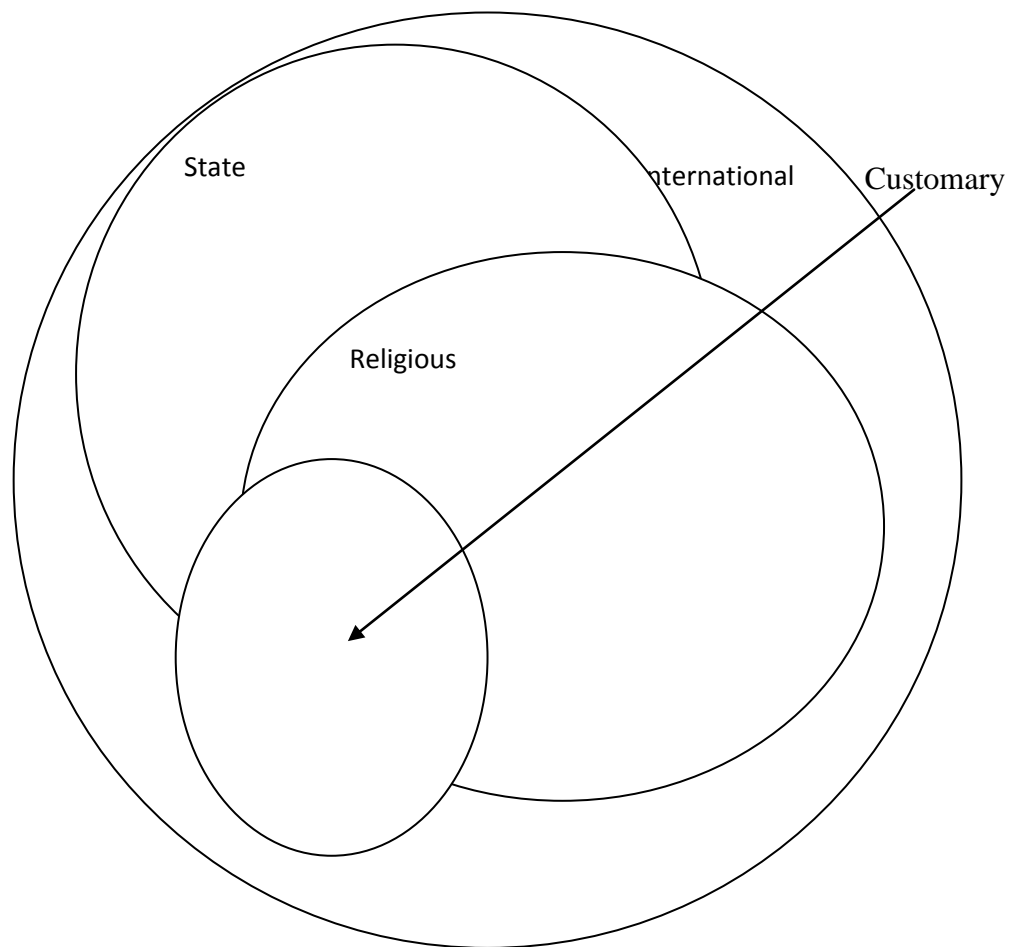


Figure 2: Adapted from Meinzen-Dick and Pradhan

Source: Adapted from Meinzen-Dick and Pradhan (2002)

Under the above conditions of legal pluralism, individuals and groups can make use of more than one legal system to rationalise and legitimise their decisions or their behaviour.

In some spheres of the interactions, especially in the case of the state and local community relationships, the state legal system is usually more powerful and used by state agencies, for example, in declaring and enforcing forests and lands as state property. Statutory law can also be used by influential outsiders to claim resources in ways that are not locally recognised as legitimate. However, “laws are only as strong as the institution or collectivity that stands behind them” (Meinzen-Dick and Pradhan, 2002). According to them, legitimizing the institutions vary from place to place. The state, as represented by an appropriate government agency, is seen as important, but it is not the only relevant one, and in many cases it may not

be as relevant as village or ethnic communities and user groups (Meinzen-Dick and Pradhan, 2002).

The case of biofuel production in Ghana presents a complex form of property regimes, with the interplay of especially common property and state/public property. In the presentation of the web of ownership and use of the land for biofuel production and the benefits derived from direct production activities figure 2 below will help me to clearly understand the situation.

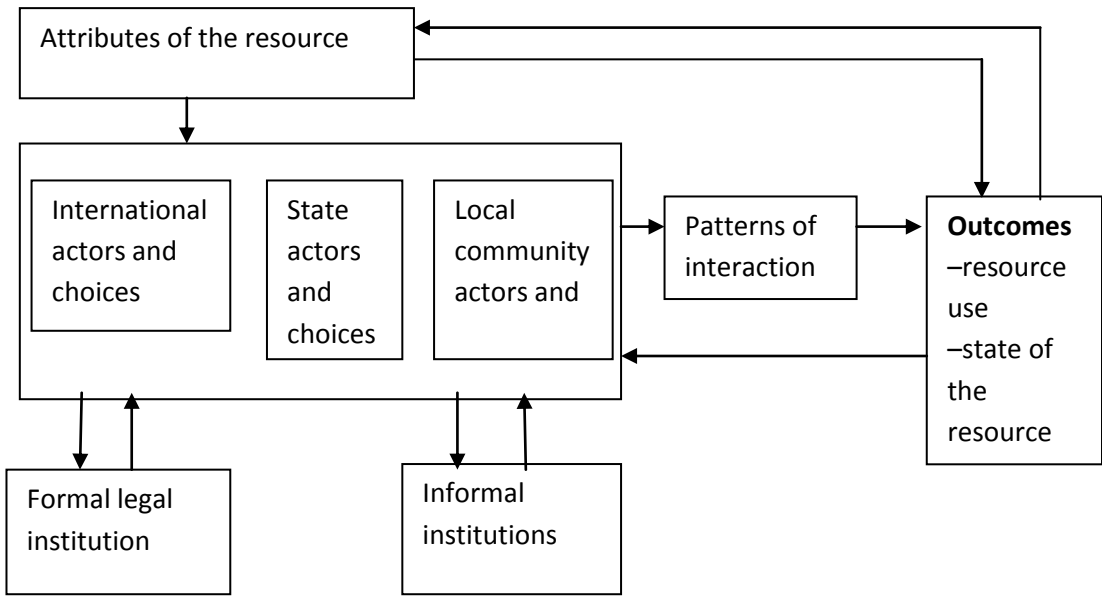


Figure 3: Framework for analysing resource-use problems

Source: Adapted from Vatn (2005)

4.4 The wave of biofuel in Ghana

‘ I believe many African countries with millions of hectares of “unused lands” will be willing to put them under large scale maize, sugarcane, oil-palm or even jatropha (with necessary safeguards) to produce food and biofuel to reduce their consumption of fossil fuel. Why should Ghana continue to spend about 1.5 billion dollars annually on the importation of crude oil when large portion of this amount could be produced from biofuel to serve the interest of the country in a way consistent with global interest of cutting down on the use of fossil fuels’. The above was a speech made by the Minister of Food and Agriculture of Ghana during the *World Bank Annual Conference on Land Policy and Administration* in Washington, DC in

April 2010. The picture presented above shows the euphoria that exists in Ghana about the importance of biofuel in Ghana.

Biofuel production in the country came into the limelight in August 2003 when the Anuanom, Industrial Limited, a locally based company (in the southern Ghana) made public its plans to produce biodiesel from *Jatropha Curcas*. This triggered the Ministry of Energy to task the Energy Commission to conduct a preliminary analysis on the production and use of biofuels in Ghana and the report was submitted in September 2003. Following this, four committees were established to assess how possible it will be to come out with a biofuel policy. The first draft was produced in 2005 and it was followed by several others.

In the northern part of the country, Biosavanna Energy System was also established in 2006, in the northern part of the country to produce biofuel from oilseeds including *Jatropha Curcas*. This enterprise cultivates vast areas of land in the Savannah Regions of Ghana for cultivation of *Jatropha Curcas*. These local companies/enterprises were later joined by foreign companies.

Financially, by way of boosting the environment for biofuel production, the government has created a fund of 15 billion Cedis (1.6 million US\$) for the development of *Jatropha Curcas* plantations across the country.

4.4.1 Policy Objectives on biofuel

Ghana is one of the few countries in sub Saharan Africa to come out with a distinct policy on biofuel. According to the Energy Commission (2010), the development of biofuel will enable Ghana to achieve the following:

- Energy security
- Reduce oil import bill and save foreign exchange
- Provide an avenue to reduce poverty and wealth creation through employment generation
- Increase export earning potential
- Climate change mitigation

Thus the policy objectives of the government's biofuel development programme include:

- To substitute for national petroleum fuels consumptions with biofuel by 10 per cent by 2020 and 20 per cent by 2030.
- To remove institutional barriers in order to promote private sector participation in the biofuel industry

- To create a favourable regulatory climate to ensure development of a competitive market, favourable pricing regime and high quality products
- To, in the medium to long term become a net-exporter of biofuel
- To reduce carbon dioxide emission.

Policy strategies within the context of institutional framework

- Facilitate participation in bioenergy planning, policy formulation and implementation through workshops, seminars and meetings between bioenergy industry players, policy makers and regulators.
- EC, EPA and MOFA should be responsible for all ‘upstream⁴’ activities related to the biofuel industry. Where EC would licence biofuel production and export and EPA in collaboration with MOFA would issue permit for biofuel feedstock cultivation.
- All regulatory matters on downstream activities related to biofuel supply should rest with the NPA. This would include licencing of refineries, transporters, distributors and retailers, consumer protection issues and pricing.
- Ghana Standard Board should ensure product quality standards and certification
- Bulk Oil Storage and Transportation should ensure the establishment of facilities for strategic stocks and bulk storage of biofuel

4.4.2 Institutional arrangements around biofuel

Schoneveld et al. (2010) have noted that about 1.1 million hectare of land in Ghana mostly for Jatropha production has already been obtained by biofuel investors yet there is the lack of any government regulations targeting biofuel development, even though drafted polices have been advanced to integrate the biofuel sector in to the energy sector. It is realized that access to land for biofuel productions follows the procedure for obtaining land for agriculture through under the guidelines of the Environmental Protection Agency. Sharing of benefits still remains an unclear issue since there is still no framework regarding how local communities are to benefit from projects formally. What exist are local agreements between companies and local beneficiaries on appropriation of benefits and such terms which are not legally binding but conducted around land will definitely attract conflict of interest. This is what the research

⁴ ‘upstream’ activities refers to all activities from the feedstock production to extraction of raw oil

intends to unravel. Norms regarding the use of land is common in Ghana especially in the northern part. Local beliefs in the form of taboos are used to categorize land use patterns.

The major local resource involved in biofuel production is land. It forms one of the key variables around which the relationship between biofuel and institutions can be understood in the context of the topic within the study community. It will therefore be prudent to examine the nature of land administration in the country

4.5 History of Land administration in Ghana

Land administration in northern Ghana during the pre-colonial era was simple and straight forward as all lands were owned by the local people without any formal arrangements being made for allocation. Ownership was entrusted in the Earth priest who performs rituals and serves as a mouth piece between the people and the gods. In some part of the region where through war of conquests (usually organized by chief-led groupings) land was forcefully taken away from the autochthonous peoples. Things changed completely when during colonial rule, all lands in the north were declared as state-owned (Awedoba 2010). In 1927, the Lands and Native Rights Ordinance (cap 143) declared all lands in Northern Territories, whether occupied or unoccupied to be native lands, and placed them under the control of the governor, with this legal situation still in effect even after Independence (Lund 2009). According to Awedoba (2010) the British policy vested land in the colonial state to be used and managed for the benefits of the people. This was considered a biased decision as land in southern Ghana (Ashanti and the Gold coast) was retained by the customary chiefs under the system of Indirect Rule. Awedoba (2010) mentioned that there was a mounting pressure from a wide alliance of northern politicians and “traditional” authorities to reverse the lopsided and biased decision regarding land under the Lands and Native Rights Ordinance. Therefore in order to restore uniformity between the north and south, the situation got reversed when in 1979 land in the northern Ghana vested in any such person or appropriate skin (symbol of royal authority in northern Ghana) that is customary authority (Lund 2009). However, this move marked the beginning of land conflicts in northern Ghana. According to Awedoba (2010), the conflicts emanated due to the fact that not all chiefs owned land in the pre-colonial era as some Earth Priest also owned land. For instance in the northern Region of Ghana, chiefs led groupings such as Dagombas and Gonjas that were awarded land during 1979 faced a number of conflicts from autochthonous but acephalous societies such as Konkombas.

4.3 Land arrangement in Ghana

Land in the country is generally owned communally and this influences largely the administration of land. However the country's Constitution is the supreme body that defines the nature of land tenure in the country. The constitution recognises two tenurial systems as: public and customary (WaterAid 2009). In simple terms, public lands are those owned completely or partially by the government whiles customary lands are those owned by stools, skins, families and clans and usually controlled by chiefs, head of family, or fetish priest. Regarding legal framework, the country is noted to have over 86 legal instruments on land, with these laws being complemented by customary laws, (WaterAid, 2009). Among these are: Town and Country Planning Ordinance of 1945 (CAP 84), Fourth Republican Constitution of the Republic of Ghana, 1992, Local government Act, 1993 (Act 462) among others. For the administration of land in the country, ministries such as Lands and Natural Resources, Local Government and Rural Development and Environment, Science and Technology are charged with such responsibilities

4.6 Institutional and legal pluralism over land in Ghana

In Ghana, based on the different cultures and traditions, institutions and legal systems are plural. In terms of institutions concerning land, the country recognises three of these as: customary, the public sector and the judiciary institutions.

The legal system over land administration is also plural with over one hundred statutes on land ownership, tenure, planning and use in addition to different customary laws as they pertain to specific localities⁵. These include: customary, Islamic, statutory and constitutional provisions.

“In most of the countries of sub-Saharan Africa (and in many other ex-colonial states of South and South East Asia) a situation of ‘legal pluralism’ exists – that is, land rights are regulated through a wide variety of institutions, state and non-state, formal and informal, using a variety of legal codes and social practices, many of which are locally specific” (Crook et al 2007 pp.22).

⁵ http://www.fig.net/pub/accra/papers/ps01/ps01_02_larbi.pdf

Land rights and tenure systems in Ghana are complex as a result of the co- existence of different systems which include customary laws, statutory law, constitutional provision and religious law.

The regulation of land is thus influenced by the existence of plural systems which is recognised in article 11 of the 1992 constitution. The consequence of this lies in the difficulty of managing land by the legal system in the country.

4.6.1 Background of traditional institutions and natural resource management in Ghana

Traditional institutions which are usually informal play a crucial in the management and use of natural but local resources. These exist in both Western and non- Western societies where norms often form the bases for regulating human behaviour. According to Colding and Folke (2001), informal institutions often take the form of norms, conventions, self- imposed codes of conduct and their enforcement characteristics. Such institutions are also decentralized and imbibed by the individuals of the community without any available external authority to ensure their enforcement.

Historically, traditional institutions in Africa and for that matter Ghana are embedded in African Traditional Knowledge. This knowledge is variously called rural people's knowledge, indigenous knowledge, or cultural knowledge, Millar et al (2008). It is that kind of knowledge which goes beyond just reasoning to include imagination, intuition and personal feelings. It is this knowledge that explains the nature of traditional institutions in Ghana. Millar et al (2008) explained that traditional knowledge takes two forms; open and specialised. Knowledge that is common or expressed openly is referred to as communal or cultural knowledge. When knowledge is limited to some group of people or is hidden or considered secretive, it is called specialised knowledge. Therefore knowledge about natural resource use such as land is considered to be open and accessible to all community members including non community members. This knowledge thus forms the basis on which institutions for resource use is founded. It must however be noted that specialised knowledge though restricted, its agents such as the chiefs, queens, healers, priest and soothsayers, rainmakers and elders help enforce traditional institutions.

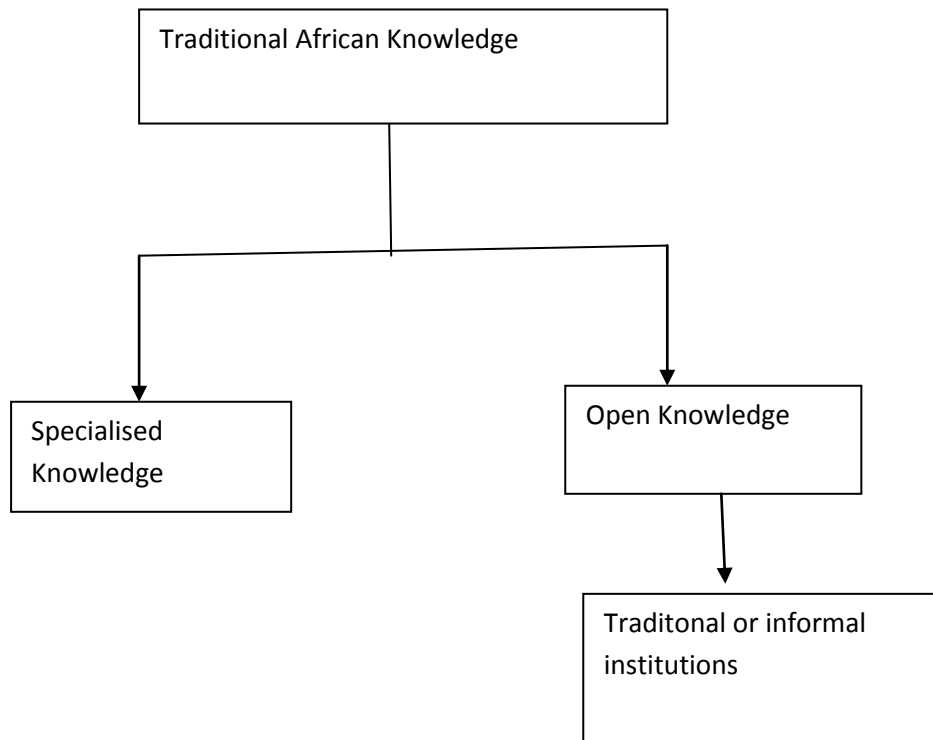


Figure 4: a simplified form of traditional knowledge Inspired by Millar et al. 2008

It can thus be said that open knowledge is the building blocks for traditional institution in Africa and for that matter Ghana. Traditional institutions which derive their nature from traditional knowledge take the form of oral tradition and being re/constructed from generation to generation and over time and space (Millar et al. 2008).

A detailed discussion of the nature of traditional institutions is seen in the diagram below.

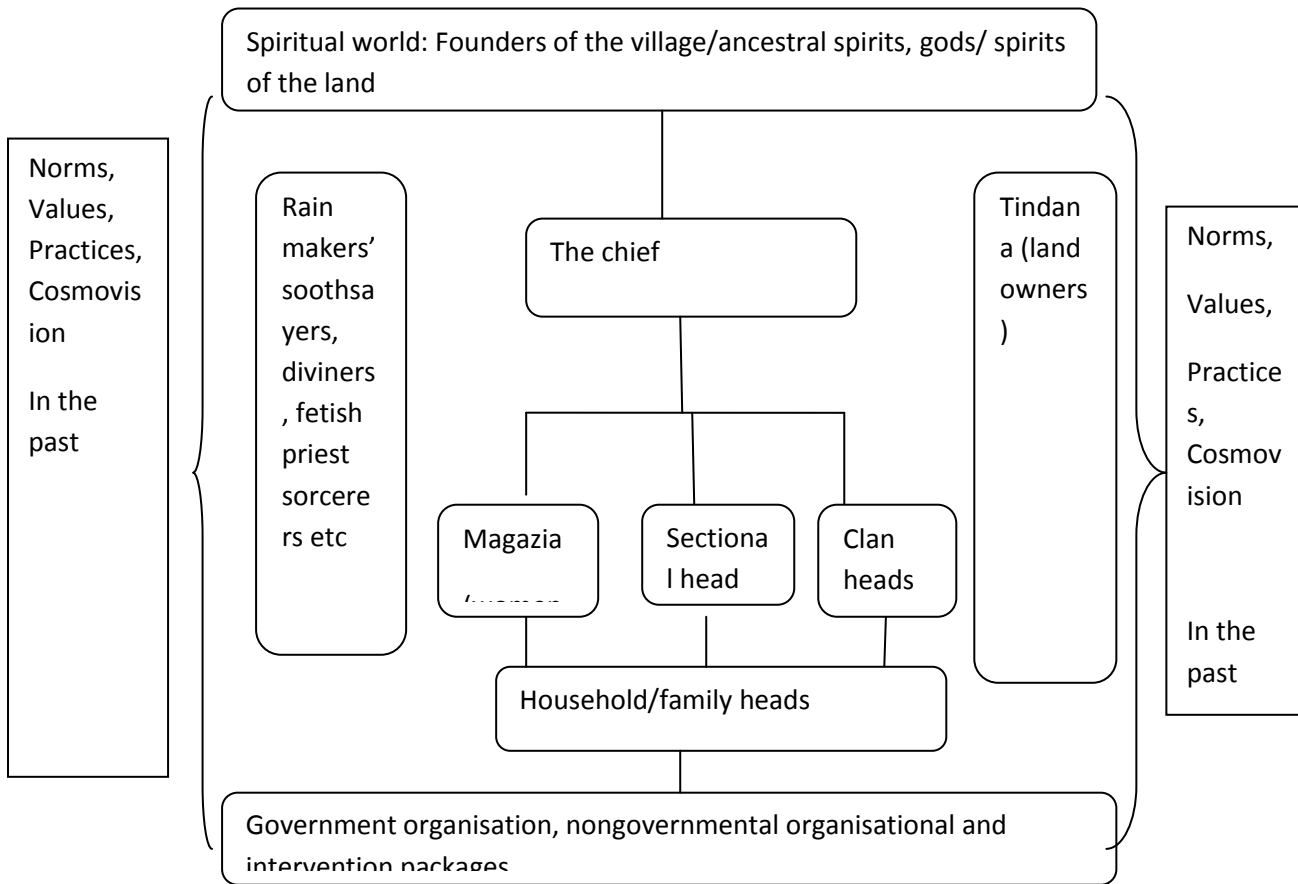


Figure 5: Traditional institutional structure for natural resource management.

The diagram depicts the nature of traditional institutions. It is an embodiment of several relationships and agents which all make up the traditional institution. At the top is the spiritual world which is the pivot around which agents interact and relationships produced. The life of the African revolves around religion. Millar et al. (2008) noted that gods and spirits play important roles in the lives of indigenous African people, for life to such people is impossible without the help of the gods, ancestors and other spirits as held by the people of northern Ghana. According to Millar et al. (2006) “all knowledge and wisdom emanate from here and is created and recreated by them. The development of knowledge is guided by the spiritual influences of the Ancestors”. The ancestral spirit is usually derived from the first grandfather of a lineage who is usually considered the founder of the village. The spirits of such people (dead) therefore guide the life styles of the people (living). From the spiritual world are the spiritual leaders, chiefs and the tindana (land owners). All these three people play different leadership roles. Millar et al. (2008) stated that chiefs are usually the political heads and the

representatives of the people and may preside over resources or not, for in northern Ghana the tindana, earth priest and spiritual head is a custodian over the land and its resources. However, in southern Ghana, the chief combines both roles as a political and spiritual leader. It must be noted here that all the aforementioned people are considered knowledge specialists.

Below the chief are the magazians who are usually elderly women and have special knowledge about the family or community. They are usually nominated because of their leadership qualities and knowledge about the use of some natural resources as women in the northern part are those who depend heavily on natural resources as source of livelihood.

Sectional and clans heads handles matters at the clan's level. They also hold secrets about their constituencies. These people are usually the elders of the clan or section. They make sacrifices, manage sacred groves, allocate household lands to individuals and families and hold land in trust at the household level (Millar and Bonye 2004 in Bonye 2008). Next is the household or family heads who handles issues at the family level. The base of the hierarchy is the government organizations, nongovernmental organizations and intervention packages. These people are usually agents of the formal institutions and considered external to the local community though they all work together for the development of the people. The most important part of this structure which is the core of the thesis is the norms, values, practices and cosmovision of the people. This is what constitutes traditional institutions as captured by the thesis. From the apex of the structure beginning with the spiritual world through the agents of traditional leadership at the various levels to the formal agencies in the form of government organisation and nongovernmental organizations have all been held together by these norms, practices and cosmovisions. They are considered the driving forces or pillars that hold all other elements of the structure in check, but they cannot also function on their own without the help of the leadership agencies. Kendie and Guri (2006) mentioned that leadership structures and organizations ensure the compliance of norms and beliefs by the people. Norms according to Hechter and Opp (2001) are phenomena of a given culture that at specific circumstances prescribe and proscribe behaviour, they are usually unwritten, spontaneous and enforced informally. Critto (1984) qualified norms as in the context of the thesis by saying that social norms are the common ways of doing things like thinking, feeling, desiring and acting which are observable in regularly repeated behaviour. He added that they are capable of solving problems; they govern how people evaluate and choose goals, means, rights, duties, interpersonal relationships and joint efforts. They are also seen as the bridge that connects the physical world to the spiritual world. This explanation illustrates aptly what is entailed in the diagram above where the spiritual world is connected to traditional leaders and formal

agencies. Practices denotes the spirit inspired activities that the people do on a daily basis while values represent the most cherished or desired things that the people hold in high esteem.

Cosmovision is a broad word which embodies a lot of things and recognises the spirituality of the people. Millar et al. (2008) define cosmovision as "the way people conceive their world and existence". Cosmovision includes religious and philosophical systems and, to a large extent, dictates the way land, water, plants and animals are viewed and used, as well as how the decisions are taken and problems are solved" (pp. 37). They added that cosmovision embodies assumed interrelationships between spirituality, nature and humankind; however it is expressed in specialised systems which are not easily accessible to the outsider. This implies that the only way to understand people's cosmovision is by being part of their culture as there is no formal/written document in which this is expressed and can be understood.

From the explanation of the diagram, it can be said that it may be difficult to understand the use of natural resources in the domain of the African without considering the importance of spirituality.

4.7 Traditional system of governance in northern Ghana

The importance of the traditional political system cannot be underestimated as in recent times conscious efforts are being made to integrate it into mainstream development. In Ghana, the 1992 constitution recognises that development planning should be familiar and take cognisance of the local culture and its ramifications for the smooth implementation of projects. Article 39 clause two requires that 'the state shall ensure that appropriate customary and cultural values are adapted and developed as an integral part of the growing needs of the society as a whole'. Millar et al. (2008) observed that the traditional system of governance offers the first point of allegiance by rural people as it is mostly accessible to them.

Traditional authority is moulded around royalty, with the king or queen at the top, divisional and or sub chiefs being the next on the ladder of authority. Sectional or clan heads are the bottom. The symbol of chieftaincy authority in northern Ghana is the skin while the stool is for southern Ghana.

However the leadership structure of the traditional institution seems the same throughout Ghana as illustrated in the organogram below.

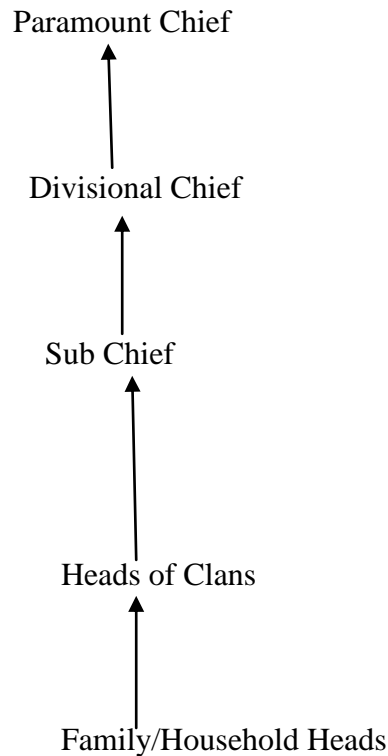


Figure 6: Leadership structure in Ghana Inspired by Millar et al. (2008)

Chiefs in Ghana play enormous roles. These include maintaining law and order that is mediate different groups that are engulfed in conflicts in society. They also support the national government by way of advising it over issues which characterized the people and their culture of their areas of jurisdiction. Also they play a major role in the appropriation of land as the own about 80% of land in the country.

Land tenure and chieftaincy

The constitution of Ghana recognises two tenurial systems which are public and customary. Public lands are generally those vested in the president on behalf of and in trust for the people of the country based on the provisions made by the Administration of Lands Acts, 1962, (Act 125) or through any other statutes, in the interest of the public.

Customary lands on the other hand are lands owned by stools, skins, families and clans and usually held in trust by the chief, head of family and clan or fetish priests for the benefit of members of the group. Private ownership of such lands can be acquired through grant, sale, lease, gift or marriage.

Referring to the traditional leadership, land ownership at the various levels also follows such lines. Land ownership under the customary, starts at the paramouncy level where allodial

titles are held. The divisional and sub chiefs hold the customary free hold and the indigenes (usually clan and family heads) hold the usufruct interest.

The paramount Chief	-	Allodial Owner
The Divisional Chief	-	Customary Freehold
The Sub-chief	-	Customary Freehold
The Indigenes (subjects)	-	Usufruct Interest

In this chapter, it is realised from the literature that both formal and informal institutions exist in the country for the regulation of any agricultural and economic activity which makes use of the country’s natural resources like land. The chapter highlighted that interest for biofuel is being pursued in the country is in line with the nature of legal definitions expressed through multiple (economic, international, religious and normative). It affirms that no single motive derives the engine of biofuel production. Regarding the use of land for biofuel, it is realised that no single body or law is capable enough to handle the management and administration of usually customary land targeted for biofuel. This in the ensuing chapter will contribute to understanding the inadequacies that the absence of a renewable energy law is having on biofuel production. The nature of arrangements around customary land use will contribute to discussing the extent to which these arrangements in the modern times are capable of capturing the interest of the local communities and biofuel companies in relation to the sharing of benefits and costs. The leadership structure of governance in traditional societies in Ghana as indicated already shows that land though held in trust by the paramount chief, is allocated to foreigners for any use after series of decisions and agreements have been reached by all the leaders in that given community where the land is sought. This in subsequent chapters will help examine the nature of participation that exist regarding the allocation of biofuel production and the degree to which this participation has been sustained throughout the process.

The chapter also captured the policies that have been outlined by the government. The policy strategies will be used as the background information against which challenges faced by the various actors involved in biofuel will be discussed. The policy strategies will be compared with the results obtained from biofuel production and the gap or deficit created will constitute the challenges that these actors are facing as a result of consequences of lack of a substantive renewable energy law in the country.

5 INSTITUTIONS AND BIOFUEL

This chapter provides an insight into the extent to which data gathered from the field research answer the first objective of the thesis topic. It looks at the specific activities of biofuel Africa Limited, the available informal institutions in the community, and contributions of biofuel production to local livelihood and the shortfalls that traditional and government agencies face in their bid to regulate biofuel production in the study communities.

5.1 BiofuelActors/choices involved in Biofuel production

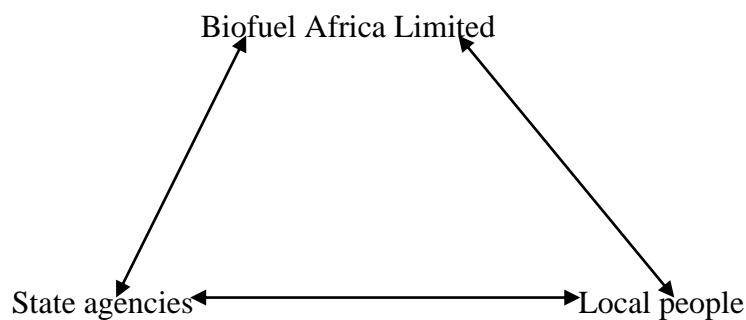


Figure 7: BiofuelActors/choices involved in Biofuel production

From the diagram above, it is evident that three actors are involved in biofuel production in northern part of the country. The arrows show the flow of actions and activities which are in the form of information, decisions and resources (both human and natural) revolving around these three group of people. The interactions and relationships can be described as tri-patheid and dependent. These interactions may be mutual or inverse. The actions produced therefore define the challenges and opportunities that the various actors face.

It is realized from the data that the local communities work less with the government agencies. This is because, the land for the jatropha plantations was obtained from the chiefs and the people who have absolute control over it and constitute the major decision makers regarding the access and use of the land.

Biofuel Africa Ltd and government agencies interact but not deeply, it only took the form of enforcement of environmental protection laws, and the preparation of formal documents about land. The remaining activities are largely carried out between the local people and Biofuel Africa Limited.

5.2 Description of biofuel companies in Northern Region

The activities of biofuel companies in Ghana have dotted the map of the country. However, the northern part of the country has attracted a few of them even though this zone has vast piece of land for agriculture. One of the reasons is the prevailing climatic conditions. This therefore influenced the decisions of some foreign and local companies to take up such ventures in the northern part of the country. Notwithstanding this, Biofuel Africa Limited, a Norwegian Biofuel has acquired vast areas of land in the Northern Region for the cultivation of *jatropha curcas*. In the same region of the country, a local women's group started a *jatropha* plantation aim at promoting rural livelihood by way of generating income from some economic activities. This is in the Gbimsi community near Walewale in the Northern Region where the first small scale *jatropha* oil extraction project took effect, the first of its kind at the village level in the country. Notwithstanding these, some local individuals, research educational institutions are also into biofuel activities, but their recognition is minimal.

5.2.1 Biofuel Africa Limited

BioFuel Africa Ltd. which is a Ghanaian company wholly owned by Norway-based Solar Harvest AS, was the first company in Ghana to receive Environmental Protection Agency (EPA) approval for a *Jatropha* plantation. Its areas of operation includes *jatropha curca* cultivation for the extraction of biodiesel but in recent times in the northern part of country, its activities expanded to include maize production. It has *jatropha* plantations in both Northern (Yendi) and Volta (Sogakope) Regions of the country. In the north, the company's activities first started at Alipe, a community near Kusawgu in the Central Gonja District of the northern region but were halted. The company's activities on the land were discovered by a team from RAINS in 2007 where heavy agriculture machinery was being used to fell down trees at Alipe. It was revealed that the land was to be used for the cultivation of *jatropha* by Biofuel Africa Limited, a subsidiary of Biofuel Norway (RAINS 2008). RAINS was able to halt the activities of company but already more than 2600 hectares of land had already been stripped bare of its vegetation.⁶ The chief of the land who is the custodian claimed that he did not offer such a land to the company and that he was already worried about the company's activities and trying to stop them. However he admitted thumb printing a document brought to

⁶ <http://www.wrm.org.uy/bulletin/129/Ghana.html>

him by the assembly man of the area and some 'white men' but did not read the content. Detailed discussions with the community revealed that it was Biofuel Africa which is the biofuel company behind the wanton destruction of the environment under the guise of establishing the largest jatropha plantation in the world as claimed by Finn Byberg, Director of Land Acquisition for Biofuel Africa. With joint efforts of the EPA and the Central Gonja District Assembly all activities on the site was suspended (RAINS 2008). The company then moved to three communities in the Yendi Municipality in the same region and established new plantations sites for jatropha. The process for which the land in the Yendi municipality was acquired will be discussed in the ensuing chapters. The plantations in this municipality covers areas such Kpachaa, Tua, Jimle, Chegu, Kpalkore, Jaashe, and Jahinjerigu communities. About 460 hectares of land cover the total plantation site.

5.2.2 Description of land ownership by Biofuel Africa

To obtain land for the biofuel plantation, various procedures and processes were observed. The land for the biofuel plantations in the study communities that is Kpaacha and Jaase were obtained out of series of meeting with the Tijo-Naa and his sub chiefs. According to the local manager of the plantation Mr Awal, he is a native of area and knows much about lands that are available and can be used for commercial farming. So when Biofuel Africa was looking for land and he being part of them, he took them to the Tijo-naa. The Tijo-naa then directed them to the Kpaacha naa. With series of consultation and contacts, a rapport was established between the company and the local chiefs. A meeting was therefore organised in tamale between the chiefs, elders and the company. Monies were given to the chiefs, with an agreement signed between the chiefs on one hand and the company on the other hand. However, the Yaa-Naa had the final say as he was expected to finally seal the agreement between the company and the local people. Land was obtained with a lease of 25 years and some payments paid, but due to the Dagbon conflict, the land could not be registered so an Indenture was therefore made. The land remained unregistered up to date.

5.2.3 Description of stages observed in upstream biofuel activities in the study communities

A detailed examination of these actions will contribute to answering the question about how the absence of a major renewable energy law is hampering biofuel production in the country.

It can be said that the patterns of interaction experienced among these actors can be viewed in three stages. The thesis is examining it along the lines of three stages so to be able to point out the nature of decisions taken at some levels and the merits and challenges produced. These stages are;

❖ Initial stage

The thesis describes this stage as the level where the three actors involved in biofuel production are meeting for the first time. This stage captures the arrival of Biofuel Africa Ltd into the northern region and making contacts with the necessary informants to obtain land. From the interview with the local manager of the company, the various chiefs described above were contacted to open room for negotiations to get sites for jatropha plantations. Government agencies such as the Environmental Protection Agency, and Lands Commission were contacted.

Key issues

According to an informant at the Regional Agricultural Unit, the unit was not formally notified of the presence of Biofuel Africa. Therefore no officer from that unit was involved in the process.

The chief of Jaase claimed that though the plantation at Kpaacha is on his land of control, he did not get the opportunity to witness any document signed or being a signatory to any of such pertaining to the leasing of the land. The Jaase-naa lamented that he was not informed timely; he only got the confirmation from Tijo-naa that he was aware of the company and since he is under the Tijo-naa, he had to accept whatever decisions or agreements that were reached between the Tijo-naa and the company. Nonetheless, he was later called to Tamale by the Tijo-naa and briefed about what transpired regarding the leasing of the land.

A public hearing was organized at the Tijo-naa place during this stage. The aim was to create a medium through which those actors involved could all meet to discuss their interests, expectations and goals in a 'socialized' environment. According to the local manager of the company, the following categories of people were found at the public hearing organized at Tijo-naa's palace; officials from Environmental Protection Agency and the Ministry of Food and Agriculture, and the local people themselves.

A durbar was organized at the palace of Kpaacha-naa as a platform to promote socialization among the various actors involved in biofuel. However, this effort never got replicated as all meetings and discussions were now held between the company and the Tijo-naa at the Tijo-naa palace says the Jaase-naa.

I was happy when I heard that the company had collapsed because they never recognised us again as the custodians of the land on which their plantation is sites says the Jaase-naa.

The Environmental Protection Agency began to have problems with the mode of which the company was beginning to handle some natural resources on the plantation sites. For instance, the company began to cut Shea trees, an economically viable tree in the north. This was to make way for easy planting of Jatropha seeds. The EPA quickly intervened by halting such activities.

❖ Middle stage

This stage explains the activities that took off after the land for the jatropha was obtained. Land at Kpaacha, Jimle and some other two communities were obtained within the coverage of the Yendi Municipality. Land documents were prepared with a lease given to the company for 25 years. Jatropha plantations created at the various enlisted communities. Labour recruited from the local residents and nearby communities like Tamale. Necessary farm implements and other equipments were also deployed to the sites. Also the company started felling down some trees to make way for planting. Boundaries and fire belts (buffer zones) were also created on the sites.

Keys issues

The Yendi Municipal Assembly claimed that they were not notified at all about the company's activities though heard of them. They therefore decided to summon officials of the company at the Assembly for questioning regarding why their authority as the political head of the area was undermined. This led to the company giving the Assembly just a profile of the company and its activities. Though the Assembly requested for periodic reports from the company, this never materialised as they local manager claimed they did send some.

The assembly confirmed that a community durbar was organised and they were invited where they educated particularly the local people about the ways of relating beneficially with the company in the areas of job creations, services and amenities provisions and peaceful co-existence. The company was also advised to consider seriously issues of community development in the areas of providing the local people with water, health facilities, educational facilities and job opportunities.

Conflicts started emerging as a result of the nature of labour recruitment. According to the company, about 400 people were employed to work on the plantations. However, the criteria for choosing this people did not meet the interests of the local beneficiaries. The people of the

communities, the chiefs of Kpaacha and Jaase all admitted that the company failed to keep to its promise of recruiting farm hands from their communities but rather went to Tamale to bring labour to work on these plantations. The deputy Municipal Coordinating Director confirmed that reports have reached the Assembly indicating that workers on the various plantations scattered in the Municipality were recruited from Tamale and brought in Buses to work. The reason being that the local manager of the company and the Tijo-naa who became the major middle men between the community and the company and also influential in the company's decisions reside in Tamale. They therefore decided to recruit their family members, friends and some people who were of the same interest with them to work instead of the people resident in these communities where the plantations are.

Information gap between the chiefs of Kpaacha and Jaase on one hand and the Tijo-naa began to widen. According to the chief of Kpaacha, the Tijo-naa started accusing him of giving bad image about the company about its failure to promote community development. The kpaacha-naa was even called to the Tijo-naa's palace to prove his innocence before a soothsayer that of the allegations leveled against him by the Tijo-naa.

These are the words of the Kpaacha

One day I was on my farm when auditors (a group of white people) from the company came. I told them of all the promises that the company made which it failed to fulfill. Later, a letter was served and pasted at the site of the plantation. My people read it and informed me of the content. The content captured what I told the officials of the company when they visited me on the farm. I was later called at the Tijo-naa's palace and insulted by him. Tijo-naa said on that day that he hands over the affairs of the company to me. Since then I decided to stay away from the activities of the company. Since then it's been Tijo-naa who sole handedly works with the company and I relegated to the background. The local manager, Awal Adam caused everything.

The Jaase-naa said this

I don't have any idea about the company welfare. I am still waiting for the Tijo-naa to tell me something, however my people have told me that the company is collapsing.

❖ Final stage

At this stage, the jatropha plants are bearing fruits and the need to harvest. Labour from within and outside the communities was mobilized again to pick seeds. Harvesting and trashing equipment were also brought to contribute to getting good produce.

Key issues;

Harvesting of jatropha seeds began. Women particularly from the local communities benefited massively as they were recruited and paid for picking seeds. The female groups at Jaase and Kpaacha shared similar views about how they worked on the plantations:

We work every morning by helping the company plant the jatropha seed and break at 1:00pm and return and close at 3:00 pm. We assisted in the weeding and harvesting of the seeds too. We were paid 60 Ghana Cedi a month

According to the security person on the plantation, they first oil was extracted from the seeds, with this oil being used to fuel the farm machines.

The company began to face financial difficulties as money to pay workers became an issue.

5.3 Existing formal agencies guiding biofuel activities in Ghana

In Ghana various agencies and ministries have been charged with the responsibility of monitoring the activities of biofuel. Almost all these bodies have been in existence before the inception of these activities, regulating the use of the natural environment and other natural resources. There is no single central agency in the country solely responsible for the task of regulating biofuel production; this perhaps may be as a result of the diverse nature of activities that go into biofuel production from the stage of cultivation through to marketing. However, considering the numerous agencies involved and the scope of the topic, the thesis is interested in those agencies concern about the use of the environment for local development. Those institutional agencies that focus on “upstream”⁷ activities of biofuel constitute the interest of the thesis. These agencies and ministries include; Energy Commission, Ministry of Agriculture, Environmental Protection Agency, Ministry of Energy, Ministry of Local Government and Rural Development (Municipal and District Assemblies) and Lands Commission. The first three agencies form the substantive agencies while the remaining bodies play a supporting role. Energy Commission is specifically assigned to licensing of biofuel production and export while Environmental Protection Agency and Ministry of Food and Agriculture are charged with the responsibility of issuing permit for biofuel feedstock cultivation.

Among these agencies, the Environmental Protection Agency seems to be playing a very crucial role especially in using legal means to enforce environmental laws. The Ministry of Agriculture at the local level is relaxed and appears uninformed about the day to day activities of Biofuel Africa Limited in the region. The Yendi Municipal Assembly though aware of the activities of the company, has very scanty information about it as periodic reports about the

company activities are not made available to the Assembly. Though the Assembly has noticed it as a failure on the part of the company, it has not confronted the company about it. Due to the nature of ownership of land particularly in the northern part of the country where communities have authority over the use of their lands, formal measures about local development regarding natural resource become difficult to be enforced by the Assembly.

5.3.1 General challenges faced by ministries/agencies regarding biofuel

It is a fact that these ministries/agencies responsible for the activities of biofuel face myriad of problems which influence their discharge of duties. Among some of these include the following:

Firstly the absence of a substantive energy law in the country is hampering biofuel activities. Even though the country has come out with clearly defined policies about biofuel production and consumption, a legislature to back it is still absent. The renewable energy law which captures biofuel as one of its elements is yet to be fully passed into law. Though the renewable energy bill has been approved by parliament, it is yet to be signed by the president of the Republic of Ghana as stated by the Energy Commission. This implies that no agency or ministry has the mandate or authority yet to challenge in court any biofuel activity that is contrary to what is stipulated in the Renewable Energy Document. This explains why biofuel activities in the country seem to be kept away from the public. A lot of environmental issues emanating from the use of the environment are on the increase with conflict between biofuel companies and local communities ever increasing at the local level with little efforts made to arrest the situation. The EPA is overstretched in this regard as it is the only recognized body with the power to halt bad environmental practices of biofuel companies in the country although Non Governmental Organizations on the environment are lending support in the areas of local environmental information, education and awareness. The absence of the renewable energy law has also made the public to be unaware about government take on biofuel activities in the country (Field work 2011).

Secondly, some agencies face the challenge of legal authority to enforce law and order. For instance some agencies such as the Municipal Assembly though living closely to the biofuel companies and the local people, lack the authority to ensure that biofuel companies go by the agreements that contained in their domain of operation (Fieldwork 2011).

Thirdly there is no central body responsible for coordinating the various formal agencies and ministries involved in biofuel production, the local communities and the biofuel companies (Fieldwork 2011).

No clearly defined roles for the various agencies are yet but another problem. This sometimes leads to overlapping and duplication of function. For instances, the MOFA at the regional level had less information to offer me during the data collection process because they claimed that they do not even know what they are supposed to do and this according to them is making the BioFuel Africa to neglect MOFA at the regional level about the making the company's information known to them.

Poor reporting of activities by biofuel companies to appropriate agencies. This was a common problem lamented by the EPA, MOFA, Municipal Assembly and communities. Annual and quarterly reports about company's activities are deliberately withheld by BioFuel Africa.

The nature of informal arrangement regarding natural resource use especially land makes no room for government agencies to interfere and this hinders the monitoring of company's activities. Land as seen in the literature for agriculture purpose are controlled by the chiefs and the local people. However, not all these people are literates. Some are literates but not inclined to drawing proposals or agreements between the local people and commercial agriculture users over land. There is also the norm that land for agriculture should not be sold to anybody. Access is free but the local people have not been able to think beyond this, which is considering agreements for the use of land by foreign companies for large agriculture purpose spanning a long period of time. According to the chief of Kpaacha, he never saw the agreement document that was signed between the chiefs and Biofuel Africa let alone knowing the content of the document. This scenario indicates that some of the chiefs just accepted anything that was presented to them but lack that critical mind to demand for some documents which they can use as evidence to challenge Biofuel Africa if they fail to deliver as promised. Agencies like the Municipal Assembly, MOFA and Lands Commission mentioned that though they could have provided technical assistance in the form of advice to the local people over the use of the land, land arrangement in the country leaves them out during the negotiation process.

There are poor working conditions or relationships between Biofuel Africa and the local people. The Kpaacha-naa and Jaase-naa on whose jurisdictions cover the plantations lamented about this. The chiefs claim that since the inception of the plantation, they have been relegated to the background. No discussions have taken place between them and Biofuel Africa; they only see their workers and vehicles within the community. They therefore cannot influence their activities in any way. This was what the Jaase-naa said;

When we heard that the company had collapsed, we were happy because the company people never respected us or recognized us again as human being.

This is the description of the collapse of the company from the perceptions of the community members: there is no weeding carried out on the plantations of the jatropha, the site is bushy, it takes a very long time to see one member of the company coming over to the site of the company and spending less hours there. The company no longer employs people as virtually all persons who were employed as farmhands have been laid off. The company even owes people salaries and the security man who is still at post has been without salary for several months. The farm machines are not seen operating. The general working atmosphere which was once bright in the form of noise from machines and human beings is no longer there.

The women group in Kpaacha said this to buttress the decline in interactions between the community and the company.

A social gathering was once organised here in Kpaacha where we danced and they snapped us pictures. We danced till we couldn't walk the following day. We never had such an activity again

The men of Jaase added this;

It was agreed that consultations were to be purposely done between the community and the company but later the company betrayed us, the betrayal took the form of deals between the company and the outsiders and not us anymore. They made us understand that everything was to be done with the community but later things took a different dimension. We assumed that we were one system with multiple needs integrated together into the system but now it is no longer so.

I probe to get an insights into who are the people that the community is considering to be working against them (betrayers) and the men mentioned the following groups of people; firstly some people within the community, some people who stay in town (outside the

community mostly in Tamale and Yendi town who the people say they are not well educated) and some people within the chieftaincy circle. This is sensitive information and the male group with not willing to mention names which I was fully in support of.

5.3 Traditional institutions and biofuel production in study communities

The diagram offered by Millar et al. (2006) depicts the ways by which traditional institutions in northern Ghana regulate biofuel productions. This is elaborated in the following;

❖ Norms

A traditional society like that of Dagbon relies so much on norms as a way of checking behaviour and conformity to societal interests and beliefs. The use of norms is common and widely known by all of the people of the study communities. These norms are used to safeguard access and use of land and other natural resources beneath and on it. Farming societies like the study communities use norms to define their relationship with nature. These norms also specify the inter-personal relationships that should be observed among the people in such community regarding the use and ownership of land. These norms take the forms of taboos and folk more. Some of these norms include the following:

Farming near shrines is prohibited. Shrines are one of the sacred sites of local people. Some of these sites are help define the cosmovision of the people. They may represent the relics of the people ancestors or founding fathers. These shrines also provide habitats to trees and animals that are great importance to people's history. This is seen in the words of the men informants of kpaacha;

We don't farm near our shrines but when one chases a bush animal like a rabbit and it runs and enters there, one is allowed to enter and catch it.

This means that only animals that run from outside but enter into the shrines to hide from being caught can only be hunted there. No member of the community deliberately walks to the shrine to hunt or fell trees for whatever purpose that it may be.

It must however be noted that shrines in Dagbon are not common like in the Upper regions of the north. As indicated in the literature, the Dagomba people are believed not to be autochthonous people but foreigners who found themselves in their present land through war of conquest. They practice Islam and this explains why shrines are uncommon. It can therefore e be said that in most traditional societies, this norm helps to conserve nature; some specific tree and animal species from getting extinct. This also creates a picture for the young generations to have a feel of how the natural environment was once like years ago. This also contributes to making oral tradition acceptable. These sites also serve as the ritual sites of the

Similar to the above mentioned norm is the practice of not farming near graves. Strangers are forbidden to occupy lands that also around graveyards. The spirits of the dead play importance roles in the lives of the living. Such spirits are believed to provide protections, blessings and directions to the living. Where such is violated, curses are believed to be unavoidable. Such sites are revered as every person of the community who is immortalized is perceived to become an ancestor and needs an environment of quietness. Generally, dead people in Ghana are treated with much respect than the living therefore their places of abode are also treated specially. Such sites are supposed to be places of quietness and not noisy and farming being an activity that involves so many activities of noise, for instance drumming during weeding or harvesting may create noise. That explains why farming is not allowed near such areas. There are other reasons for upholding such norms and this may vary from people to people and community to community. Burial rites go with rituals and these are shrouded in secrecy and mystery. Strangers are not supposed to know what constitutes these rituals and even some members of the community. The literature has it that some knowledge of the local people is special and limited to some people such as the chief, earth priests and others. Rituals associated with the dead at graveyards are carried out by some people and this explains why land around such areas is not given out for farming and denied complete access by strangers. These first two norms are seen to be taboos as they are forbidden and may have negative consequences when disobeyed.

Also people who are not of the same decent of the study community do not own land. This norm seems difficult to understand nowadays as a result of the role of influence of the formal institutions regulating land in the country. Initially land used to given to every one free of charge regardless of one's ancestral background. However, strangers or settlers are though can use such lands have no rights to owning them. For instance, we have household and clan heads that control household and clan's lands with the chief being the custodian of the entire community's land. With the case of settlers or strangers, no ownership status is granted them at all by the chief. They are treated as temporary occupants of the land who can be disposed of the land at any given time. This norm though seen to be discriminatory, contributes to solving land disputes and avoiding situations where the local people though owners of the land but weak may lose their rights to powerful strangers whose interests may not be of benefit to the community.

According to the Kpaacha-naa, the sites of the jatropha plantations were farmlands for some strangers however when Biofuel Africa Limited showed interest in that site those people were immediately told to vacate such sites. However in modern times, land is becoming scarce,

fragmented and associated with problems of multiple ownerships. There formal regulations documenting true ownership are creeping in gradually as a way of curbing land disputes. This is a major concern now in Ghana. As at the time of the data collection, Biofuel Africa Limited had only been given a lease of 25 years to work on the land by the Lands Commission even though the chief of Dagbon may exercise some control evoke such conditions if the company fails to comply with their informal arrangements.

❖ Values and Practices

These are dimensions which contribute to mutually benefits of community lands. The study communities have values and practices that influence on the broad behaviour of the people concerning the use of land and other resources. They spell out moral and ethical conducts. In the study communities accessibility to land by everyone regardless of his ancestral background is free. One can cultivates as much pieces of land he or she can as there are no restrictions or limitations to the number.

Furthermore, some natural resources on the land constitute great assets to the people and are treated with care. Every person occupying such lands must not fell some trees that are particularly of economic benefits to the people. Trees that provide sources of livelihood to the people are regarded economic trees and these include the Shea tree and the Dawadawa tree. Indiscriminate felling down of such trees may attract punishment. These trees have equally been noted in environmental laws of the country. Agencies such as the EPA frown upon the cutting down of such trees. It was therefore not surprising that the company was queried for cutting down some Shea trees during the initial stage of production.

There is the practice of reciprocity among the people. After harvest some members of the community share their produce with the chief. This is obligatory to all strangers to have been given land to farm. As a way of appreciation for being given land free of charge to farm on, some proceeds from the farm are presented to the chief to thank him for his kindness.

Also it is assumed that all methods of farming are environmentally friendly, therefore the study communities do not have specific farm practices concerning land tillage.

❖ Cosmovation

Cosmovation expresses the relationship between people, nature and spirits. It provides the lenses through which people view their life, world and cosmos. The people of the study communities who are agrarians have a deeper relationship that exists between their

cosmovision and agriculture, as this is common in some part of the world. For instance informants believe that God gave them the land and the resources on and beneath it, and out of this land emanates life. This land they believe provides them with food, meat, herbs for treating ailments and homes for them and habitats to animals. Therefore there is the need to revere the land in the form of worshipping it through the demarcation of some sites as groves and shrines. As noted earlier, these are not common in the study communities compared to those communities where the people consider themselves as the autochthones such as the Konkombas.

According to t

❖ Durbar as a platform

Durbars are common platforms generally organised in Ghana to bring local people, government officials or investors both local and international together to interact and discuss development issues pertinent to a given locality and important. They serve as meeting grounds for major stakeholders in development to meet and for the local people to participate in decision making. Even though they are activities with limited time, they allow for the selling out of development agendas and sharing of benefits thereof to be sold to the general public.

Leadership structure of the study community

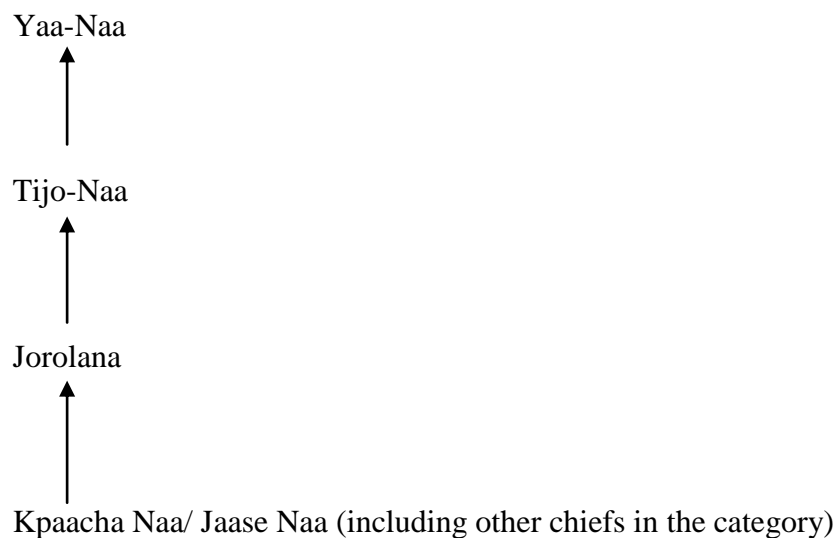


Figure 8: Leadership structure of the study community

5.3.1 Limitations of traditional institutions

In a society like Ghana which has encountered western values and ideologies through colonization, and now globalisation where nation states are becoming borderless with free movement of goods, services, ideas, technology and human beings; reliance on traditional institutions for regulating resource use is a challenge now. From the study it is realized that Traditional institutions in the study communities are not adequate enough at addressing issues of natural resource use especially land. This is seen in the following:

Firstly knowledge about traditional institutions is not spread evenly across the populace. That is by the nature of the knowledge where some is regarded as special and held by few people, ignorance of such institutions may permit abuse of natural resource use. It is noted earlier that not every member of the community equal access to community norms. This is more serious with foreign investors who are not even familiar with the culture of those people of that community. It is argued that one gets to learn some of these institutions with time, but what guides outsiders whiles they learn these norms? It means that with the skewed distributions of knowledge about this institutions violation mistakenly may be common. This makes traditional institution inadequate at addressing issues around land use especially were foreign investors are involved.

Secondly, traditional institutions are also general and broad. They fail to define what is specific at a given point in time. They fail to even capture the future as population increases and society develops. It may be true that the people of the study communities least thought that one day, an investor will come and demand land from them for a commercial agricultural venture, therefore norms about large agriculture activities undertaken by foreigners have not be addressed by traditional norms. I was not surprised when the people said that they have no specific norms addressing farming methods.

Traditional institutions are also difficult to blend or reconcile with other local institutions in a given area. Every community in Ghana has its own norms, which are unique, and limited to that particular community. This creates a gap for joint development to be undertaken by two neighbouring communities who share a common investment project but have different norms and values. Agreement on which norm to apply may be difficult to reach.

6 INADEQUACIES EXISTING AS A RESULT OF LACK OF RENEWABLE ENERGY LAW IN THE COUNTRY

In the literature review segment, it is evident that the country does not have a renewable energy law yet though has a national policy with biofuel production going on for several years now. This chapter discusses some of the inadequacies that the absence of renewable energy law is creating for the entire industry with various perceptions of the three major actors involved in biofuel production in the country under consideration.

6.1 Legal pluralism in biofuel production

Biofuel activities directly involve the use of natural resources such as land, and also affect plants, animals and water bodies. Since there is yet to be a substantive renewable energy law in Ghana, it is claimed that biofuel activities have to be carried out in line with some existing legislative provisions. Chiefly among these are the Agricultural Law, Environmental Law, Energy law, and Civil Law of Ghana. Agricultural Law guides the use of the land (soil) and other valuable resources found on the surface of it. Environmental Law provides guidelines for the protection, conservation and use of the natural environment. The Civil Law defines the parameters for acquiring land such as administration and registry and the tenure of it. Energy Law grants concessions to individuals, companies and institutions that are interested in undertaking biofuel activities within the country. These are elaborated below and the degree to which some of these laws are observed by the various actors involved in biofuel production will be discussed in the ensuing chapters.

CATEGORY OF LAW	RELEVANT/APPLICABLE ACT
Agricultural Law	Economic Plant Protect Act, 1979
	Land Planning and Soil Conservation Act, 1953
Civil Law	Administration of lands Act, 1962
	Land Registry Act, 1962
	Land Title Registration Act 1986
	Lands Commission Act,1994
Energy Law	Concessions Act, 1939
	Energy Commission Act, 1997
	Ghana Petroleum Authority Act, 2005
Environmental Law	Economic Plant Protection Act, 1979
	Land Planning and Soil Conservation Act, 1953

Table 2: showing some of the laws applied in the biofuel sector

Those listed in the table are some applicable acts of the various laws that are relevant to biofuel. The list is inexhaustible but the thesis has captured a few of them and will discuss how some of these have been observed in the study area regarding biofuel production.

Holistically, as far as biofuel production in the study communities is concerned, the data showed the interaction of various normative ordering systems (Tamanaha 2008) at play. Official legal systems and community/cultural normative systems are the commonest. The study communities have examples of norms (as discussed earlier) that govern and regulate the use of land. It is also evident from the table that myriads of laws exist for regulating biofuel production and land use, with all these legal official laws co-existing with the community norms all aiming at safeguarding biofuel production.

Considering the practicalities of these legal provisions, it is realised from the data obtained that there is lack of participation by officers from some of the various units and departments in charge of enforcing those laws listed above. For instance, it is revealed that officers of the Regional Agricultural Unit were not part of the initial process of enquiring the land. No technical advice was sought from this unit concerning the suitability of the site for jatropha cultivation. Also no efforts were made by the company to obtain guidelines of operation from

this unit as stipulated in the agricultural law. An officer from this unit commenting on the present status of the plantations therefore stated that the site of the location of the plantation was a wrong choice and could have been avoided if they were made part of the process.

Concerning land acquisition, the situation in the study areas revealed a clash between the official legal system and the community system. This clash appeared to be against the norms of the people but as said in the literature review segment, norms in Ghana have no legal status so the local people have to accept the situation. For instance, in northern Ghana, land is communally owned and one can cultivate any piece of land for several years provided the person does not violate the norms of the community. Regarding the land for biofuel, it is realised that the community had to grant an individual ownership of their land to a 'foreigner' on the grounds of a lease for 25 years. This is contrary to what pertains in the people's culture and tradition but it is an official requirement which is mandatory. This shows that though there may be myriads of laws concerning an activity, they may pose clash over the interest of the individuals involved. However, in most cases the official laws supersede everything even though they may not necessarily capture the local people's interests and values.

Energy law has been fully observed as the company has been able to obtain a concession to start operation from the country's Energy Commission. The Environmental and Agricultural laws were initially violated by the company during its early stages of production (preparation of land to plant jatropha seeds). According to the Economic Plant Protection Act, 1979 as stipulated by the two laws, no economic tree is supposed to be destroyed or fell by way of paving way for any economic/agricultural activity. Shea trees are considered economic trees and the company during its initial stage of production began to fell down some of these trees. The EPA intervened on time and this wanton destruction was stopped. The agricultural unit did not do anything to stop the act.

Linking this to the present situation of lack of renewable energy law, it is realised from the interview with officers from the Agricultural Unit that there is less information at their disposal about the general activities of biofuel in the country. These people believe that an economic activity of this magnitude should have a substantive law as this law will not only legalise that activity but will provide detailed information of what goes into biofuel production. This will also automatically put information in the domain of the public thereby making every one abreast of the situation and roles of that the individuals involved ought to play.

6.2 Local people

One of the inadequacies that the absence of the renewable energy law has created is the lack of authority to challenge some unscrupulous activities posed by the biofuel Africa Limited to the community. There is no doubt that informal institutions are being used to regulate biofuel activities, but they fact lack legal status, and this makes them incomplete and incapable of addressing problems emanating from biofuel production in the community holistically. This situation denies the local people of that legal right and authority to sue the company in the country's law courts about some of its activities. It should be noted here that the local people are aware of the weaknesses of their institutions in recent times about addressing economic and environmental problems. They therefore lamented about challenges that they have to contend with regarding biofuel production on their land as a result of the absence of any renewable energy law to regulate biofuel production in their communities. The Kpaacha-naa said this;

We know that the company has good intentions for us, but some people have hijacked the process and reaping the benefits at our expense.

Also, when the company started its activities, some economic trees such as the Shea tree were felled but we the community members were helpless until the EPA intervened.

An individual informant at Jaase said this;

I don't think that felling of trees by the company on the sites of the plantations was part of the agreement even though I did not participate in the negotiation process but I could not stop the company because we don't have detailed information about what has been agreed upon and even when sometimes we question some of these activities, we only get informed by the Tijo-naa that he was aware. So now we don't know what should be questioned. Tijo-naa is the law.

This statement spells out the frustration that some community members experience as a result of the fact that there is no renewable energy law to challenge some of these bad activities taking place on their land. They only person who they think has that authority is the Tijo-naa who is aware of all the activities of the community but does not share this information with them and does not even intervene when the company's activities are affecting the environment. This shows that not only does the absence of the law defraud the people of the legal authority but also relevant information needed by them to take major actions pertaining to the use of their natural resources.

Secondly, the lack of official law on renewable energy resulting in the use of informal structures affected the nature of agreement reached between the community and the local people. No official document was signed indicating the terms of conditions desired by both

the local people and the company. All the discussions were verbal, unofficial and non-documentary. This process posed challenges to the local people later as it created the opportunity for the company to disobey some of the conditions that were part of the agreement between company and the people. It is noted in everyday life that anything said verbally is not taken serious as it lacks any concrete proof and legal binding. The Jaase-naa said this;

I have been demanding for documents from the Tijo-naa to sign concerning the land that I control on which the plantation is located, but up to date I have not seen anything; I am still waiting to receive that document from Tijo-naa. So if I have no documents and Tijo-naa who is my superior told me that he is aware of everything that is happening on the land, what then can I do?

Also the agreement to share some benefits realised from biofuel production between the people and the company did not materialised. Community members admitted that only two dams and a grinding mill were provided to them by the community, some other things were not provided. All these lapses were noted by the community members as no law has been in place to protect them in that regard. It was also agreed that community members were to be recruited as labour to work on the plantations but this agreement was not fully observed as workers were recruited in large numbers from Tamale and other areas leaving the abled local people who were willing to idle. This emphatically did not auger well with the local people yet they had to accept the situation for lack of the power to fights for their demands.

Conflict resolutions became a problem as a result of the lack of substantive renewable energy law. There were pockets of conflicts existing between some of the divisional chief and the sub chiefs, and also a conflict between the divisional chiefs and the management of the company. This has to do largely with community participation and the sharing of benefits in the process. The divisional chiefs felt involved in the initial stage but alienated with everything handled between the Tijo-naa and the company manager (Mr Awal). The divisional chiefs felt that though they are under the Tijo-naa, they need to be informed of some decisions about the company since they are living very close to it. The Kpaacha-naa seems a little informed about the company's activities but the Jaase-naa claimed to be unaware of any subsequent development about the company even though he controls the land at Kpaacha where the plantation is located. The Tijo-naa is also at loggerheads with the Kpaacha-naa as the former accused the latter of giving bad information about the company to the public. The Kpaacha-naa also claimed that he was only admitting what he and his people have been promised and what they have gained so far. These opposing views among the

various chiefs have created communication gap between the divisional chiefs and the sub chiefs. However, the divisional chiefs have to live with the situation as they cannot challenge the Tijo-naa or the company. But situations like this need to be resolved by an external independent body so to avoid it escalating to into a serious problem.

Another problem posed a result of lack of substantive renewable law is the problem of ignorance created about the activities of biofuel. The people lack the fundamental knowledge about what biofuel entails and its relationship with development and the environment. They people are easily convinced to accept any development proposal from investors without a detailed assessment of it. With the occurrences of unmet agreements, even the government agencies who are supposed to be part of the process cannot help the local people very much in that regard. The creation of such a law would have thrown more light about what goes into biofuel production and provisions and opportunities exist for the local people. The level of knowledge about biofuel production in the country was tested and a male informant responded this way;

I am not aware of the existence of any biofuel plantation elsewhere especially in northern region. I am not aware that the company was chased away by the people of Kusawgu in the Central Gonja District.

A law on it could have thrown more light on biofuel and its activities in some other parts of the country.

Furthermore, the lack of law on biofuel makes it difficult for local communities to benefit much when coming to agreement with the companies. Like mining in the country, various laws and ordinances have been passed over time defining how much should be held as benefits for local development. As such, local people don't need to go in to detailed informal discussions with companies in order to establish what is due them. This situation makes foreign investors take advantage of local people. The company suggest what ought to be given to the local people and there is no legal binding that such benefits as promised will be delivered with time. This makes local people worse off in spite of the fact that they own the natural resources. The chiefs and their people all admitted that the company proposed what it intend to give to the community as benefits and not a demand made by the local people.

6.3 Biofuel Africa Limited

The lack of a substantive renewable energy law has thwarted the efforts of the company in several ways and this has contributed largely to the present state of the company.

Firstly, the lack of substantive energy law to support biofuel production in the country has made the company's activities unacceptable by the local people. As a result of reports made in the media and some campaigns by civil society groups about the negative impacts that biofuel has on local livelihoods, people are unwilling to support the company. This he claim is a serious problem facing the company as it spends a lot of time trying to refute some allegations or publications made against the company in the media. The company has been painted black both at home and abroad and this has affected the company so much.

Mr Awal, the local manager said this; *some people from NGOs such as RAINS have written bad reports about the company. The people have also been told that jatropha production will improve their living conditions and this has made the people to have some negative attitude towards the company*

Secondly the lack of substantive renewable energy law has hindered the company from getting any financial support from the country's financial institutions. The local manager of the company mentioned that with the negative image given to the company by the media, no bank in the country is willing to support them financially even though the Agricultural Development Bank offered some help at a point in time which was not enough to salvage the company's operations. The local manger also admitted that getting financial support from foreign banks such as those in the country where the company originated from is a challenge due to lack of legal support given the company. Mr Adam Awal, the local manager said this;

Apart from ADB, no bank is willing to support us because they think that jatropha cultivation will not immediately bring good fortunes to the local people. They banks feel that our activities are illegal since no renewable energy law exist to support us. They think that jatropha curca is not a traditional crop in the country but something alien that is why the government is not recognising it legislatively so it will be unwise for them to give their monies to us to support and promote such a venture.

Conflict is another area which the company is battling with. This is as a result of lack of clearly defined roles and responsibilities for the various actors involved in the production process. The lack of laws as made the management of Biofuel Company to be confronted verbally at any time by the local people without any defence. The manger said this;

The people are always insulting me that I am the one enjoying the benefits of the company; I am being greedy and selfish. I only work with people from Tamale and not them. Supposing that there was a law, I would have sent this people to court to substantiate the allegations made against me. I am constantly harassed by the local people. Their words are very abusing and I am being ridiculed and seen as a bad person by the public.

6.4 Government agencies

Monitoring of biofuel activities becomes difficult as a result of lack of substantive law. For instance the Yendi Municipal Assembly admitted that issues of labour recruitment were brought to the notice of the Assembly, but they could not call the company to order because they lack the legal power to enforce such a decision for there is no public document at our disposal which binds the company to that effect.

The Deputy District Planning Officer said the following:

We are always interacting with the local people on daily bases. Some come to our office purposely to complain about the level of dissatisfaction that they hold against the company. The local people told us that people are usually brought in buses from Tamale to work on the plantations even though they are readily available and willing to work. The local people asked us this question; what is the essence of the company being on our land if we don't get jobs to do? So we the Municipal Assembly are aware of all the plights of the local people but we cannot do anything about it because we don't have the legal support. Central government has not given us the capacity or mandate to act in that direction. We are still waiting for the central government to give us the go ahead.

Even the Assembly demanded for the periodic reports of activities of the company but the company failed to do so with Assembly having no legal support to call them to order. Some government agencies such as the Agricultural Unit are of the opinion that the site at Kpaacha for the jatropha plantation was not suitable area, but they were not consulted to make recommendation and they don't have the legal rights to challenge such a venture.

Furthermore, there is that lukewarm attitude put up by some agencies over accepting some responsibilities. Some of these agencies play ignorant of what they ought to do. In Ghana, anything that is without legal support is not taken serious. The importance of that activity will be downplayed for it is believed that anything importance should be recognized by the central government and made official and legal. A discussion with an official from the Regional Agricultural Unit yielded this:

I am a trained Agronomist working here for so long. Since the arrival of the Biofuel Africa Limited in the region, no face to face interaction has existed between us. We have not been notified from Accra that such a company will be operating in the region with jatropha production as its area of focus. So we cannot act without any directives from the national government. Even I am of the opinion that the sites of the plantations are unfavourable. If I were contacted and made part of the process, I would have advised the management of the company to look elsewhere for land. I have observed that the local management team of the company lack the expertise and requisite skills to run such a large project but that is their problem. We only act on government directives and since I have not been given that responsibility in any document by the national government, I cannot go outside the scope of my duties.

This situation implies that government agencies cannot be sanctioned if they fail to perform their duties.

Also the lack of renewable energy law has put pressure on those government agencies that have been chosen to handle biofuel related activities. It is clear that all the agencies mentioned above charged with the responsibility of regulating biofuel production have their primary functions and responsibilities already. Nonetheless these agencies are expected to combine their primary task with biofuel management. However, some of these agencies lack the requisite knowledge and technicalities about biofuel production. Some are not well informed about current happenings within the domain of biofuel. Such agencies are therefore saddled with such responsibilities. This explains why biofuel production in the country seems to lack a clear focus. The regional EPA said this: *we have a lot of work to do. So far we are the only agency in the region that is monitoring keenly the activities of the biofuel company as far as the use of environment is concerned. We already have a lot to do and now an additional task has been added. I am always busy and I hardly have time to sit in office. We are usually on the field. I feel like everything about biofuel is left onto us to handle. We cannot do it alone.*

The absence of a renewable energy law has also affected the importance of biofuel to the country's economy in general. Having a draft policy is not enough to sell out the importance of biofuel production in the country. Many countries have been successful in their bid to replace non renewable energy with renewable energy because they have been able to come out with new laws on biofuel or expanded the scope of existing laws to include biofuel. Already many debates are on-going that biofuel production is an ideology of the developed countries to re-colonize developing countries and not necessarily an economic activity to boost development in the developing countries. It must be noted that from the research, many

people up to date do not know what biofuel is, its goals and how such goals are to be achieved. A female informant at Jaase said this;

I don't know what the plant is about. I am told that is not an edible crop and the fluid from the plant is also dangerous to the human body especially the eyes. I don't know what they are going to use the seeds for and it's being cultivated on large scale like that. We listen to local news on radio but I have not heard anything about biofuel and how it can be obtained from this plant called jatropha that I am seeing in my community.

Based on her words, it is realised that the basic information that some of the people have about the jatropha is that it is not edible. They have no idea what at all biofuel is about and what the national government intend to achieve through it. Even though the local people's situation can be attributed to illiteracy; it should be born in mind that some officials at the various department and agencies of the country are not also fully aware about what biofuel production in the country entails. Coupled with this is the misconception about jatropha that it is not edible food and that renewable energy through biofuel production is largely an idea of the western world. So this has affected the attitude of company and without any substantive law in place biofuel production has not been given the necessary attention that it deserves in the country.

7 INSTITUTIONAL ANALYSIS OF BIOFUEL: A DISCUSSION

This chapter provides a linkage between theory and the data presented in chapter 6. It throws more light on how the findings of the thesis have been viewed using the literature in chapter four as a lens.

7.1 Biofuel and institutions

The data presented showed that issues of legal pluralism are common in the biofuel industry of Ghana. Official state legal and customary/community systems are common though economic/capitalist norms exist (as they constitute the motive behind biofuel companies' search for lands in the country) not forgetting the fact that religion (Islam) is also playing a major role in shaping the daily lives and activities of the local people in the study communities.

From the data presented, it is clear that the issue of conflict is looming, nonetheless, how and where this should be handled has not been mentioned. This is the first challenge that I identify with legal pluralism in the biofuel industry. Within the customary framework, a conflict between two local people is resolved by the chief and is elders in council. With biofuel production, 'foreigners' rooted in capitalist or economist normative systems are involved, yet the situation failed to spell out where appropriate should conflict between the local people and the companies be addressed. This makes the legal system about biofuel production incomprehensive and incomplete. Associated with this point is the fact the designated official state laws are applied to different situations in agriculture (biofuel production) with different agencies responsible for the application of these laws. The lack of a central agency or body to coordinate or collaborate with these agencies makes it difficult to decide which law is appropriate at what point in time for a particular situation.

Also the use of customary or community normative systems (like norms) have no legal status in Ghana. Nowhere in the constitution of country is it stated that norms have been legislated to take the place of the renewable law or to act as an interim measure to handling biofuel production. The use of norms has been assumed because their use seems convenient and smooth despite the fact that they are not an end in themselves. That is why some related laws have been applied though it is evident that that they are not also effective, the aim is just to make biofuel activities appear official or formal but in essence these laws are flawed.

It is also realised that legal pluralism as a major feature of biofuel production in the country is not making activities from all actors in biofuel production homogenous and unifying. For instance, the tenets of the agricultural laws are different from the other laws. Reconciling the differences in the contents of these laws for biofuel production is difficult. This is compounded again by the lack of central agency or body to coordinate the biofuel activities in the country.

Legal pluralism has also presented a situation of lack of overarching hierarchy and organization. So many laws are found in biofuel production including local norms, practices and values, nonetheless no efforts have been made to organise and rank these in order of responsibilities and importance. This has created a situation where agencies such as the Yendi Municipal Assembly are feeling reluctant to monitor and regulate biofuel activities in the Municipality. The Assembly does not know its position in these activities and their definite roles and when to act. This indeed explains why the Assembly is passive as far as biofuel production is concerned. The Regional Agricultural Unit is also passive as they appear to be less informed about the company's activities in the region. To throw more light on the issue on the ground I will narrow the discussion down into two areas namely formal and informal institutions.

7.1.1 Biofuel and informal institutions

It is already indicated that informal institutions are playing a greater role in biofuel production in the study communities. The ensuing discussion therefore throws light on their importance appropriateness and inadequacies in handling matters related to biofuel production.

It is realised from the discussion in the data presentation that biofuel production in Ghana is conducted largely around informal arrangements in the northern part of country. Though some government agencies have been mandated to supervise and manage biofuel production in the country, their efforts have been marred by the absence of renewable energy law and this makes the informal institutions to be the major player in deciding the ways by which resources for biofuel production should be organised and managed. This is in line with Rauf (2009) view that informal institutions are developed to take the place of formal institutions when the latter is weak or absent. Also to buttress the point for the widely reliance on informal institutions is in the words of Tamanaha (2008) where he said that in most developing countries the official legal state legal systems are less differentiated, with less entrenched legal institutions and a less well trained legal professional and a shallower official tradition . The power of the official legal system is commensurably weaker thus customary or community systems may be more entrenched, have deeper roots and have greater roles in day

to day social life. The findings of the thesis showed that there is no complete absence of formal institutions but they are weak. Government agencies such as the EPA, the Municipal Assembly, the Lands Commissions and others have been tasked with the responsibility of managing biofuel production but these agencies have been constrained making them weak to perform to their optimum level. The absence of the renewable energy law has been substituted by laws from Agriculture, Environment, civil and Lands but these are not also comprehensive enough to cover every aspect of biofuel production. This explains why in the findings of the thesis, norms, cosmovisions, values and practices play major roles in the biofuel industry in the northern part of Ghana notwithstanding their limitations also.

Secondly, the literature pointed out that institution that is whether formal or informal have the capacity of reducing transaction cost if they are clear and transparent. From the findings of the study, it is realised that this characteristic about institutions put up by Rauf (2009) is illusive in the context of the study community. This view is perhaps not applicable in the study area because as he said, the institutions should be clear and transparent. From the data presented, it is evident that there are rules though not codified into laws governing land use for agriculture. However, informants from the community such as the Kpaacha and Jaase stated that the processes and procedures to be followed during subsequent interactions between the community and the biofuel company have not been satisfactory. The findings showed that Tijo-naa controls all information about the company's activities with the communities having a little. This is what brought about the increase in transaction cost of biofuel production in the community. This also affected the equitable distributions of benefits as opined by Rauf (2009). For instance the lack of clear and transparent dealings or agreements between the community and the company created the atmosphere where community members vehemently refused to work on the plantations (pick jatropha seeds and sell back to the company) for lack of trust. This attitude of the community members also affected the image of the company when it comes to giving out information about it. The local manager of the company admitted that the lack of good rapport between the community and the company is affecting the potentials of the company both locally and internationals as the community members turn to feed the media with all sort of information about the company. Moreover, information about agreements reached between the company and the community during the initial stage of biofuel production has not been widely diffused among some of the leaders of the community and this also contributed to increase in transactions cost, a situation which should not have been so. The Kpaacha-naa and the Jaase-naa also mentioned of the skewed nature of information about biofuel production towards the Tijo-naa. The Jaase-naa mentioned that he

is still waiting to sign the agreement document between the company and the community over the use of his land. The lack of clarity and transparency in the biofuel dealings has put the importance of informal institutions to doubt about their effectiveness in managing local resources. It is therefore not surprising that Pacheco et.al (2008) captured that some scholars think that informal institutions are equated to chaos and disorganisations and synonymous to illicit behaviour such as corruption and clientelism.

In the literature, Rauf (2009) also pointed that informal institutions are capable of generating social capital that is the networks together with shared values, norms and understanding that facilitate co-operation within or among groups. In the context of biofuel production in the study communities, it is realised that social capital may be unattainable. At the initial stage of the negotiation process, all the local people shared a common view that community development could be achieved through biofuel production on their land but this is not the case again. The people's unity is unstable as they no longer trust the Tijo-naa and the local manager of the company and this explains why the local people even wish that the company collapses.

Informal institutions are also hailed to be second best where formal institutions exist on paper but not effective. From the data presented, it is realised that some government agencies have been tasked to handle matters related to biofuel production in the country, but more often than not these agencies turn to rest on their odds forcing informal institutions to take up the responsibility of meeting their own development needs. For instance, it is mandatory for the Yendi Municipal Assembly to be aware of all agriculture activities and even be the first point of contact (political head representing the president at the local level), but surprisingly, the assembly is doing little to attain its position. The data from the Municipal Assembly revealed that the company had already completed negotiations with the local community over the release of the land before the Assembly was made aware. The Assembly did not query the company or the community members for this act though they have the authority to do so. The Assembly demanded for periodic reports from the company about their activities but the company failed to avail such reports yet the Assembly is not concerned about taking any action against the company. This explains why almost every activity is carried out between the company and the community. The local community have no confidence in the Municipal Assembly and feels that the Assembly will not punish them for any act of disobedience. This may also be the reason why the biofuel company has refused to recognise the importance of the Assembly in their activities. The EPA is very effective and it has received recognition from the company. The EPA guidelines also have been followed to the latter by the company.

The local people also have confidence in the EPA than the Municipal Assembly. From the data, the informants admitted that the company during its initial stage of production began to fell Shea trees and the EPA quickly halted the activities of company.

7.1.2 Biofuel and formal institutions

The literature points out legislations from agriculture, civil, environment and land have been drawn and applied in the sector of biofuel production but the findings of the thesis showed that none of these laws in their individual or collective form are capable of addressing issues in biofuel production as these turn to be incomplete in their coverage. None of these laws have been able to capture how sharing of benefits and costs accruing from biofuel production should be shared, compensation in case of damage should be done and the mode of meeting community development such as jobs creation, facilities and services provision among others. This implies that the absence of a particular law or legal arrangement does not mean that related laws can easily be substituted and made workable or useful. This situation is seen in the limitations of the formal institutions discussed in the previous chapter. It also implies that the existence of many laws (legal pluralism) around an economic activity is not a guarantee that such an activity will be effectively carried out with benefits/costs equitably distributed. From the study I think that a weak but specific available law about an economic activity or service is good though not sufficient for the success of that particular activity.

On transaction cost again, it is realised that the absence of the renewable energy law has affected the company's inability to solicit for financial support from the country's banks. This has affected the company's production activities as shown in the research findings.

Legal pluralism has seen in biofuel production comes with clashes as noted by Tamanaha (2007). It is realised that land for agriculture in the study communities is not individually owned by communally. Leasing of land in the sense of the community norms is alien. However, formal institutions through agencies like Lands Commission in the country are charged to lease lands of that magnitude. Traditionally, land can be controlled by individuals as long as they can till it but one can also be disposed of such land if failed to meet some conditions at a given point in time. This is seen to be effective as it ensures that land is properly put to good use. With the legal authority vested in individual owners of land, it means that the land can be left idling so long as it falls within the leasing period. For instance the plantations at Kpaacha have been abandoned and the company moved to Botanga to cultivate maize yet no other person can have access of to such land because of the lease given

to the company. This is a situation which the community frowns upon and seen to be in contradiction with their culture. However, since informal institutions have no legal status in the country, the local people have to accept the situation. This is the problem that legal pluralism creates, that is giving power and authority to one law even if it is working against the interest of the majority of the beneficiaries.

8 SUMMARY AND CONCLUSION

This chapter provides a snapshot of the outcomes of the thesis. It goes further to make recommendations of what can be done to improve biofuel production in the country in general.

8.1 Summary of findings

The outcome of the research yielded unsatisfactory results about the state of biofuel production regarding the effectiveness of the country's institutions. The thesis revealed that biofuel production is not making progress as far as the goals of biofuel companies and the interests of the local people are concerned. The formal and informal regulatory structures in the form of institutions are not performing effectively thereby posing challenges to biofuel production which translated into tension between management of biofuel companies and the local people.

The researched showed that the currently Biofuel Africa Limited as abandoned jatropha production and shifted to maize production in a different locality (Botanga) of the region. Local level development has not also been achieved much as only some few short term jobs were created and some facilities such as grinding mills and dams provided.

Informal institutions

Informal institutions in the form of norms, values and practices and cosmovision are being applied in managing natural resource in the study communities. The study revealed that such traditional African Knowledge is the source from which these are derived from. Traditional political leaders such as chiefs, elders and earth priests are regarded the agents through which this knowledge is spread across the populace. These agents also enforce these institutions among the people.

The findings revealed that as far as land for biofuel production is concerned, informal institutions have been applied to define access and use. Land for farming is free but communally owned. The land for biofuel production has been leased for 25 years. No farm methods according to the local norms are prohibited. However, farming near some sacred places such as groves, shrines and cemetery/grave yards is prohibited.

On the effectiveness of these institutions, the thesis found out that they are not effective as seen in the following: firstly, these institutions lack no legal status. They are only being used as a last resort because the country as no renewable energy law yet. Although there are laws

which have been designated and applied in the field of biofuel, they are not effective. This therefore made the local people to take charge of their own development goals using their own local institutions to realise their goals. The challenge of these norms lacking legal backing makes local people worse off. This is seen in the fact that promises made by the biofuel companies as part of their agreements with the local people have not been fulfilled yet the company is not legally punished.

Formal institutions

The thesis revealed that there is a draft policy on renewable energy is in place now. However, since the inception of biofuel production in the country, laws from agriculture, civil, Environmental and Land have been applied to manage and control biofuel activities. This created a situation of legal pluralism as these laws are made to coexist with another not ignoring the fact that informal institutions have also been observed in the study areas. Agencies such as Lands Commission, Environmental Protection Agency, Ministry of Agriculture (Agricultural Unit as called at the local level) and the ministry of Local Government (Metropolitan, Municipal and District Assemblies at the local level) exist. The study revealed that apart from the Environmental Protection Agency the remaining agencies are ill functioning. A situation attributed to lack of clear definition of duties and responsibilities by the central government.

The study revealed that legal pluralism has created problems of power clashes between the customary normative system (informal institutions) and official state legal systems (formal institutions). For instance, the land for biofuel according to legal regulation has been leased for 25 years. According to informal institutions, the land could have been used as long as the company can but the company could be disposed of it by the chief and his people at any time when the need arises. This is a situation that the local people are yet to come to terms with.

Secondly the use of many laws and agencies without a clear definition of responsibilities has made some agencies underperforming while others over tasked. As shown earlier, only the EPA is recognised to be effective, the Yendi municipal Assembly which is the political head of the people are not monitoring the activities of the company at all making the company not to also recognise the assembly as a body which has the authority to influence their operations.

8.2 Recommendation

From the discussions in the various chapters, the thesis makes these suggestions by way of recommending:

Firstly, the passage of the renewable energy law should be one done as soon as possible. This will not only help legalize the activities of the biofuel in the country but also boost the chances of biofuel companies to getting financial support from banks. It will also curtail the bad impression created about biofuel production in relation to livelihood improvement.

Secondly, a substantive body or agency should be created and charged with the responsibility of controlling and managing all biofuel activities in the country. This is not to say that other agencies relevant to biofuel production should be ignored but this agency should coordinate and collaborate with such agencies to ensure that the country's biofuel policy goals are being met.

There is the need for mass education about the importance of biofuel production in the country. It is realized that the information about the country's biofuel policies is not widely spread across the population. Many people are not aware of the policy recommendations, targets and the kind of agriculture crops that is supposed to be used to generate this fuel. A nationwide education through both print and electronic media will help deepen people's knowledge and understand about biofuel production. This will contribute to removing the misconception and prejudices that people hold about biofuel especially in regards to land use and livelihood change.

Issues about societal norms, values and practices are difficult to deal with, therefore the Municipal Assembly should wake up to its call and work closely with the traditional leaders to ensure that agreements between companies and the local people are made clear and transparent to all and sundry. Also there should be documentation of all agreements between the company and the community with signatures from some key leaders of the Traditional Political Authority and the Municipal Assembly. The Yendi Municipal Assembly should help the traditional leaders formulate these documents since of these leaders are illiterates and lack the technical know-how. Any written agreement of this sort will serve as a legal document and a point of reference to hold any actor in the biofuel business to task if failed comply with or meet the requirement demands of the people.

The chiefs and the management of the company should also create platforms such as durbars so to promote socialization and or social interactions among the various actors involved in biofuel production. The local people yearn for these opportunities to dance and share their views with company management and to also interact with government officials. This will

promote unity and reduce the dangers of mistrust, misunderstanding and conflicts among all the actors involved in biofuel production.

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APPENDIX

INTERVIEW GUIDE FOR DECEMBER 2011

INSTITUTIONAL ANALYSIS OF BIOFUEL PRODUCTION IN NORTHERN GHANA: BIOFUEL AFRICA LIMITED AS A CASESTUDY

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Ministry of energy/Energy Commission/ Ministry of Agriculture

1. What are the various government ministries that are involved in regulating biofuel production in the country?
2. Which agencies also support in these regulatory activities?
3. State the laws that govern biofuel production in the country?
4. What are the laws saying about community development in the areas of jobs creation, provision of education and health facilities, potable water and others?
5. What are the laws on biofuel production saying about soil degradation /erosion as a result of biofuel plantations?
6. What are the laws saying about the deforestation?
7. What regulations are given to biofuel companies regarding the protection of plant cover?
8. What are the laws saying about the use of chemical by biofuel companies?
9. What are the laws saying about access to and use of biofuel sites by the local people?
10. What are the laws saying about acquisition, ownership and use of land for biofuel production?
11. What do the laws stipulate about conflict prevention?
12. How are conflicts to be resolved between biofuel companies and local people should they arise?
13. What are the factors that make it difficult for the country to have a renewable energy law?
14. What local norms guide in land acquisition in the country?

15. In what way do these norms define how companies should protect the environment regarding vegetation cover and the pollution of water bodies?
16. What are these norms saying about community development in the area of jobs creation, building of schools and health centers, road construction, potable water provision and many others?

Ministry of Local Government

1. What is the major source of land for biofuel production?
2. Describe the process by which land is acquired by biofuel companies?
3. What are the local laws and regulations guiding biofuel production in the region?
4. At the national level, what laws govern biofuel production in the country?
5. How active are local governments' participation in the activities of biofuel companies?
6. What challenges are local governments facing regarding the coordination of activities between these companies and them?
7. What has been the impact of biofuel companies' activities on job creation?
8. What has been the impact of biofuel companies' activities on social service provisions?
9. What has been the impact of biofuel companies' activities on general income levels of the local people?
10. To what extent has the local people access to biofuel plantations and its other operational environments?
11. What measures are in place to ensure that biofuel companies do not destroy the area's vegetation cover and the pollution of water bodies?
12. What modalities are put in place to ensure the prevention of conflicts between the local people and the environment?
13. How conflicts are resolved when they arise between biofuel companies and the local people?
14. Who are mostly the winners when conflicts arise between these two group of people
15. What factors make the winners win?
16. What role do local norms play in holding companies accountable to the local people especially in meeting community development needs?
17. What makes it difficult for Ghana to have a substantive law on biofuel or renewable energy?

Biofuel Companies

1. Where did you get the land from to establish your plantations?
2. Describe the procedure you followed to get the land?
3. Who were the parties involved in negotiating for the land?
4. Mention some of the conditions that were agreed upon between you and the other parties involved regarding the use of the land
5. Describe the process that you followed to get the land registered
6. How long did it take you to have the land registered
7. Were you charged a fee for the registration and how much?
8. Do you think that if the land were to be used for some purpose other than biofuel, the charge would have been less?
9. What terms of conditions are given to you by the Environmental Protection Agency (EPA) about the proper use of the land?
10. What are you doing in your capacity to ensure that the environment is protected?
11. Have you received any operational guidelines from any ministry or agency in the country?
12. Has the government given you any financial support or other support to boost your operations?
13. What current laws in the country guide your activities
14. How does the absence of a substantive biofuel law affect your activities?
15. What do you think are the challenges which make it difficult for the country to have a substantive biofuel law?
16. What local development projects have you so far been able to provide to the local communities?
17. Do you anticipate conflict among you, the government and the local communities
18. What should be done to avoid conflicts?
19. What do you do to resolve conflicts?

Community members

1. State any law in the country that guides biofuel production.
2. What government ministries and agencies regulate biofuel production in the country?
3. Describe the procedure for giving out land to foreigners (outsiders).
4. In giving out the land to the foreign companies, state the general agreements made between the community and the foreign companies regarding ownership and use of the land?
5. What does the agreement require of these foreign companies about job creation?
6. What does the agreement require of these foreign companies about the provision of social services such as schools, and health centers?
7. Mention the norms in the community about the use of land?
8. Mention one specific norm which protects the environment (water bodies, ecosystems and pollution prevention).
9. Are you allowed to visit or use some resources like trees and other plants in the sites of the biofuel plantations?
10. Generally, what are the benefits derived from the foreign activities in your community?
11. What problems are these companies giving to the community in terms of the use of the natural environment?
12. What other problems are these companies posing to the community?
13. What is the relationship between the community and the biofuel companies since you both co-exist in the same jurisdiction?
14. What social activities bring you and the personnel of the companies together?
15. How useful are these activities in promoting development and peace?

Regional Lands Commission

1. What is the major source of land for biofuel production in the region?
2. Describe the procedure to be followed in order to get your approval of lands for biofuel activities?
3. Have all these lands been registered by your outfit?
4. What is the land size of the jatropha plantations in the Yendi District
5. What are the terms of ownership of these lands obtained by these biofuel companies?
6. What category of lands do you usually give out for these biofuel activities?
7. How many communities in Yendi are covered by Biofuel Africa's jatropha plantations?
8. Beside land registration what other roles did you play with the local communities in giving out the land to the biofuel company in Yendi?
9. What are the local laws and regulations concerning land use for biofuel production in the region?
10. At the national level, what general laws or policies govern biofuel production in the country?
11. What measures are in place to ensure that biofuel companies do not destroy the area's vegetation cover and the pollution of water bodies?
12. What modalities are put in place to ensure the prevention of conflicts between the local people and company concerning the proper use of the land?
13. When conflicts arise over the use of land in general, what do you do to help resolve them?

Environmental Protection Agency

1. How many biofuel companies are operating in the region?
2. Have all these companies been approved by your agency to operate?
3. What other government agencies do you work with concerning biofuel activities in the region?
4. Describe the procedure for granting a biofuel company an EPA certificate of operation.
5. What environmental measures are put in place to regulate the activities of biofuel activities?
6. What are ways by which you monitor biofuel companies to ensure that they operate according to the prescribed standards?
7. How has the absence of a substantive law in the country affected your activities about biofuel in the region?
8. What do you suggest should be done to get this law passed?