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**THE INFLUENCE OF NATIONAL FORESTRY POLICY ON THE RURAL
DEVELOPMENT-A CASE STUDY OF THE BIA FOREST, GHANA**

BACHELOR THESIS

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DECLARATION

STUDENT'S DECLARATION

I, FRANK ADJEI AWITI, hereby declare that except for the reference to other people's work which has been duly cited and acknowledged, this action Research is the result of my effort and that it has neither in whole or in part been presented elsewhere.

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DATE.....

SUPERVISOR'S DECLARATION

I, hereby certify that the preparation and presentation of this thesis were supervised following the guidelines binding the supervision of Diploma Thesis laid down by the Czech University of Life Sciences, Prague.

SIGNATURE.....

DATE.....

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ABSTRACT

The local community has a symbiotic relationship with forests and could be partners in the forest development efforts. A balanced approach to conservation and management of forests with the sole aim of the development of indigenous people can help alleviate poverty, promote sustainable development and environmental protection. Studies have shown that livelihood improvement linked to forest protection and development is a wise choice to achieve a “balance” between “people’s lives” and “forests’ survival and development. However, many forest policies neglect the local communities during implementation and also do not incorporate measures that promote local development. Understanding how national policies affect local communities including the aggregate contributions they provide and the required trade-offs with other national objectives. The main aim of this study was to investigate the influence of Ghana’s national forestry policy on rural development. Data in the form of questionnaires and interviews were collected from selected communities in the Western Region of Ghana. Rural communities are aware of forest policies but perceive that it is the responsibility of the government to protect it since “the government” owns it. The national forest policy in Ghana has little to do with the development of rural communities. Therefore, the national forest policy in Ghana needs to be amended for positive rural developments and improvement of livelihoods of forest communities. It is necessary to improve the human dimension of forest and forest resources management, especially the indigenous perspective. Other national objectives.

Keywords:

Forestry policy, forestry products, rural community, rural development.

ABSTRAKT

Lesní místní komunita má symbiotický vztah s lesy, a proto by mohla být partnerem v úsilí o rozvoj lesů. Vyvážený přístup k ochraně a obhospodařování lesů, může pomoci zmírnit chudobu, podpořit udržitelný rozvoj a ochranu životního prostředí. Studie ukázaly, že zlepšení obživy souvisí s ochranou a rozvojem lesů, a proto je moudrou volbou pro dosažení rovnováhy mezi životem lidí a zachováním a rozvojem lesů. Mnoho politických programů v oblasti lesnictví však zanedbává místní komunity a také nezahrnují opatření, která podporují místní rozvoj. Proto je důležité pochopení toho, jak národní politika ovlivňuje místní komunity a které kompromisy jsou požadovány s ohledem na jiné vnitrostátní cíle. Hlavním cílem této studie bylo prozkoumat vliv ghanské národní lesnické politiky na rozvoj venkova. Údaje ve formě dotazníků a rozhovorů byly shromážděny od vybraných komunit v západní oblasti Ghany. Venkovské komunity jsou si vědomy lesní politiky, ale vnímají, že je odpovědností vlády, aby ji chránila. Národní lesnická politika v Ghaně má jen málo společného s rozvojem venkovských komunit. Proto je třeba změnit vnitrostátní politiku v oblasti lesnictví v Ghaně, aby byl výsledkem pozitivní rozvoj venkova a zlepšení životních podmínek lesních komunit. Je nezbytné zlepšit lidský rozměr lesního hospodaření a lesních zdrojů, zejména perspektivu domorodých obyvatel.

Klíčová slova

Lesnická politika; lesnické produkty; venkovské komunity; rozvoj venkova.

TABLE OF CONTENTS

Contents

CHAPTER ONE.....	1
1.0. INTRODUCTION.....	2
CHAPTER TWO.....	5
2.0. Problem statement	5
2.1. The rationale of the study.....	6
2.2. AIM AND OBJECTIVES	7
2.3. Aims and objectives.....	7
2.4. Research questions.....	7
CHAPTER THREE.....	8
3.0. LITERATURE REVIEW	8
3.1. Background of Ghana and Forestry Condition.....	8
3.2. Forests and national development	9
3.3. Forests in early development strategies	9
3.4. The role of forestry in rural development	11
3.5. Challenges for forestry and rural development in developing countries	14
3.6. Impact of forest policy on rural development	14
3.7. Forests in national economies	16
CHAPTER FOUR.....	22
4.0. METHODOLOGY	22
4.1. Study Location.....	22
4.1. Selection Criteria of Region and forest.....	23
4.2. Sampling Design.....	25
4.4. Data collection.....	26
4.5. Primary data collection	27
4.6. Secondary data collection	28
4.6. Data analysis.....	28
4.7. Limitations of the study	29
5.1. Socio-Economic Characteristics of Respondents	30
5.1.1. Physical and Social Status Characteristics Distribution	30
5.1.2. Occupational Status of Respondents.....	30
5.2. Tree Species and Forest Sizes	31
CHAPTER SIX.....	35

6.0. DISCUSSION	35
6.1. Knowledge of forest resources, forest policies and the benefits of community forestry resources to rural communities	35
6.1. The development of rural communities through National forestry policies	36
CHAPTER SEVEN:.....	39
7.0. CONCLUSIONS AND RECOMMENDATIONS	39
7.1. Conclusion.....	39
7.2. Recommendations.....	40

CHAPTER ONE

1.0. INTRODUCTION

The livelihood of 1.6 billion people globally is supported by forest resources (World Bank, 2001). In developing countries, the numbers of people who depend directly on forest and its resources constitute the poorest group (Parviainen, 2012; Chao, 2012) and mostly live in the rural forested communities. The role of forests in rural communities' development and poverty reduction is a relevant topic. Yet the economic role of many rural industries, most especially through community forestry, in poverty reduction in communal areas in most African countries is still not well-known, especially in Ghana.

Ghana's forests in the 1990s were estimated to cover about 36% of the total landmass of the country which protected soils, regulated the supply of scarce water resources, and was home to abundant biodiversity (Rice and Counsell, 1993; FAO, 1999; UNEP, 2002; EU, 2006; FAO, 2007). Although global phenomenon like climate change is affecting the sustainability of the forests and other resources, it has been established that the inadequate functionality of forest resources policies and institutions is a major factor driving this degradation (Boon et al., 2009). EPA (2004), discovered a serious decline in forest cover and resources due to over-exploitation to meet the growing socio-economic needs of the population in Ghana, especially in rural communities. This decline affects the livelihoods and development of forest communities. Therefore, these anthropogenic impacts on the forest ecosystem are prudent to combat by both government and local inhabitants.

However, governments often attempt to promote rural development through the development of natural resources such as forests (Whiteman, 2000), this is because many countries around the world, people living in rural areas have lower incomes and are generally less prosperous than their urban counterparts. The first point worth noting is that rural development in the developing country context is quite different from rural development in developed countries.

Policies in developed countries tend to focus on increasing income and employment, whereas in developing countries rural development must often meet more basic needs such as food security.

To summarize, promoting rural development through forestry development in developing countries is probably a greater challenge than in developed countries because of generally weaker government institutions and private-sector capacity, lower levels of government finances, poor infrastructure, and greater social, cultural, and language diversity in rural areas.

In most developing countries, income and employment in forestry in rural areas is very small compared with other sectors such as agriculture (Whiteman, 2000). However, when broader social and environmental considerations are considered, forests are considerably more important for rural communities. The utilization of forest resources could generate significant revenues for governments that could be used for rural development. However, governments often do not maximize revenues from the sector and, even if they did, there is no guarantee that they would be used for rural development. A few developing countries have implemented forest policies that aim to help rural communities. Examples include Joint Forest Management in India; arrangements for forest lease holding in Nepal; the village development (Bina Desa) scheme in Indonesia; and Landowner Companies in Papua New Guinea. These schemes have met with mixed success.

Therefore, rural development can generally be thought of as meeting the following three principle objectives: to enhance food security; to alleviate poverty, and to encourage the sustainable management of natural resources. These three broad objectives are mirrored in the policy statements of many governments in both developing and developed countries, as well as in the mandates of international development agencies such as the World Bank; United Nations Development Programme (UNDP); United Nations Environment Programme

(UNEP); and FAO. However, there are marked differences in emphasis on these three objectives between developed and developing countries.

Meanwhile, the Government of Ghana realized the need to protect these rich resources for both community and national development thereby enacting regulations, acts and policies over the years to sustainably manage the forest (Forestry Commission of Ghana, 1994). Forest resource policies created permanent forest estates, protected water supplies, provided favorable conditions for the cultivation of crops, and promoted public education and research (Ghana Forestry Commission, 1994). Despite the availability of these policies, regulations, and interventions, natural forests are still on a decline at the rate of 2% per annum (Boon et al., 2009). Intact closed forest in 1992 was estimated to be about 1.5 million hectares nationwide (Tropenbos International-Ghana, 2007). The investigation by Tropenbos International, Ghana (2007), revealed the following factors as being responsible for the alarming decline in the forests cover and resources in the nation; over-exploitation of timber species, improper forest management systems, poor farming practices, population pressure, the complex land tenure system, lack of community involvement, an unequal benefits-sharing system, weak institutions, inefficiency of the timber industry, flouting of laid down regulations, and lack of political will and commitment. It is estimated that agriculture expansion and bush fires destroy about 20,000 hectares per annum of forest reserves in Ghana (IUCN, 1992; Agyarko, 2001). The degradation of forest resources has contributed to the decline of the forestry sector contribution to the national economy. In 1994, Gross Domestic Product (GDP) and total export earnings from the timber industry were 6% and 18% respectively (FAO, 2018). This reduced to 2% and 7% in 2007 and 2012, respectively (Ankomah, 2012).

CHAPTER TWO

2.0. Problem statement

Most of the forest and wildlife policies do not address crucial issues of sustainable management of forest resources in Ghana (Boon et al., 2009). Limited attention was paid to major social, environmental, and economic issues relevant to the development of rural communities. For example, the Forest and Wildlife Policy of 1994 was too ambiguous and unachievable being handled by a single organization. Also, a skewed benefit-sharing mechanism and lack of transparency encourage unsustainable harvesting of forest resources and illegal logging (Boon et al., 2009). Since the national forestry policy plays a major role in the socio-economic development of rural communities and calls for assessment. Illegal logging primarily initiated by rural communities is estimated at two-thirds of its total production in Ghana. The local community groups permit chain saw operators to harvest trees on their lands to increase their income for an improved livelihood (FORIG, 2012). There is a gap between what national forest policies promised local communities and what they get which has kept this illegal activity ongoing across the country.

Forest policies in Ghana have failed to address the fundamental challenges of forest management and rural development. Forest community members who are supposed to be actively involved in co-managing forest resources for protecting them from excessive exploitation are rather the perpetrators exploiting the forest for survival. The benefits sharing mechanism of the policies does not cater to the actual landowners at all who are the community members. Improper and inadequate compensation paid landowners are key drivers for the increasing incidence of chainsaw operations and illegal extraction of forest resources (Boon et al., 2009). The alarming rate of declining forest resources in the nation is a problem that needs an urgent solution (Agyarko, 2001; Boon and Ahenkan, 2008). The depletion of forest resources has very long-term impacts on local communities, especially on

women and children (Boon et al., 2009) as well as economic instability of the country as a whole. A huge gap has been found between the intentions of national forest policies and the realities on the ground.

Strongly concerned about the need to protect valuable resources against further depletion and environmental degradation, the government initiated a series of donor-assisted projects, culminating in the Forest Resource Management Project (FRMP) and the Forestry Planning Project (FPP). These projects have adopted a comprehensive approach towards sectorial development through the strengthening of forest management and relevant institutions, policy reforms, forest inventory, rural forestry programs, and preparation of plans for the management of national parks and other protected areas. If the communities get satisfactory benefits from forest resources, they will be more encouraged to manage the forests in a sustainable manner rather than over-utilizing and degrading them. This can be achieved through both financial and technical support from the government, non-Governmental Organizations (NGOs), and other existing and potential forestry stakeholders.

2.1. The rationale of the study

This study aimed to investigate the influence of the national forestry policy of Ghana on rural communities' development utilizing community forestry programs, where the community has both utilization and management rights over community forest resources. It will also assess the extent to which the Bia Tawya forest in the Western region of Ghana satisfies the community livelihoods in terms of enhancing local people's access to forest-based opportunities without going against forest regulations. Rural economic growth and diversification are essential in achieving sustainable national development. Therefore, the results of this study will be useful in assisting the policymakers in amending and formulating the national forestry policy in a participatory approach that makes the forest community owners and self-appointed guards of the forest resources. It will emphasize the need to

identify the socio-economic development of rural communities as important as the conservation of forestry resources. Unemployment which is a major socio-economic and developmental challenge in Ghana, especially in rural communities, may be addressed if findings from this research are considered for opening enterprises that ride on forest resources in these rural communities.

2.2. AIM AND OBJECTIVES

This part of the dissertation briefly describes the main aim and objectives as well as the research questions of this research.

2.3. Aims and objectives

This dissertation seeks to evaluate the influence of Ghana's national forestry policy on community forestry resources and rural communities' benefit. Besides, we answer the question of how Ghana's national forestry policy can be framed to promote rural development and to recommend necessary amendments of Ghana's national forestry policy to keep the balance between sustainable and socio-economic development concerning community forests.

2.4. Research questions

The research was based on the following key questions to address the above-mentioned objectives:

- I. What is the knowledge of the respondent about forest resources and forest policies?
- II. To what extent is Ghana's national forestry policy influencing community forest resources management in the Bia Tawya forest reserve?
- III. Does Ghana's national forestry policy contribute to rural community benefit/development?

CHAPTER THREE

3.0. LITERATURE REVIEW

This chapter is a collection of important literature and correlated researches as well as the policies, regulations, and national ACT in line with this study. A general description of Ghana and all the policies about the study were also reviewed. Other sources of materials reviewed were published books, thesis, journals, leaflets, online documents, and unpublished drafts of policies and research.

3.1. Background of Ghana and Forestry Condition

The history of forestry in Ghana dates back to 1906 when legislation was enacted to control the felling of commercial tree species, felled by the creation of the Forestry Department in 1908. The demarcation and reservation of the forest estate were largely completed by 1939 and a Forest Policy was adopted in 1948. The policy provided for the creation of a permanent forest estate for the welfare of people, protection of water supplies, and maintenance of favorable conditions for crops, as well as public education and research. However, it mainly emphasized the sustained supply of timber for the wood industry and promoted the exploitation and eventual demise of unreserved forests (Agyei, 1994; Boon et al., 2009; Ahenkan and Boon, 2010). Since the adoption of the forest policy, the wood industry grew steadily up to the 1970s, but like other sectors of the economy, it declined drastically until the introduction of the Economic Recovery Programme in 1983. About that time, the country suffered from the severe effects of a prolonged drought, followed by devastating wildfires, which forcibly awakened the entire population to the environmental consequences of deforestation. During the past decade, the government attempted to stimulate wood processing and exports through a range of initiatives which, hindered by inadequate

institutional capability, yielded varied results (Agyei, 1994; Dadebo and Shinohara, 1999).

3.2. Forests and national development

When international attention turned to the developing countries in the early 1950s, economists were caught unprepared. They had no readily available conceptual model with which to analyze the economic growth process in these mostly agrarian societies. Many economists reasoned that developing countries would need to follow the same path taken by the world's richer nations in their transformation from an agrarian to industrial economies. Development models described this growth process as a series of linear stages through which all countries must pass (FAO, 1993; José and Campos, 2019).

Natural resources such as forests received little or no attention in these initial models. Instead, development strategies highlighted capital formation and technical progress as the major factors responsible for rising incomes and economic growth (José and Campos, 2019). In general, forests were viewed as a source of land to be converted to more productive uses. While they could also be a source of revenue and foreign exchange, forests were seen as relatively unimportant in the struggle to promote sustained economic development." Forest industries other than pulp and paper were considered too small to be significant for industrialization efforts (FAO, 1993; Sonone, 2018).

3.3. Forests in early development strategies

Many international donors also ignored the forestry sector relative to other activities (FAO, 1993), The World Bank did not establish a policy paper on forestry development until 1978. Between 1949 and 1968, it funded only two forestry projects in developing countries - a chemical pulp and newsprint mill in Chile and a paper mill in Bangladesh. During the same period, lending for land colonization projects, dam construction, road building, and related

development projects resulted in the removal of forests. The World Bank's first forestry loan, focusing on soil conservation and watershed management, was made in 1980.

Food and Organization incorporated forestry in its mandate in 1945. For the next 15 years, the Organization produced forest inventories, statistical and outlook reports, and market analyses, but paid relatively little attention to the sector compared with its other activities. During the 1950s, FAO concentrated on four basic aims: increasing the yield from forests; reducing waste from logging operations and wood industries; accessing virgin forests in tropical countries, and planting new forests. Even after the 1960 Conference of FAO had approved a reorganization establishing large departments for Administration, General Affairs and Information and Development, forestry remained the responsibility of a division in the Technical Department. FAO finally established a Forestry Department in 1970.

The development economics literature of the time contributed very little to our awareness of the role of forests in development. Development economics tended to neglect the forestry sector because it ignored the role of natural capital as a basis for economic growth. As a result, economists did not develop the conceptual and practical capacities to value natural capital. On the other hand, forest economics did what development economics did not do by developing optimization models that dealt explicitly with the relationship between natural capital, growth, and income. However, these optimization models and techniques examined specific forest properties rather than the macro problems important to development economics.

Foresters began addressing questions of long-term optimization and the tradeoffs between the present and future choices in the middle of the last century. For example, the German forester **Faustman** developed a long-term optimization model for optimal harvest time (or rotation age) in 1849. The early models focused on the relative merits of biological and economic efficiency to determine the optimal harvest time. In general, biological models maximize the

volume of timber products from a stand, depending on the forest's growth rates. Economic models maximize the present value of the net benefits from the wood; criteria include the timber's value, the time value of money and other costs associated with planting and harvesting (FAO, 1993; Squires, 2011).

The optimization question is by far the most fully analyzed issue in forest economics, but its focus has remained at the micro-level (examining specific timber stands). In the recent past, development economics began addressing questions of present-future choices at the macroeconomic level for non-renewable resources such as oil and minerals. Only more recently has it begun the process of applying the lessons learned from the optimization debate about renewable forest resources to a national scale.

3.4. The role of forestry in rural development

In most countries, the forestry sector is relatively small, accounting for less than one percent of national income and employment. Even in terms of the rural economy, forestry is only a relatively small sector in many countries when compared with agriculture and other economic activities. In some developed countries, where the forestry sector is a major part of the rural economy (e.g. Canada, Sweden, Finland, and parts of the United States of America), the forest sector is seen as an important contributor to rural development. In others, it is also specifically targeted for development to meet broader objectives (e.g. the United Kingdom and Ireland). In developing countries, forests are often thought to have great potential for rural development because of the extent of forest cover in many countries (Lust and Nachtergale, 1998; Nambiar, 2016). However, forestry development and sustainable forest management, is often more complicated than in developed countries, for the following reasons: Agricultural development often means expansion of the area under crops and the land used for such expansion is often covered with natural forest. Thus, agricultural development and forestry development are often competing for the use of the same areas of

land (Pfaff, 1999). Examples include the widespread conversion of forest to agricultural tree crops, such as rubber and oil palm plantations, in Southeast Asia; conversion of forest to soybean production in Brazil; and the conversion of forest to pasture for cattle production across much of South and Central America (Rahman et al., 2016). Given the overwhelming priority given to food production and food security in many developing countries, it is not surprising that agricultural development is usually connected to the devastation of large land sizes including forest.

Forest policies continue to remain a major hurdle to the growth and development of NTFP in Ghana. Through an exhaustive literature review, interviews conducted on various forest development stakeholders, forestry experts, and forest-dependent communities, this paper uses sustainability frameworks to critically evaluate Ghana's forestry policies and their impacts on NTFPs utilization and management in Ghana. The 1994 Forest and Wildlife Policy (FWP-94) and its implementation process from 1995 to 2008 were analyzed concerning the development of NTFPs and several challenges facing this sub-sector identified. The results revealed that the lack of definite policy on NTFPs has impacted negatively on their promotion and development in the country. Until recently, most of the policy initiatives were aimed at forest conservation and timber production; the livelihood opportunities of NTFPs for local communities were ignored (Ahenkan and Boon, 2010). Infrastructure and industrial developments are other major sources of forest conversion. Opencast mining has involved the clearance of large areas of forest in several countries (e.g. Papua New Guinea, Malaysia, Brazil, and Suriname; Pace, (1992)). Dams, roads, pipelines, and airport construction have also led to forest clearance in some countries (e.g. Cameroon and Malaysia). The rights of access to land and land tenure are much less certain in developing countries than they are in developed countries. Rural farmers may only have traditional rights over the land that they are working and, in many cases, these are uncertain

and are not enshrined in national law (or in some cases, they may even contradict national law). This can make rural farmers reluctant to manage and develop any forest resources that they might have on their land. In some countries, forest clearance is also encouraged by traditional legal systems, where one way to establish rights to a piece of land is to “improve” it in some way. In such cases, clearing forest is often interpreted as one way of establishing such rights (i.e. by taking “unimproved” forest and turning it into a field of crops). Forest concessionaires can also face considerable uncertainty that makes them reluctant to invest in sustainable forest management, even where they have proper legal contracts with their governments. As in developed countries, forest harvesting and the establishment of forest plantations can attract controversy at the local, national, and international levels (Whiteman, 2000). The use of sustainable forest management techniques can result in more acceptable forestry development, but implementation is currently weak in many countries due to economic, social, and political factors. The expected long-term benefits from sustainable forest management are also much less certain in developing countries than they are in developed countries. A solid legal framework and stable political and social institutions are essential for the long-term sustainable management of a resource such as forests and these conditions are simply not present in some developing countries. Besides, there is evidence that individuals are much more risk-averse and have a higher level of time preference (i.e. preference for now rather than the future) than in most developed countries. This also makes it more difficult to encourage sustainable forestry development. Underlying many of the difficulties noted above is a general weakness in institutions in many developing countries. Many developing countries have very good forest policies and regulations, but implementation is weak due to a lack of resources (financial and human resources), a lack of coordination with other government agencies, or a lack of real political will to implement such policies. Some would argue that this is the main obstacle to sustainable forestry

development, rather than technical or economic factors. On a more positive note, as incomes grow and agricultural activities are transformed from subsistence agriculture to more intensive forms of agriculture, marginal agricultural land can revert to the forest if it is no longer used for agricultural production. This is starting to occur in a few areas (e.g. in South and Central America), but this trend is not widespread, and it remains uncertain whether this will occur on a large scale.

3.5. Challenges for forestry and rural development in developing countries

The final point worth noting is that forestry and rural development in many developing countries is also made difficult by more general conditions in rural areas. Challenges that have to be faced (in some countries) include the following: ethnic conflict and civil strife; cultural, ethnic and language diversity; high population density and growth; a generally low level of human resource development in rural areas; and low levels and poor quality of infrastructure. It is also often the case that the development of forestry and rural areas is made difficult by policies in other sectors and overall macroeconomic policies in some countries. Poor co-ordination within Government and the lack of an overall coherent strategy for development further exacerbates these problems in many cases.

3.6. Impact of forest policy on rural development

In many developing countries especially in Africa, people living in rural areas have lower incomes and are generally less prosperous than those in urban areas. Therefore, rural inhabitants settle to gain more influence on forest resources (both timber and NTFPs) without replenishing them, rendering most forest to different levels of degradation. Thus, governments often attempt to promote rural development through the development of forest resources (Michon, 2013). However, 'do governments maximize revenues from this sector? And if they do, 'is there a guarantee that they would be used for rural development'?

Rural forests are distinct from the conventional forest and have historically been overlooked by the forestry sector and impacted by forest policies and regulatory frameworks. Rural development policies in developing countries, however, often focus on meeting more basic needs (Danielson et al., 1999). For example, FAO places great emphasis on its policies and programs on increasing food security and improving access to food, because this is a high priority for many developing countries. Governments and international agencies also stress the importance of providing access to clean water and basic educational services, medical care, maintenance of favorable conditions for crops, public education, and research (Ahenkan and Boon, 2010). In other words, because of the nature of rural areas in many developing countries, there is often a need to look beyond just simply increasing income and employment. The role of governments in rural development in developing countries is quite different from that in developed countries (Michon, 2013). Because of the generally much weaker tax bases of most developing countries, direct assistance to rural development (in the form of grants and subsidies) is much less common. Rather, governments tend to focus on low-cost and no-cost policy options to try to meet their rural development objectives (Wiggins, 2016). Thus, for example, direct subsidies and grant schemes are rare, but loans, credits, tax incentives and exemptions from government levies or charges are relatively more common. In some countries, substantial government extension services and/or the provision of free tools and materials are used to indirectly subsidize forestry and agricultural development in rural areas. Another no-cost option that is favored in many developing countries is the use of regulation that requires private-sector companies to engage in rural development activities when they are granted access to natural resources for commercial use. It is quite common for forest concessionaires to be required to build infrastructure and/or provide some services to local communities in the areas in which they operate. The main benefits to rural areas from forestry development appear to be in the area of non-market

benefits rather than income and employment. This suggests that to maximize rural development benefits, local communities have to be quite intimately involved in the protection and management of their surrounding forest resources (Mogaka et al., 2001). It appears that this may be easier to achieve where forest resources are of relatively low value (e.g. degraded forests rather than commercially valuable forests).

3.7. Forests in national economies

While most early development strategies generally ignored the forestry sector, there are two noteworthy exceptions. First Hirshman (1958), emphasized the importance of special attributes and forward and backward linkages. Hirshman's analysis highlighted important economic growth linkages of lumber, wood, and paper manufacturing. Second, Westoby (1962) led a team at FAO to challenge the conventional approach to forestry in the special chapter of *The State of Food and Agriculture 1962*. The FAO study reasoned that those responsible for setting development priorities were unaware of the potential contribution of forests to industrial-based development. The report drew on Hirshman's concept of growing points, lagging regions, and backward and forward linkages to demonstrate how the forests (as natural capital) could play a more vital role in promoting economic growth. Among the many arguments presented are the following:

- Forest industries are based on a renewable resource that all developing countries possess or could create.
- These industries have considerable flexibility regarding both their scale of operations and technology; they also have pronounced backward and forward linkages, implying important multiplier effects on the whole economy.
- Because of their remote location, forest industries can create development poles and provide a wide range of products, including primary necessities, for poor populations.
- Forest products can substitute for expensive imports and can earn valuable foreign

exchange when exported. Most developing countries are net importers of forest products (exporting logs and importing higher valued products). Internal demand is expanding as populations grow and incomes increase.

- The multitude of raw materials for domestic industries and export are offered by the forests.
- Forest industries have acquired great importance in advanced countries, providing a renewable raw material for a whole range of industries.
- Financial requirements are relatively low and labor needs are high compared with many other industries. Besides, the investment range is wide, allowing smaller investors to start-up businesses.
- Harvesting time is flexible within considerable limits, permitting adaptation to short-term fluctuations in demand, without danger of spoilage or excessive storage problems.

Westoby's (1962) study helped attract international attention to the forestry sector. Over the next decade, the frequency and funding for forestry projects increased substantially and projects were more carefully prepared, documented, and justified than in the past. Two additional factors motivated donors to increase funding. First, the market analysis predicted large increases in industrial countries' demand for timber and wood products from the developing world. Second, forestry projects demonstrated higher success rates than other types of development projects.

More than a decade later, however, when Westoby looked back on how the forestry sector had developed, he rejected his initial vision. In a paper presented to the Commonwealth Forestry Association in 1975, he concluded that the exploitation of massive tracts of the virgin tropical forest had been, for the most part, reckless, wasteful, and even devastating. Westoby (1962) argued that nearly all operations lacked a profound or durable impact on the

economic and social life of the countries in which they had taken place. Too many forestry projects failed to contribute to vital local needs (FAO, 1993; Singh, 1996).

Several other studies arrived at similar conclusions, reporting that forestry projects contributed little to the industrialization process, created few jobs, and had a minimal impact on the overall growth process. In 1980 the Director of FAO's former Forestry Industries Division argued that:

"Forests, on the whole, are simply being mined, taking out the easiest to get and the most highly-priced trees without any real concern for what happens afterward. For the forests and the people who are dependent on them, the only obvious lasting effect is retrogression" (FAO, 1980).

By the late 1970s, changes in the overall concept of economic development had created a new role for forestry. Experience revealed that development assistance strategies focused solely on promoting industrialization were not working satisfactorily. Poverty increased steadily in many countries, even though their economies expanded at a strong pace. To address this dilemma, development experts turned their attention to poverty reduction, employment generation, and improved equity. Furthermore, policymakers began to recognize that natural resource degradation seriously impedes economic development and poverty alleviation. Sustainability gradually emerged as the major development principle (Squires, 2011). At the same time, natural resource and environmental economics flourished, strengthening analytical techniques, and enhancing macroeconomic development models (FAO, 1993; Romeiro, 2012).

Today, forests are recognized as an integral part of national economies, Forests contribute to development in many ways, for instance in the form of natural capital, production inputs, and environmental goods. But forests also constrain and limit development. In some countries, forests are viewed as obstacles that must be removed before productive activities are possible.

For example, in the past, land tenure legislation in many countries required settlers to remove all trees on a parcel before ownership rights were granted. In other circumstances, forests are treated as a scarce natural resource that must be protected from all types of exploitation. Several factors help explain how forests both contribute to and limit policy choices for national development strategies.

First, roads, commerce, and agrarian populations have penetrated and settled much of the world's forest land; few forest areas remain unused or disconnected from national interests. Forest areas have undergone "purification", involving the use of forests and trees in farming systems and the formation of agricultural mosaics within forest systems. Forests are increasingly managed for their range of resource flows, their ability to support rural well-being and their capacity to promote industrial opportunities. Forests provide large, albeit different, ranges of goods and services for virtually all patterns of human settlement and livelihood. They are not contiguous blocks of timber beyond the frontier but are active parts of life everywhere (Byrant et al., 1997; FAO, 1998).

Second, economic development strategies are beginning to include the capital values of forests in national policies and programs that modify forest stocks, qualities, and distributions. Forests are now widely acknowledged as both productive capital stocks and as components of public infrastructural systems. As ecological analogs of industrial capacity and physical infrastructure, forests are entering the central equations of macroeconomic growth, often with new definitions of what the forest is and does. Advances in national accounting make it possible to incorporate explicitly the capital value of forest resources as productive stocks and to assess the effects of changes in them on national productive capacity. Conventional national accounting systems overstate sustainable income in two ways. First, the accounts disregard depreciation of forest and other natural capital. Second, the costs of mitigating or offsetting the side effects of resource depletion (e.g. anti-

sedimentation measures in a deforested watershed) are not subtracted from national income. This conveys the wrong message: that income gained from depleting forest resources can continue forever.

Some countries are establishing new accounting systems that measure the depreciation of forest resources above their reproductive capacity (both quantitative and qualitative). For instance, the French system shows trade-offs between the economic, ecological, and social functions of natural resources. This system, known as the "natural patrimony accounts", records separate accounts for forests, wildlife, water, and soil. As infrastructure, forest systems provide services that would otherwise require capital expenditures or reductions in human well-being. For example, by storing water, regulating flows, protecting channels, and cleansing impurities, forests form a structure of hydrological services akin to structures for transportation and communication. Recent economic methods make it possible to account for these infrastructural services on a national rather than project scale.

Third, forests represent productive assets that are increasingly used as a means for attaining national development objectives, including equity, stability, investment, and growth. Programs in community forestry have become central to agrarian reforms that seek to build more productive relations between rural communities and public lands. Community forestry programs are widely implemented to strengthen investment incentives and encourage civic participation in the growth and use of forests and trees (FAO, 1998; Singh, 1996). Fourth, forests have emerged as significant factors in economic and political relations among nations. For example, forests have taken on foreign policy dimensions through their roles in both economic and environmental trade. Forest conditions increasingly affect national dependence on processing capacity, wood products, and international trade. Trading patterns grow more complex as nations shift emphasis from primary to secondary and tertiary forms of production, increase their purchasing power, and diversify their consumption requirements

(Squires, 2011).

Furthermore, changes in the extent and quality of forests have become the subject of global environmental concerns. Changing forest conditions represent factors in biodiversity, relations between industrial and non-industrial nations that occupy and use the same global atmosphere as a carbon source and sink and expressions of interdependence between nations. Such developments create pressure on national governments to consider forests in the realm of international relations. Some nations are already moving towards international agreements that tie matters of economic and environmental trade together in the service of larger, global interests (Korotkov, 1993).

For all of these reasons, national forest politics and policies have evolved out of a narrow sectorial prerogative to enter pluralized mainstream political interests involving highly diverse groups. Throughout the world, forests are the topic of discussion among articulate groups of populists, industrialists, statisticians, internationalists, consumers, environmentalists, farmers, indigenous forest communities, city dwellers, scientists, educators, and humanists. The perspectives and demands of these politically diverse groups have proliferated, placing a significant strain on the institutions of forest policy that evolved when forests meant only timber belonging to the state and were controlled by a small professional cadre. These competing pressures, combined with a wider understanding of the importance and complexity of forests' non-wood services and values, are strongly influencing forestry policy today (FAO, 1993; Sotirov et al., 2016; Squires, 2011).

CHAPTER FOUR

4.0. METHODOLOGY

This chapter of the research document deals with the research methodology and study area description. It is divided into several sections starting with the study area and its selection criteria. The sampling method, research flow chart, and several approaches employed to meet the objectives of the study are also defined here. Different types of data collection and analysis methods used in this study are also described. It also explains different approaches used in analyzing the data to identify the links between the national forestry policies and rural developments in the sampled communities.

4.1. Study Location

The Bia Tawya forest reserve (Fig. 1; map reference, 6°20'6"38' S, 2°58'–3°58' W) is in the Bia East district of the Western region of Ghana. The reserve covers an area of 678.58 km². The area was transformed into a reserve in 1965. It is a transboundary site to Diambarakrou classified forest in the Republic of Cote d'Ivoire. The Bia Tawya forest reserve shares a common boundary also to Sukusuku forest reserve and Bia National park resource reserve all in the Western region of Ghana.

The area lies within the tropical humid climate which is characterized by two-well defined seasons: a rainy season from March to October and a dry season from November to February. The amount of rainfall reaches a maximum during May-June and declines during September-October. Rainfall pattern falls within 1500 mm and 1750 mm annual rainfall. The average monthly temperature lies between 24°C and 28°C with the extremes being 18oC and 34oC (Sam, 2000).

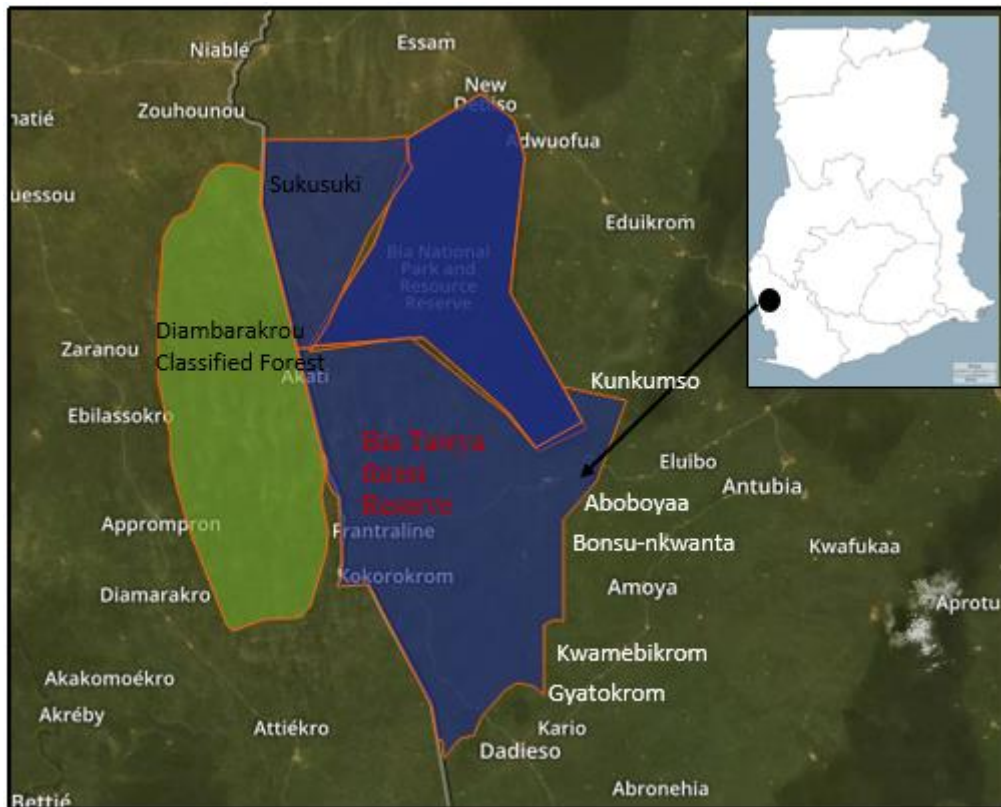


Figure 1. The map of Ghana showing the location of the Bia Tawya forest reserve in the Western region. The forest reserve is bounded to the north by Bia National park and resource reserve and Sukusuki forest and to transboundary Diambarakrou classified forest in the west.

4.1. Selection Criteria of Region and forest

The Western Region covers an area of approximately 2,391 sq km, which is about 10 % of Ghana’s total land area (See Figure 2). The region has about 75 percent of its vegetation within the high forest zone of Ghana and lies in the equatorial climatic zone that is characterized by moderate temperatures. It is also the wettest part of Ghana with an average rainfall of 1,600mm per annum. It is bordered on the east by the Central Region, to the west by the Ivory Coast (Côte d’Ivoire), to the north by Ashanti and Brong-Ahafo Regions, and to the south by the Gulf of Guinea. The southernmost part of Ghana lies in the region, at Cape Three Points near Busua, in the Ahanta West District. Farming is the major occupation in the

Western region. Cocoa is the major crop cultivated and it is the mainstay of the local economy in the region. Farming practices in the area tend to be traditional. Crop agriculture which combines food and cash crops under traditional shifting cultivation is the bedrock of the economy. The major food crops are maize (*Zea mays*), cassava (*Manihot esculenta*), plantain (*Musa paradisiaca*), cocoyam (*Xanthomaspp*), yam (*Dioscoraspp*), rice (*Oryza sativa*) and vegetables with the main cash crop being cocoa (*Theobroma cacao*). Other minor activities include a gathering of non-timber forest products (NTFPs), hunting, petty trading, small scale poultry, and livestock rearing (PADP, 1999).

The Bia Tawya forest is located in many localities. Out of these localities, six (Kunkumso, Aboboyaa, Bonsu Nkwanta, Kwame bikrom, Gyatokrom, and Akati) are in proximity to the forest reserve and depend predominantly on the forest resources for their livelihood. This makes the forest more vulnerable. The forest is endowed with elephants, baboons, green monkeys, cops and plants species such as *Terminalia ivorensis*, *Kaya ivorensis*, *kola nitida* among others

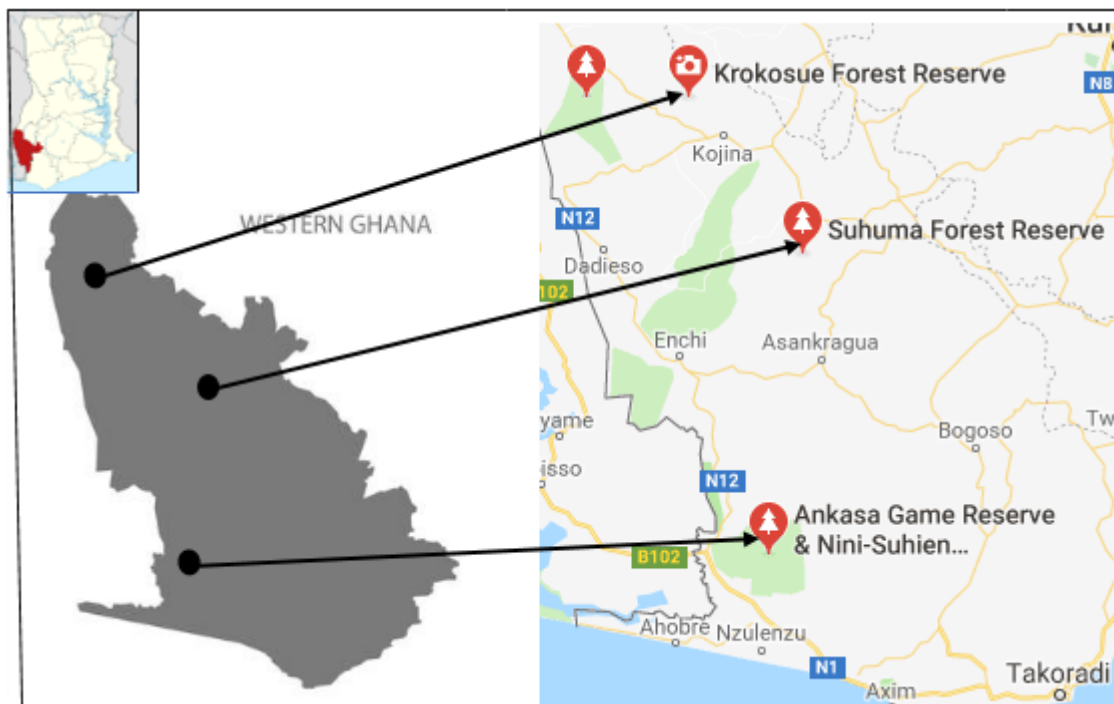


Figure 2 Location of the three major forest reserves in the Western region of Ghana.

4.2. Sampling Design

Six localities were selected for further analysis out of 15 localities. This was a result of its proximity to the forest reserve. Proximity selection was adopted in this study to obtain a more homogeneous response and increases the *variance* of the sampling distribution in the presence of clustering of respondent characteristics (Kish, 1965). Since the study aims to assess the impact of national forestry policy on rural development, the Bia East area was purposely selected. The Bia East districts rural communities especially the ones lying close to the forests (both reserved and non-reserved) obtained their livelihood from the rich resources of the forest and are mostly affected by these policies that either enhances their living standard or reduces it.

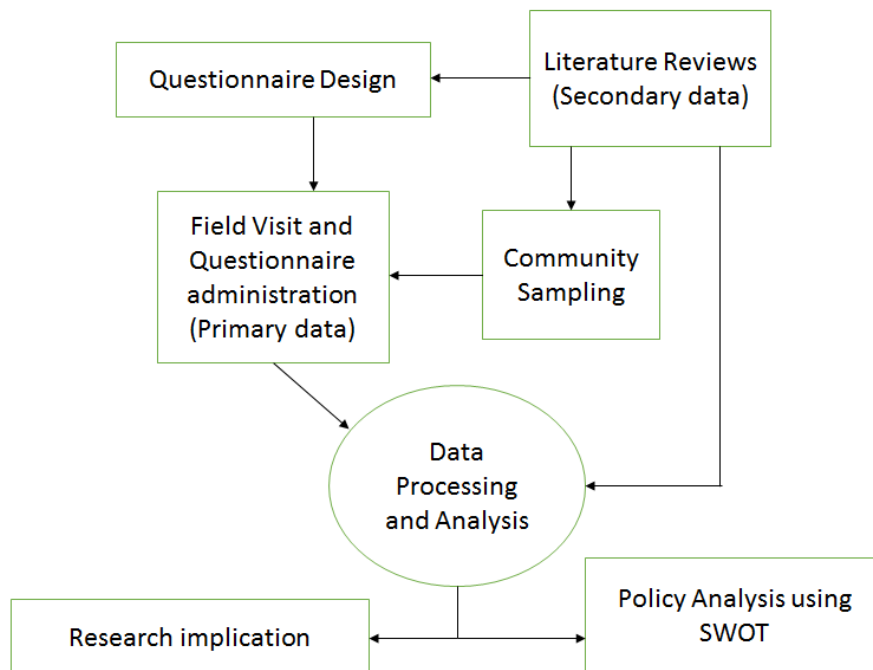
Six rural communities were further purposively selected to be surveyed with a semi-structured questionnaire. The following factors were considered in the selection of the communities to achieve the aim of the study:

- i. The closeness of forest to community.
- ii. The degree of the relevance of the study to the communities around.
- iii. Authorized administration, that is, the availability of forest guards and management.
- iv. Effectiveness in the implementation of policies in the area.
- v. Community accessibility by vehicle or foot.
- vi. A major source of income of the community or area.

4.3. Research design

The research followed seven main steps as depicted in the study flow chart to successfully meet the objectives by answering the research questions. The study used an interview using a semi-structured questionnaire, informal interviews, and observations during survey and

information from literature specifically on national forestry policies in Ghana for data collection. Literature was the first point of call in assessing available information on forestry policies and forest districts. Literature was also used in choosing the study area. The next step which directly benefited from literature was the designing of the questionnaire. Informal interviews and consultation with experts helped to reshape the questions to suit the purpose of the study. Field visits were done to seek the assistance of forest guards and community leaders for an acceptable and appropriate community entry protocols. It made it easier to have community members who were willing to participate in the study. During the questionnaire administration, forest guards were interviewed to provide information on the study. The SWOT analysis was employed to assess the role of national forestry policy in rural development while the implication of the study, comprising of the conclusion from the findings and recommendation was made.



Flow Chart of Research

4.4. Data collection

The multi-method research design was adopted in this study by the combinations of both

quantitative and qualitative research methods. Firstly, purposive sampling was performed to select one forest region out of the ten regions in Ghana. Simple random sampling was then used to select six communities lying close to forest which benefited directly from the forest resources. Finally, simple random sampling was used again to select ten (10) respondents from each community. Forest guards were classified as experts and purposively interviewed. This was a non-probability sampling technique that only considers forest guards as experts in the forestry field (Lincoln *et al.*, 2011). The observation was another method used during the survey to confirm that residents of the communities truly benefitted from the resources in the forest. According to Fetterman (1988), observation is the act of recognizing and noting facts or occurrences or phenomena was also used in validating the respondent's answers.

4.5. Primary data collection

A semi-structured questionnaire, both open and closed-ended questions with simple and clearly defined instructions, was designed for the collection of data from the community members (Nichols, 1990; Clem *et al.*, 2008). Two enumerators with one forest guard were engaged to assist in administering the questionnaires. A total of 60 respondents were interviewed; ten respondents per community. The questionnaire covered three sections; socio-economic characteristics of respondents, knowledge of respondents on forestry and forest resources benefits, and lastly on the national forestry policy. Confidentiality was key research ethics maintained by requiring that respondents do not provide their names on the questionnaire. This was to promote an honest response to the questions. A maximum period of two weeks was used to administer the questionnaire across the six rural communities. Informal interviews were conducted for forest guards via face-to-face. Three forest guards were interviewed during the survey by the enumerators. The researcher also interviewed five (5) experts from the office of Forest Service Division (FSD) in the district. These interviews were not guided, just an informal conversation to fish out vital information relevant to the

study. This was to bridge the knowledge gap between community members' understanding of what forestry is all about and what is really on the ground by the policy.

4.6. Secondary data collection

Appropriate literature was reviewed for secondary information such as peer-reviewed journal publications, thesis, project reports, maps review, regulations, and policies as well as several studies collected from various governmental organizations such as Forestry Service Division (FSD), CSIR- Forest Research Institute (FORIG) and FAO. Several existing reports by the two institutions that work hand in hand in the conservation of Ghana's forests and wildlife; FSD and FORIG were analyzed and reviewed as well. Other reports on forestry research and interventions by a non-governmental organization (NGOs) and foreign ministries like the Danish Government were also used. Most of the sources were retrieved from the internet where they are published.

4.6. Data analysis

The questionnaire was coded into the Statistical Package of Social Sciences (SPSS) version 21 after data collection for analysis. Descriptive analysis of frequencies and cross-tabulations were done in SPSS in answering the research questions of the study. Information from informal interviews with experts and literature were used in discussing the outcome of the analysis. Microsoft Excel 2016 and STATISTICA 13.1 (www.statsoft.com) were used for the presentation of results in bar and pie charts. Respondent's assessments were also analyzed and compiled in the research report. As the obtained data were normality, the p-value was obtained by one-way ANOVA. The Tukey HSD post hoc test was used to determine the significant ANOVA values.

Appropriate recommendations were arrived at utilizing the Strengths, Weaknesses,

Opportunities, and Threats (SWOT) analysis. This analysis was done using the national forest policies, regulations, and act of Ghana, forest staff interviews (formal and informal), and community members' opinions collected during the study.

4.7. Limitations of the study

The study was faced with several challenges the foremost was the language barrier. Respondent was not literate in the forestry terms and jargon and therefore had to be administered in the local language “*Twɪ*” which had limited interpretation from the original forestry terms. Also, most of the forestry guards were hard to get for interviews due to long distances from their homes to communities surveyed.

Besides, there was inadequate fresh prior researches accessed to review the literature. This is because, despite the considerable entrepreneurship potentials, Ghana's forests' economic significances are not apparent. As a result, many researchers are neglecting the forestry sector economy.

Finally, the rains poured early and most of the farmers were preparing their lands in expectation of the rains for the season contributed to the unavailability of most of the farmers to be interviewed. The lack of financial assistance affected the number of communities to be assessed. Insufficient funds could not allow the possibility of transportation to the other close localities and to provide enough questionnaires.

CHAPTER FIVE

5.0. RESULTS

5.1. Socio-Economic Characteristics of Respondents

5.1.1. Physical and Social Status Characteristics Distribution

Most of the respondents interviewed during the survey were males representing 66.7% while females formed 33.3% (Table 1). Twenty-eight percent (28%) of respondents in all communities studied were between the ages of 41 – 50 years and with 22.2% each representing those under 30 years and above 50 years, while the remaining respondents (26.6%) were between the ages of 31 – 40 years.

The educational status of respondents is given in Table 1. The majority of the respondents (53.3%) were illiterate with no formal education with the rest of the respondents (46.7%) obtaining some formal education.

Table 1. Gender and educational characteristics of respondents in all the studied localities.

	Gender of respondent		Education	
	Male	Female	Formal	Non formal
Kunkumso	7	3	4	6
Aboboyaa	5	5	6	4
B. Nkwanta	9	1	5	5
Kwamebikrom	4	6	3	7
Gyatokrom	7	3	5	5
Akati	8	2	5	5
Total	40	20	28	32
Total (%)	66.7	33.3	46.7	53.3

5.1.2. Occupational Status of Respondents

Figure 4 shows the occupation of respondents in this study. Half of the respondents (50%) were engaged in crop cultivation for a living. Twenty percent (20%) of these respondents

were also involved in trading, while 15% engaged in livestock farming as their source of income. Hunting employed 3.3% of respondents while 6.7% was a laborer. Those unemployed in all communities studied represented 5%.

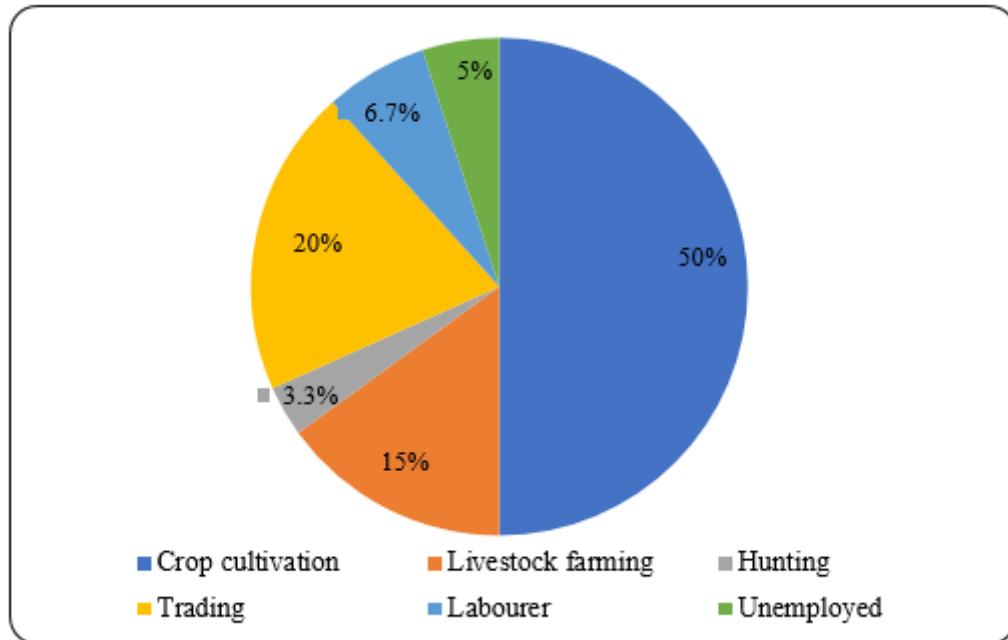


Figure 3. Occupation of respondents

5.2. Tree Species and Forest Sizes

Tree species identified from respondents in this study include, Odum (*Milicia excelsa*), Mahogany (*Kaya ivorensis*) and Framo (*Terminalia superba*); were about 50% confirmed to be in the forest around the surveyed communities. However, Onyina (*Ceiba pentandra*), Abako (*Tieghemella heckelli*), and Emire (*Terminalia ivorensis*) were not common in the forest.

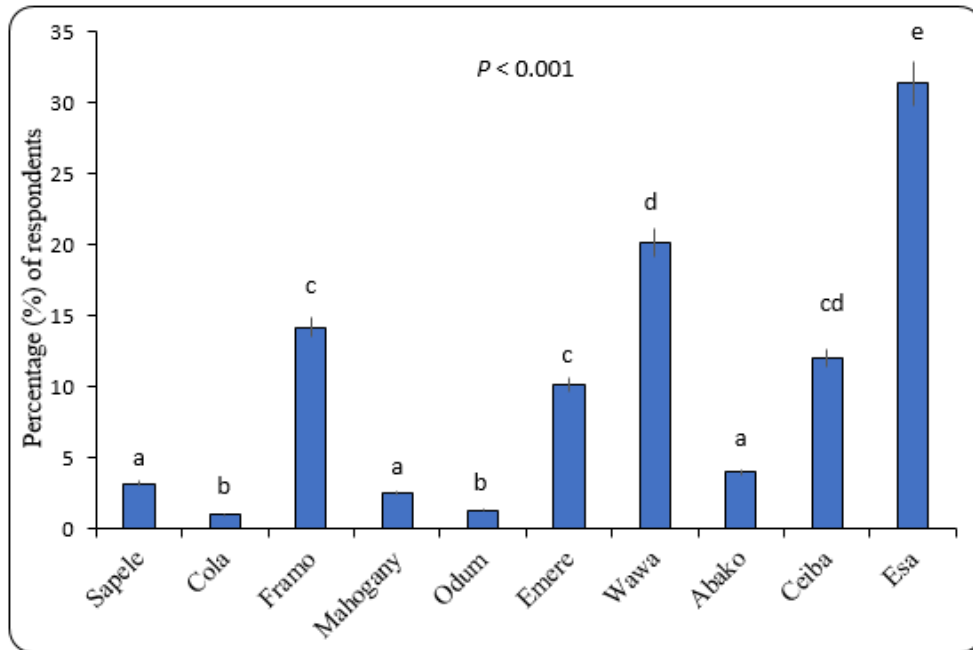


Figure 4. Percentage distribution of common tree species found in the forest. The p-value was obtained by one-way ANOVA. Using Tukey HSD post hoc percentage values with same letters are not significantly different.

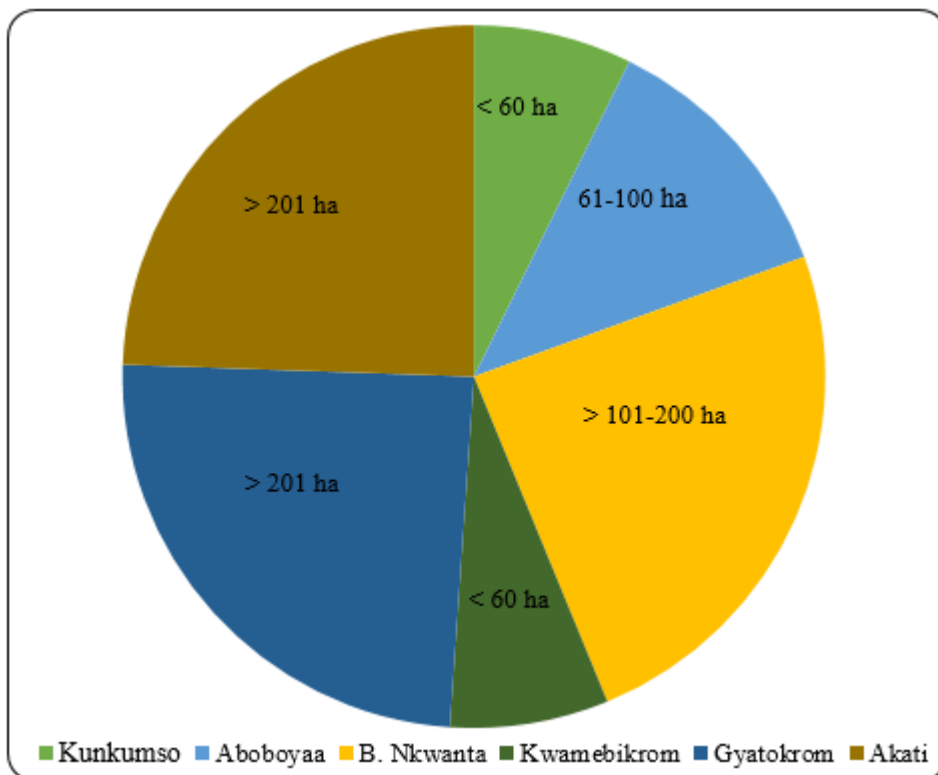


Figure 5. Perception of the respondent on the sizes of forest within the vicinity of selected localities.

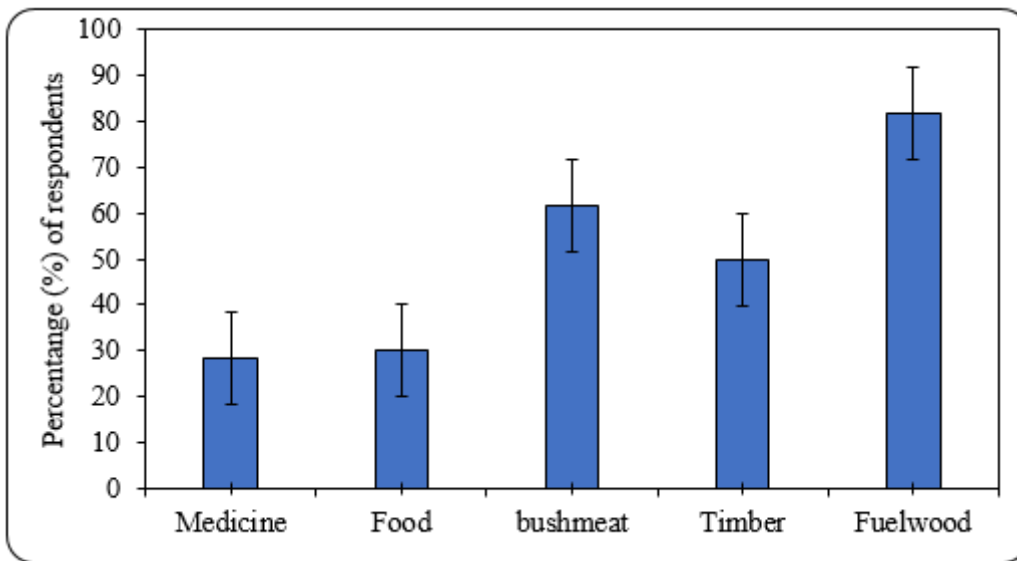


Figure 6. Forest resources accessed by respondents (Error bars indicate Standard Error).

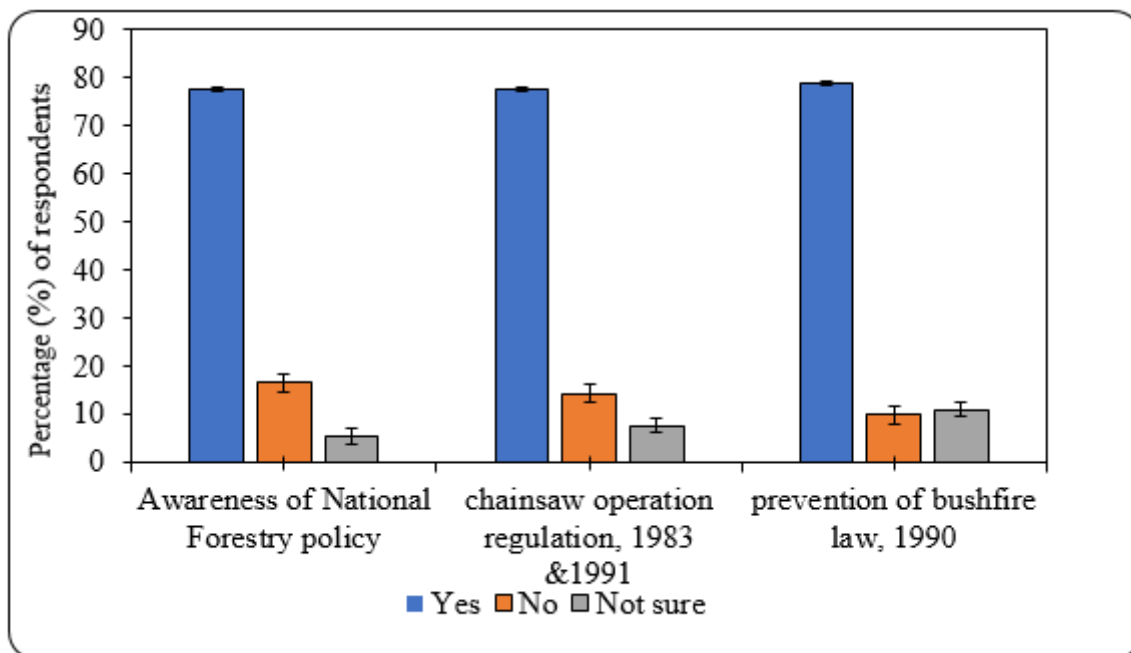


Figure 7. Perception of Local communities on Forestry policies, regulations, and laws.

Table 3. Perceptions of respondents on the effect of forestry policy in the improvement of their localities. The p-value was obtained by non-parametric *Kruskal Wallis* test

Localities	Responses		
	Yes	No	Not sure
Kunkumso	3	2	5
Aboboyaa	5	1	4
B. Nkwanta	4	2	4
Kwamebikrom	3	3	4
Gyatokrom	2	5	3
Akati	4	4	2
Frequency	21	17	22
% total	35	28.3	36.7
p-value	p= 0.415	p= 0.416	p=0.41

Table 4. Other information on the perception of communities of the Forestry Policy in Ghana

	Response	Kunkumso	Aboboyaa	B. Nkwanta	Kwamebikrom	Gyatokrom	Akati	Frequency	Total
Forestry policy has improved the management of the forest in your community and Ghana	Yes	3	4	1	2	2	3	15	25
	No	6	5	5	7	3	6	32	53.3
	Not Sure	1	1	4	1	5	1	13	21.7
Do you think it will be better to educate children about the forestry from basic education	Yes	6	7	4	5	8	7	37	61.7
	No	2	1	3	4	1	2	13	21.7
	Not Sure	2	2	3	1	1	1	10	16.6

CHAPTER SIX

6.0. DISCUSSION

6.1. Knowledge of forest resources, forest policies and the benefits of community forestry resources to rural communities

It was a confirmed fact from this action research that the rural communities in the forest areas in the Bia zone of the Western Region largely depend on the forest resources, especially Non-Timber Forest Products for their livelihood. Most of the respondent had no formal education representing 53.3%, with over 60% of the respondent been males. However, most of the inhabitants both with no formal education and partially educated are full-time farmers (approximately 50%) who derived a lot of benefits from the nearby forest. According to Voth et al. (1999), a community qualifies to be forest-dependent if most of its economy comes from the forest and most of the labor force is into farming. These, as a result, show that most of the greater populations in the forest zones are farmers confirming the dependence of these communities on forest and its resources for their livelihood.

The results revealed that forest communities in this study benefited most in terms of food from the forest resources around them. It implies that forest communities are aware of the direct benefit of the forest with little to no knowledge about the other indirect benefit or services they enjoy from the forest. This also falls under one of the disadvantages of forest-dependent communities, that is, they make a low investment in human capital to increase their income and improve their livelihood (Johnson and Stallman, 1994). Products such as timber, fuelwood, medicine, and meats were generally perceived to be profitable to the communities. The basic benefit in the three-level ranking, obtained from the forest resources by the communities was food. This result confirms the findings of Whiteman (2000) that rural development in developing countries mostly has to do with food security. Timber products were ranked at the third level. This implies that meeting the basic needs of the communities will go a long way to conserve the timber resources of the forest. Timber products common in the study were “Odum (*Milicia excelsa*), Mahogany (*Kaya ivorensis*), and Framo (*Terminalia superba*); with confirmed existence of Onyina (*Ceiba pentandra*), Abako (*Tieghemellia heckelli*), and Emire (*Terminalia ivorensis*). Economic reconstruction

has been reported to be difficult in forest-dependent communities largely due to the international forces and companies that have an interest in the resources produced in their environment (Voth et al., 1999). According to Pouliot et al. (2012), agricultural lands and non-forest environments are more valuable to rural households than forests. Income from agriculture or farming is very higher compared to what the communities gain from the forest (Whiteman, 2000). These findings in Burkina Faso and Ghana were reported to result from the restrictive and inequitable forest policies (Pouliot et al., 2012). Additionally, the majority of the respondents think that the forest in their community belongs to the government and is the responsibility of the government to manage it. They see the government be the body of rulers or political leaders who decide what should be done in the forest.

The development of rural communities through National forestry policies

In the field of educational status, the highest percentages of respondents were illiterate without formal education representing 53.3% of the total population. From the interviews, it was clearly stated that inhabitants in these various forest communities know about the national forest policy and its implementation. Respondents expressed their suggestions that it could be more beneficial if the forest policies could be written in their language for easy reading and understanding. The government of Ghana must utilize this opportunity to create awareness of local people about forest policies and the need to conserve the forest resources. For policies to be implemented in a sustainable manner that benefits the environment and local economies, communities must be willing to support and participate in the efforts. Fostering a sense of ownership among those most directly impacted by deforestation is a key driver of success. In Kenya, for example, a study on Kenyans' willingness to pay for forest conservation produced interesting results, showing that those with lower education and income levels are willing to pay more for forest conservation than those with higher education and income levels. This is because "those with less income derive their utilities from the forest; hence they are more willing to conserve the forest" than those with higher incomes that are not as directly dependent on forest resources (Sulo et al., 2012).

Most of the community per the survey were aware of the national forestry policies in Ghana. Managing forests has become their unconscious responsibility as part of their lives (Michon et al., 2013). They are aware that national forestry policies are to conserve the forest and

protect those who benefit from it. They agreed to the fact that illegal logging was taking place around their communities and the policies will help to stop or reduce the rate of deforestation. A majority of the respondents from the forest communities liked what the national forestry policy stands for and thinks that it must be implemented. Forest, when conserved by these policies, will improve rural economies by protecting and enhance crop production (Lust and Nuchtergale, 1998).

Although there was no significant difference in the perception of respondents concerning the rural development in connection with forestry policies, a marginally higher number of people supported that. Most of the respondents confirmed that intense education in basic schools can go a long way to change their perception of people towards forest policies in the future. However, forest policy was perceived to have less capacity to improve the management of the forests. It has been well established that rural forests are not managed from a professional perspective but more of indigenous (Michon et al., 2013). Most national forestry policies in Africa especially focus on the resources protection rather than the development of the nearest dwellers that have a major role to play in protecting the forest. The main forest resource benefiting communities are climate dependents. The contribution of the forest to the microclimate fostering the production of food cannot be overemphasized. Although, most of the respondents have limited education, the benefits from forest might be the reason for the wide acceptance of the national forestry policy and the need to amend rural participation in the implementation process. The bottom-up approach of forestry development is more successful compared to the top-down approach which is currently in use in Ghana (Whiteman, 2000). The right utilization of forest resources has the potential to improve the livelihoods of the communities. However, the dependence of forest communities on agriculture and the non-forest environment must be considered in proposing these strategies that will reconstruct the economies of the forest communities (Pouliot et al., 2012; Whiteman, 2000; Voth et al., 1999). Training, awareness of policies, and linking of markets of forest products to the communities will encourage the dwellers to own the forest and thereby ensure its protection.

Assessing the local potential of both the economic and social benefits of the forest will aid in the appropriate formulation and benefiting sharing from forest resources to improve rural development (Slee and Snowdon, 1999). Non-Timber Forest Products (NTFPs) and payments of forest ecosystem services have been reported as potential strategies of improving livelihoods in rural settings especially those that lie within or around forest reserves

(Nikodemus and Hajek, 2015). However, the national forest policies fail to address its role in poverty reduction in rural communities (Ahenkan and Boon, 2010). A critical look at these policies by incorporating alternative livelihood policies will go a long way to ensure effective and participatory forest management.

CHAPTER SEVEN:

7.0. CONCLUSIONS AND RECOMMENDATIONS

This chapter gives a summary of the whole study. It also concludes by identifying the gaps in knowledge that may serve as future research areas. Finally, recommendations on the findings are presented.

7.1. Conclusion

Rural communities are aware of forest policies but perceive that it is the responsibility of the government to protect it since “the government” owns it. National forest policies should address the issue of ownership and payment of compensation and ecosystem services to individual landowners in these communities. The focus of the national forest policies is mostly on forest protection and timber resources production with little or no consideration of the development of the rural community who thinks that forest conservation is their inborn responsibility. Forest policy tends to bring the conflict in rural communities due to its unequal sharing of forest benefits. Unequal sharing of government incentives in the rural communities might promote negligence in undertaking their responsibility for forest protection. national forest policies in Ghana has little to do with the development of rural communities. Therefore, the amendment is necessary to improve the human dimension of forest and forest resources management, especially the indigenous perspective.

Also, the perception that incentives will encourage adoption and adherence to national forest policies calls for the promotion of ecosystem service payments in these communities.

The top-down approach of policy formulation and implementation has not been successful. The respondents perceive that the involvement of the communities from scratch will make it easy for the forest communities to own the policies and ensure its implementation. The forest communities’ benefit from the forest resources were generally food which can be suggested to be from agriculture landscapes more than the forest. This was confirmed by their high percentage of farming engagement as the employment status of respondents. Therefore, forestry policies must take into consideration agriculture activities and non-forest environment benefits in planning the developments of these communities that live within or around forest reserves.

The National forest policies in Ghana need to be amended for positive rural developments and improvement of livelihoods of forest communities. Both national and international

interventions are required to combat forest degradation through the reformation of national forest policies and forest programs that benefits the forest communities.

Community involvement in the formulation of the policies is critical to its acceptance. Farmers or respondents although they might not be benefiting (economic) directly from the forest resources, recognize the importance of the conservation of the forest to their agriculture activities. They are aware of forest role in adapting to climate change and how it serves as protection for their farms from bushfires. Creating a more direct benefit platform for the rural communities will encourage them to make forest protection their lifetime responsibility. Also, dissemination of policy through radio has little impact on these communities. A face to face awareness creation through the van information and information centers in the communities was the perceived best media.

7.2. Recommendations

The following recommendations are suggested to improve the situation in Ghana;

- Forestry should be included in the basic school syllabus for nation-wide and generational awareness creation on the ecosystem services provided by forest nature.
- A translation of the national forestry policies from English to the dominant local language in the forest zones will reduce the barrier between rural communities and ‘governments. This will make it possible for the elderly enrolled in adults’ education to read and understand the policies governing the conservation of the forest.
- There should be a regular and consistent review and amendment of forest policies to suit the situations at hand with a focus on both national and rural community developments.
- Memorandum of understanding (MoU) should be signed between the Forestry Commission (FC) timbers companies operating in the forest communities on clearly spelled out social intervention. FC should ensure the implementation of MoU in rural communities.
- Rural development must be part of the forest commission agenda and missions in conserving the forest resources in the nation.

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