

Assessing the Impact of State-Civil Society Synergy for Sustainable
Natural Resource Management: The Case of Bobiri Forest Ghana

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This Master's Thesis is carried out as a part of the education at the University of Agder and is therefore approved as a part of this education. However, this does not imply that the University answers for the methods that are used or the conclusions that are drawn.

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Abstract

The emphasis on fostering state-civil society synergy for improving human well-being and sustainable development has been recognized in development circles and especially in Third World countries. This recognition to some extent has its roots from the past failures of the state (governments) alone tackling and initiating affairs as a lead development agency to deliver the needed development through its institutions, agencies, sectors and departments (Bruce, 1994). Unfortunately such situations usually sideline the energies of the society needed to complement state efforts to promote good governance and improvement in human well-being.

Thus, the ‘synergy hypothesis’ has caused many state institutions in the world wide to pay increased attention to the efficacy of civil-society in participatory development. Evidently literature have shown that (see for example World Bank, 2004), to ensure sustainable development the *de jure* mandate authority structure (state) must be influenced by informal (society) power relations to ensure inclusion of varied energies. This is to augment and compensate for the limitations of the state if indeed governance for development is intended to truly benefit the collective good of society. This study responds to this ‘hypothesis’ by offering a theoretically informed empirical investigation directed towards the better understanding of the effects that synergy has had on local communities abilities to sustainably manage their natural resources.

The empirical investigation is based on a case study of Bobiri Forest and the strategies that FORIG (a state institution) has established to enhance collaborative management of the forest with communities of Kubease and Kroforom in the Ashanti Region of Ghana. DPSIR and State-Community Synergy conceptual frameworks were employed to assess responses from FORIG to mitigate drivers of forest degradation through efforts of complementarities and embeddedness with the communities. It was reveal that although many of the interventions in FORIG action plans seemed to be aligned to the most critical empirical drive needed for creating synergistic relations, the communities have not duly benefited from such interventions. This then highlights the importance of creating ‘soft’ institutional technologies to bridge the divide through synergistic relations for mutual gains.

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Abbreviations and Acronyms

BFR	Bobiri Forest Reserve
CDM	Clean Development Mechanism
CFM	Community Forest Management
CSIR	Council for Scientific and Industrial Research
DPSIR	Drivers-Pressure-State-Impact-Response
FC	Forestry Commission
FDS	Forestry Development Strategy
FoB	Friends of Bobiri
FORIG	Forestry Research Institute of Ghana
FPRI	Forestry Product Research Institute
GAS	Ghana Academy of Sciences
GDP	Gross Domestic Product
GPRS II	Growth and Poverty Reduction Strategy II
JFPM	Joint Forest Planning and Management
KFGC	Kumaon Forest Grievances Committee
KNUST	Kwame Nkrumah University of Science and Technology
MDG's	Millennium Development Goals
MLNR	Ministry of Lands and Natural Resource
NGOs	Non Governmental Organizations
NTFP's	Non-Timber Forest Products
SD	Sustainable Development
SP	Sustainable Partnerships
PRA	Participatory Rural Appraisal
SCS	State-Community Synergy
SCSS	State-Civil Society Synergy
SRA	Social Research Association
SSRC	Social Science Research Council
TUC	Timber Utilization Contract
UNEP	United Nations Environment Programme

Chapter 1

1.1 Introduction

Since the middle of the 20th century, tropical forests have been shrinking at five percent (5%) per decade (Chomitz, 2007: 1), despite increasing efforts at local and international levels to curb deforestation. Although the global forest area declines in recent times have reduced from 0.22% in the 1990s to an annual rate of 0.21% between 2000 and 2005, it is still alarmingly high in Africa, at an annual rate of 3.15% (Sen Wang, *et al.*, 2007) where Ghana is no exception. In fact, the prevailing rate of deforestation and forest degradation among other things earned the country a place among the top ten countries with the highest absolute and relative deforestation rates in the world with deforestation rate of 2.3% in 1990 (FAO, 2005, cited in Forner, *et al.*, 2006). It is currently estimated that the country's deforestation rate is about 22000 hectares (ha) per annum with 5% rate of deforestation in off-reserve and 2% in on-reserves (Tamakloe, 2000: 1). The argument has been that, unless trends change the consequences will be severe, an eventual compromise of sustainability and human well-being (Nellemann and Corcoran, 2010; Chomitz, 2007).

The depletion of forest and biodiversity underpinning it is a challenge to all. But particularly a challenge for the "world's poor and thus for the attainment of the millennium development goals" (Nellemann and Corcoran, 2010: 5). The crucial role played by forests in the lives of socio-economic sectors in the world and Ghana makes it an important economic asset. However Ghana's forests are "disappearing with increasing speed" (Repetto, 1992: 43) and this highlights the need to "urgently find workable solutions for the emerging environmental problems before they reach irreversible turning points" (UNEP, 2007: 492). Globally, some discourses on environmentalism in general have served what has been described as "sustainable development"; an approach to balance human needs and human claims on nature (Adams, 2009). While there is clearly an element of environmental concern in terms of management and conservation in the ideals of sustainable development, it cannot be achieved in vacuum development rhetoric's. This thus highlights the need to create synergies for effective natural resource management.

This study will focus on assessing the efficacy of state-civil society synergy for sustainable natural resource management the case of Bobiri Forest in Ghana. Empirically evidence exist to show that, the state synergizing with civil society for natural resource management or any general developmental projects ensures sustainability which promotes "conservation with development" (Gillingham, 2001: 803; Evans, 1996a; Ostrom, 1996; Ostrom and Agrawal,

1999; Ostrom and Agrawal, 2001; Kleemeier, 2000, World Bank, 2004). The concept of synergy has been touted as a force to “broadening of the developmental framework” (Evans, 1996a: 1034), by fostering complementarities and collective actions that can lead to developmental ends.

The research is divided into five (5) chapters. Chapter 1 outlines the introduction of the study, objectives and empirical presentation of the study area. Chapter 2 presents a review of relevant literature and the theoretical framework on which the study’s analysis is based. Chapter 3 discusses in detail the methodology used for this study and gives justifications for the outlined methodology. It also outlined the limitation of the study. Chapter 4 presents the empirical findings and data analysis in the light of the literature and the theoretical framework. Finally, chapter 5 concludes by giving a summary of the major findings for the proposed research questions.

1.2 Problem Statement

The forestry sector in Ghana significantly impacts on rural social life, the economy and the environment as a whole. It provides environmental and social benefits including fuelwood, carbon sequestration, food, wildlife habitat, recreation and a host of other important benefits. More so it provides 18% of export revenue; while the timber industry alone constitutes 6% of Ghana’s gross domestic product (GDP) (Iorgulescu, *et al.*, 2001: 46). Yet the country faces complex choices on how to maximize the benefits of natural resources for its local communities and export-oriented users, while at the same time maintaining incentives to make sustainable investment decisions for conservation (Collier and Venables, 2008). The argument has been that the technical and administrative machineries advocated and created to pursue environmental sustainability goals have been based on “narrow scientific rationality” (Healey, 1996: 234) that undermines local knowledge and efforts in development. As a result, local people’s responsiveness to environmental sustainability has been blunt compromising conservation that leads to development. The objective and questions are therefore formulated to investigate the managerial approach of FORIG and the character of relationship that exist between them and the local communities. With the aim of obtaining a clearer understanding of how such an approach and character of relationship have helped sustain local interest in environmental sustainability, a focus will be put on an enquiry, to know the extent to which local communities have been involved in FORIG’s policy-decision making processes. However, to assess this, it will be crucial to identify how effective and legitimate societal

demand-making and civic engagements are conveyed by a process of strategic interaction between policymakers and the local communities.

1.3 Research Objective and Questions

The main objective of this research is to investigate the character of relationship between FORIG and two local communities (Kubease and Krofofrom) in ensuring sustainable forest management at Bobiri forest, with a special focus on whether or not such relationships addresses the contextual drivers of forest degradation. Secondly the research aims to ascertain local communities' perception on such relations and their opinions on how to improve it to meaningfully contribute to sustainable forest management that promotes conservation with development.

To achieve these objectives, the research questions will address the following research problems:

- 1) Who are the major drivers of forest use and degradation, in the Bobiri forest? What forest products are harvested and to what extent does it lead to forest degradation?
- 2) Who are the institutional actors involved in the Bobiri forest and what are their organizational policies and objectives for their management?
- 3) How have local communities been involved in FORIG's policy-making process to improve forest management?
- 4) What is the Character of relationship between the institute and local communities? Does it lead to sustainable forest management that addresses the activities and interest of the major drivers of forest degradation?

1.4 Methodology in Brief

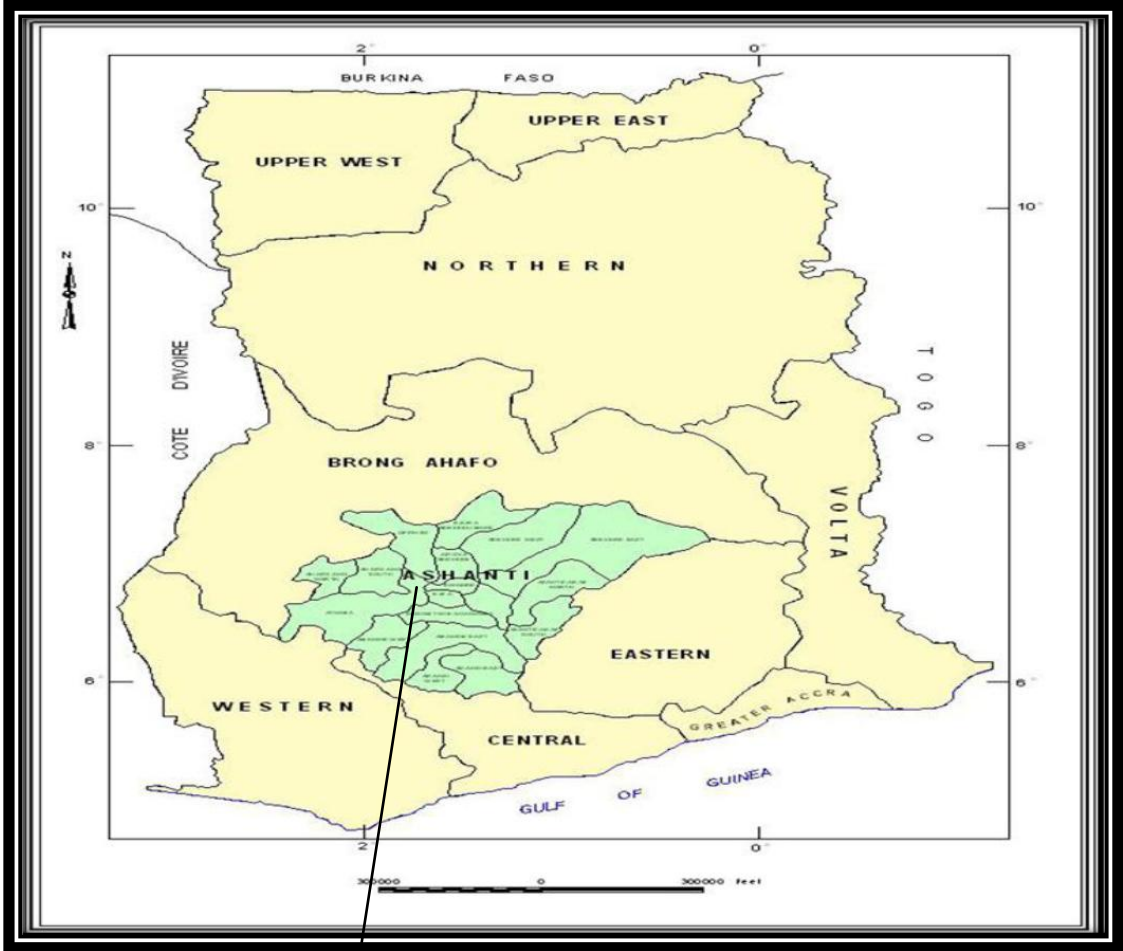
Primary research will be carried out to comprehensively gather data. Mixed research method will be employed where qualitative methodology the main methods of data collection, will be complemented by quantitative method. Semi-structured interviews, observations, document analysis and questionnaire surveys will be used to gather information from local communities, FORIG, Forestry Commission (FC) and key informants of the Bobiri forest. The combination of both methods is to help achieve "completeness" and give a "comprehensive account of the area of enquiry" (Bryman, 2008: 609).

1.5 Empirical Presentation of Study Area

The proposed study area is the Bobiri forest area which falls under the Ejisu-Juaben Municipality (political administration) but Juaso forest district (forestry administration) of the

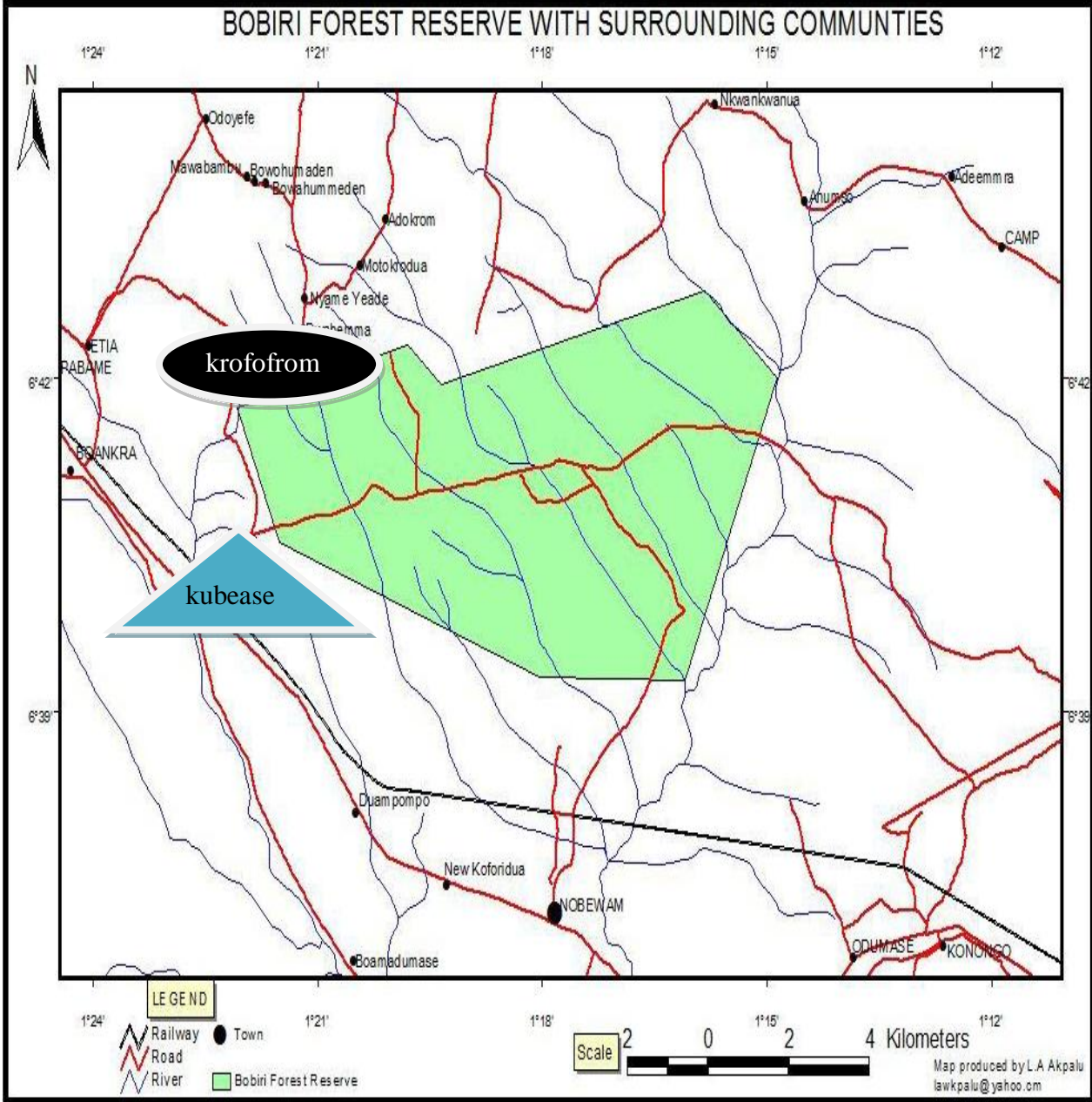
Ashanti region of the republic of Ghana. The municipality is made up of twenty five (25) towns and villages, out of which six villages surround the Bobiri forest reserve which are predominantly farming communities. Figures 1.1 and 1.2 shows the study area in national context and in detail respectively;

Figure 1.1: study area in national (Ghana) context (Ejisu-Juabeng in blue where the Bobiri forest is found)



Source: ghanadistrict.com

Figure 1.2: Map showing the Bobiri Forest area with reserve in green and the two villages where the research was conducted (Kubease in blue and Krofofrom in black).



1.5.1 Location and Size

The Bobiri forest area, which houses the Bobiri Forest Reserve (BFR), is located at the Ejisu-Juaben municipality closest to the city of Kumasi the capital of Ashanti region. The Reserve is about 35 kilometres South-east of Kumasi and about 4 kilometers off the main Kumasi-Accra road at the village of Kubease. Six different communities, which are Krofofrom, Kubease, Ndobom, Koforidua, Nkwankwadum and Tsetsekaasum surrounds the forest area (Fig. 1.2). The forest area is more than 65+ sq km (size estimated in relation to Bobiri forest

reserve). The total area of the Reserve is 54.6 sq. Km (21.1 sq. Miles). The Reserve lies between latitude $60^{\circ} 40'$ and $60^{\circ} 44'$ North of the Equator and longitudes $10^{\circ} 15'$ and $10^{\circ} 22'$ West of the Greenwich (CSIR, 2006). The two villages where the research will be conducted are positioned differently. Geographically, Krofofrom (Dwabemma and Nyame yeade) is the closest village to the reserve with a distance of about 3km whereas Kubease (the main entry point) to the reserve is about 4km in distance to the forest reserve.

1.5.2 Climate and Vegetation

The Bobiri forest is found in the middle belt of the country. As a result, the area experiences tropical rainfall. The tropical moist semi-deciduous forest zone (where Bobiri forest is found) typically has a mean annual rainfall of 1200mm and 1750mm (FORIG, 2011). The bimodal rainfall seasons are March to June and September to November. The main dry season occurs between December and March whereas August is usually characterized by a short dry period. The relative humidity of the forest area is fairly moderate but usually high during early mornings and the rainy seasons. Annual temperature ranges from 20°C in August to 32°C in March. The fair distribution of temperature and rainfall patterns enhances the growth of a wide variety of flora and fauna in the area. With its lush greenery atmosphere, the Bobiri forest reserve hosts the Bobiri arboretum and the butterfly sanctuary.

Using the clean development mechanism (CDM) of the Kyoto protocol definition of “forest” as an area of more than 0.5-1.0 ha with a minimum tree crown cover of 10-30% with “tree” defined as a plant with the capability of growing to be more than 2-5m tall (UNFCCC, 2002; cited in Sasaki and putz, 2009: 2), the Bobiri reserve can be described as a forest, rich in biodiversity with flora of about 80-100 plants species per acre (FORIG, 2011).

The off-reserve is characterized by fallow land and cultivation of many food and cash crops throughout the municipality due to rich soil type and the geology of the area. However, unfriendly farming practices, illegal chainsawing operations and wildfires have resulted in a gradual degradation of the natural vegetation cover. The deforestation and degradation situation in the Ejisu-Juaben district (where Bobiri forest is found) is not very different from the national situation, where reports indicate a decline of Ghana’s tropical high forest from 8.2 million ha at the beginning of the 20th century to only 1.7 million ha (Friends of the Earth International, 1999), with an estimated annual forest cover reduction of 120,000 hectares between 1990 and 2000 (FAO, 2001).

1.5.3 Demographic and Economy

Per the definition of the 2000 population and housing census, the two villages are classified as rural (a locality with population of less than 5000). The district has a population density rate of 2.5% compared to national rate of 2.6% (Ejisu-Juaben Municipal Assembly, 2006). Kubease the bigger of the two villages have a population of 1787 comprising of about 921 males and 886 females, whereas Krofofrom (Nyame yeade and Juabemma) has a population of 525 with 297 and 228 being the male and female population respectively (GSS, 2003; cited in Antwi, 2009). Kubease has about 183 houses with 367 households and Krofofrom has 88 houses with 105 households. The architectural design of houses in the two villages are Compound and separate houses. There are two primary schools and one Junior high school in Kubease whiles Krofofrom has only a primary school. Since Kubease is located along the main Accra-Kumasi high way, it enjoys relatively better social amenities like bitumen road, electricity and communication system than Krofofrom which has neither good roads nor any good telephone system.

Public toilets and pit latrines are commonly used, in the two villages. The main source of energy in the villages (fuel for cooking) is firewood and charcoal. Aside few hand pumping pipes, inhabitants go out to the rivers for water or use rain water during the rainy seasons. Apart from a traditional community healing center at Kubease, there is no clinic in the two villages. Inhabitants mostly travel long distances to the peri-urban towns for health related issues. Both villages have miniature market places but no police stations. The major occupation in the district is Agriculture, Animal husbandry and forestry. Agriculture employs about 68.2% of the people whiles the least employing sector (industry) employs 8% of the people. The Service sector employs 23.8% of the population (Ejisu-Juaben Municipal Assembly 2006). Municipal employment records indicate that, the service sector contributes most to cash income (GH ₵56.5 per month) whiles the agricultural sector is the least contributor of cash income in the municipality (GH ₵45.6 per month) (Ejisu-Juaben Municipal Assembly 2006). This accounts for the low living standards of the inhabitants and also may help to explain the high rate of pressure exerted on natural resources.

1.6 The Forestry Research Institute of Ghana (FORIG)

The Forestry Research Institute of Ghana (FORIG) is one of the 13 institutes of the Council for Scientific and Industrial Research (CSIR). It started as a research unit within the Forestry Department in 1962 but was fully established as a research institute and named Forestry Product Research Institute (FPRI) under the then Ghana Academy of Sciences (GAS) in 1964 and in 1968 placed under the Council for Scientific and Industrial Research (CSIR). By Act of Parliament (Act 405) the Institute was transferred from the CSIR to the Forestry Commission (FC) in 1980. In 1991, the name of the Institute was changed to Forestry Research Institute of Ghana to reflect the widening scope of its research activities. In 1993, by another Act of Parliament (Act 453) the Institute was reverted to the CSIR (FORIG, 2011). The management of the Bobiri forest reserve is under the Forestry Research Institute of Ghana. The institute has compartmentalized its programs in the Bobiri forest reserve into five broad headings of research areas including:

- Natural forest management program
- Plantation development program
- Processing and utilization program
- Non-timber forest products (NTFPs) program and
- Policy and socio-economic program

The institute's mission statement focuses on conducting "forest and forest products research for social, economic and environmental benefits of society". With this mission, it aims to work assiduously to foster stronger linkages through collaborative research across disciplines among its scientists, stakeholders and external Institutions. In order to enhance sustainable development, conservation and efficient utilization of Ghana's forest resources, the institute usually disseminates forestry related information for the improvement of the social, economic and environmental well-being of Ghanaian's and forest dependent communities (FORIG, 2011).

The main objectives of the institute are to help:

- Develop technologies for sustainable management of natural forests and biodiversity conservation
- Develop technologies fundamental to the success of plantation forestry
- Generate technological properties and develop appropriate processing techniques for the efficient utilization of forest resources

- Enhance sustainable management and utilization of non-timber forest products (NTFPs)
- Mobilize, process and disseminate information critical to the management of Ghana's forest
- Develop and to build Agro-forestry technologies.

1.6.1 Forest and Sustainable development programs of Forestry Research Institute of Ghana (FORIG)

Since the publication of the Brundtland commissions report in 1987 and the formulation of the millennium development goals (MDG's) in 2000, there has been greater and more unified spotlight on how to link environmental conservation and poverty alleviation. Most national and international forestry programs now focus on how to promote pluralism in natural resource management as a way of decentralizing forest governance and devolution of power from central government officials and offices (Knox *et al.*, 2001: 6). As such, FORIG's forestry policy and governance direction have been based on building a wider stakeholder interest and capacity for effective participation in forest policy development. With an institutional aim of enhancing sustainable development, conservation and efficient utilization of Ghana's forest resources (FORIG, 2011); focus has been on developing strategies that promote commercialization and fairer distribution of profits from forest products among the rural poor. The need to consider timber and non-timber forest products for basic rural poor needs, according to Wiersum, *et al.*, (2005-6) have been the focus of national and international forestry development strategies. Hence, implementation of collaborative strategies for the management of natural resources is closely tied to sustainability, which ensures that flow of benefits are equitably distributed for both current and future generations (Ostrom *et al.*, 2004). In ensuring collaborative choice decision-making, that Integrate stakeholder's perception and expectation into forest management, the institute has outline a policy called "sustainable partnerships and collaborative forest management" under the program "forest and livelihood" (FORIG, 2011). The aim is to enhance local community use rights and control of forests, as well as improvements in access to natural resource information by the poor, the people on forest fringe and forest dependent communities.

Comparing the national forest policy framework (Forest and Wildlife Policy, 1994; 2011) to FORIG's strategic action plan, it becomes obvious that both polices are aligned on common objectives and aims at ensuring stronger interest and rights of local communities in forest

resource management; by engaging local communities in consultation, capacity building, education, sharing of knowledge and training that enhance sustainable use of both timber and non-timber forest products. On the conceptual design level, it also appears that the strategies and interventions are consciously developed to incorporate element of law, government, various organization, companies and individuals in forestry and how all of these multi-stakeholders can harmoniously interact for national interest and conservation of forest for individual livelihood enhancement.

Chapter 2

Literature Review and Conceptual Framework

2.1 Literature Review

2.1.1 State-Society Divide from Theoretical Perspective

According to Øyhus (2011) the state is the “over-all lead agency in development politics and practices”. As such, its leading role is to plan and implement development policies and practices. It is often the responsible actor for strategic investments and policy planning in natural resource utilization and management, education, health, water and other social services and infrastructure like road, telecommunication, regulating markets, maintaining peace and stability, among other things. These and other important functions performed by the state usually conceive it as the panacea for developmental problems. Unfortunately this has lead to focusing attention on state bureaucracies and institutions without contributing very much to the micro-institution and informal ties on which they depend (Evans, 1996a). Major theories of development, held narrow, even contradictory views of the role of civil societies in economic development and offered little by way of constructive policy recommendations (Evans, 1996a: 1033). Rational choice theory for example argues that “cooperation [between state and society] is both impossible and irrational” (Innes and Booher, 2010: 19). Adam Smith contribution to this idea makes it worse, as he portrays the ‘invisible hand’ philosophy as a perfect substitute for civil societies. To Smith, each rational man, working to maximize his individual welfare in the ideal market system could produce a higher welfare for society as a whole (Smith 1776, cited in Innes and Booher, 2010), without interdependence and reciprocity. This assertion in a way makes the Neo-Utilitarian model as one part of the “rational choice” models bury the neoclassical economist vision of the state as a neutral arbiter.

Their argument is that state with transformative aspiration is almost by definition looking for ways to participate in leading sectors of the economy and shed lagging ones (Evans, 1995). However, the Neo-Utilitarian political perspective according to Evans (1995: 25) is both “cynical and utopian”. As they deny the practical importance of ‘public spirit’ that are imperative for collaborative efforts. Contrary to the rational choice perspective, has been the argument by Innes and Booher (2010) that, interdependence among participants is a key to moving past zero sum games to creation of mutual gain agreements. The argument, that interdependence and reciprocity are better ways of achieving social objectives without

necessarily reducing the value that accrues to each other according to Evans (1996a) sustain collaborative development.

In the 1950s and 1960s, for example, modernization theory regarded traditional social relationships and way of life as an impediment to development (Woolcock, *et al.*, 1999: 4). With the view that, social capital and for that matter societal efforts in development have additional features, including ‘cost’ which is manifested in unfair discrimination, distortion and corruption (Woolcock, *et al.*, 1999). This view gave way in 1970s to the arguments of dependency and world-systems theories, which held social relations among corporate and political institutions to be a primary mechanism of capital exploitation (Woolcock, *et al.*, 1999). The hegemony of the state in the 1970s and 1980s “crowds out” informal networks, diminishing social capital (Evans, 1996a; Bruce, 1994) and the sound stewardship on which natural resource management depends. According to Marsden (1991) the road to effective development was riddled with “ideological minefields and the dogmatic belief” that one particular path will provide all the answers (pp. 22).

Civil societies on the other hand, imbibed by the principles of self-sufficiency and the theories of the Marxist, overestimated the virtues of isolationism and neglected the importance of social relations to constructing effective and accountable formal institutions (Woolcock, *et al.*, 1999: 4). Neo-Marxist and Weberian’s, whose theoretical orientations are “society-centered”, explain politics and governmental activities as a “compulsory association claiming control over territories and the people within them” (Skocpol, 1985). They described the state as an administrative, legal, extractive and coercive organization made of technocrats and self-serving agencies and institutions acting for narrow and arbitrary rather than for publicly justifiable reasons. These theories see nation-state as the main champion of liberalization of the world economy with insufficient attention to local interest (Moravcsik, 2004). In these perspectives, the state is often considered to be “an old-fashion concept, associated with dry and dusty legal-formalist studies of nationality particularly constitutional principles” (Skocpol, 1985: 4). Under these philosophies, government is not taken very seriously as independent organization acting for equality and fairness in societal welfare distribution.

As such governmental institutions are deemed less significant than the general functions shared by the political system of all societies (Skocpol, 1985). For example ‘pluralist’ sees the state as autocratic in decision-making process with the argument that, state apparatus “defined the priorities of competing individuals and the range of means that will be considered to

pursue them” (Evans, 1995: 28) albeit with initiatives well beyond the demands of the social group or the community. Often this argument is supported by the classic Marxist analysis, which renders the state as an instrument for dominating the society they serve. In their view, State actions reflect and enforce disparities of social power on behalf of the privileged (Evans, 1995) and government agencies are the most prominent. The *raison d’être*, they are at the frontlines when it comes to participation in the making of any particular public policy-decisions. Their conception of lack of democracy in the state finds meaning in direct accountability of decision-makers to electorates (Moravcsik, 2004). They equate democratic legitimacy of institutions to the extent to which majoritarian electorates influence policy outcomes that affect them. These theories see state-society synergy relations as burdensome, exploitative and irrelevant (Woolcock, *et al.*, 1999).

Above all debated alternative understandings of the socio-economic functions performed by the state, Neo-Marxist still sees the state as an instrument for class struggle, an objective guarantor of production relations and economic accumulation as well as an arena for political struggle (Skocpol, 1985). These theories, portray the state apparatus as a collection of individual maximizers, who create dense ties to negate joint projects, incapable of supporting long-term sustainability, but actively predatory in reflection to the rest of society (Evans, 1995). For example Stephen Krasner, a member of the Committee on State and Social Structure of the Social Science Research Council (SSRC) reiterate along the same line to show that:

“Pure interest group versions of the pluralism virtually ignore public actors and institutions. The government is seen as a cash register that totals up and then averages the preferences and political power of societal actors. Government may thus be seen as an arena within which societal actors struggle to ensure the success of their own particular preferences. The major function of public officials is to make sure that the game is played fairly. If public institutions are viewed as figurative cash registers or as literal referees, there is no room for anything that could be designated as the state as actor with autonomous preferences capable of manipulating and even restructuring its own society”(Krasner, 1984: 226, cited in Almond, 1988: 859)

State policies sometimes “reflect vested interests in society” (Collander, 1984:2 in Evans, 1995: 24). However with the belief that civil society alone is not the “necessary and sufficient” institution to determine all outcomes (Evans, 1995) lead to Alfred Stepan defining the ‘state’ to recapture the biting edges of the Weberian perspective to the extent of showing how the two can shape and reshape each other to promote mutual gains. In his book

“Rethinking Military Politics” Alfred Stepan defined the “state” to mean something more than “government”.

It is the continuous administrative, legal, bureaucratic and coercive systems that attempts not only to manage the state apparatus but to structure relations between civil society and the public power and to structure many relationships within the civil and political society (Stepan, 1988: 4).

In this context, the extent to which state can transform civil society into developmental ends and vice-versa depends on the nature of their working environment or the character of relationship between them. If the character is synergistic, reciprocity of mutual gains may be produce to foster sustainability. But more significantly, the character of civil society can be shaped by state policies. Having a public counterpart that is organized, transparent in decision-making, tolerant and predictable makes it more likely that civil society will move from a position of “particularities” to adapting strategies that enhance collaborative development desirable for sustainability.

2.1.2 State-Community Synergy: Effects on Sustainability

There have been remarkable interests by development agencies, workers and practitioners on state-civil society synergy and its possible effects on human well-being as well as environmental health. In recognition, scholarly books and articles have been written to foster the relationship by emphasizing positive outcomes that can be generated and this has enjoyed some empirical support while lending itself to the most comprehensive and coherent policy prescriptions. Among other benefits shown by empirical evidence, are accountable and democratic governance, equity, cost effective and efficient delivery of social services and participatory development that enhances sustainable improvement in social group or community (Øyhus, 2011; Evans, 1996a; Ostrom, 1996; Ostrom, *et al.*, 1999; World Bank, 2004). As a result of these benefits, there has been a gradual reversal from the situation where too often “development theory has operated, *de facto*, on the premise that the only institutions that mattered were those with economic power and directly facilitating market transactions” (Evans, 1996a: 1033) such as the state. It is evident in some quarters that, in order to ensure sustainable development, varied energies from society (local communities) must augment or compensate for the limitations of the state if indeed governance for development is intended to truly benefit the collective good of society.

More broadly, and in the view of Peter Evans, Synergy implies that “civic engagement strengthens state institutions and effective state institutions create an environment in which

civic engagement is more likely to thrive” (Evans, 1996a:1034). To him, the vision of synergy is to capture and reshape the complicated interaction among social identities, informal norms and networks and formal organizational structures that are involved in development. According to Evans (1996a), the actions of public agencies may facilitate forging norms of trust and networks of civic engagement among ordinary citizens. This engagement of citizens in the implementation of public projects, are a source of discipline and information for public agencies, as well as on-the-ground for assistance. The assumption that mutually reinforcing relations between state and groups of engaged citizens can be a catalyst for development, leads to finding ways that can strengthen and increase the efficiency of state institutions to be more open up. In this sense, norms of cooperation and networks of civic engagement among ordinary citizens can be promoted by public institutions and agencies and used for developmental ends. However, the challenge that policy-makers face according to Ostrom *et al.* (2004) is how to move beyond the presumption that there is one, or limited institutions that can solve the problem of natural resource management to at least local level. This issue remains pressing for policymakers, with consideration to the crucial role natural resources plays in the economies of rural poor households and the conservation of biodiversity around the world.

Moreover, local management of natural resources ensure participatory development, that “... better target people’s needs, incorporate local knowledge, ensure that benefits [are] equitably distributed and grassroots capacity to undertake [initiatives are enhanced]” (Kleemeier, 2000: 930). But according to Crook such ideas are achievable when they are “determined primarily by the politics of local-centre relations” in part made possible by synergy (2003: 78). Ostrom and Agrawal (1999) demonstrate this by examining lessons drawn from two less-developed countries (Kumaon in India and Terai in Nepal).

The authors used the term “devolution” to mean forest management and conservation decentralized of authority away from central government offices and officials. They argued that, the type of property rights and the level of interaction between local community members and government officials can determine whether a forest product may be harvested sustainably or overharvested. Property right they defined as “the actions that one individual can take in relation to other individuals regarding something” including the use of common-pool resources (pp. 82). Five of these rights have been identified by Ostrom (1992) including access, withdrawal, management, exclusion and alienation (cited in Ostrom and Agrawal, 1999). The authors were of the view that devolution may tremendously enhanced efficiency, equity and sustainability outcomes if rules that are used to governed forest resource-use are

made by collective choice arenas. Nevertheless, in many cases, the tradition has been that local groups have no authority at all to determine any of the operational rules that affect their day-to-day harvesting, planting, and other forest-related activities. In some cases too, members of a user group or a village may have asserted *de facto* authority to make such rules or may even have been assigned *de jure* authority to do so (Ostrom and Agrawal, 1999).

In the case of Kumaon in India, devolution was successful primarily due to the passing of managerial control of about a quarter of the forest in three districts of Kumaon: Nainital, Almora and Pithoragarh into the hands of villagers (local communities). Although the control which was exercised by the community were mediated by the officials and rules of the Revenue Department, this new way of administering the forest was not only far more effective, but had also simultaneously been responsible for far lower expenses on forest protection. The study of the forest councils of Kumaon showed that a widespread social movement in Kumaon fed into departmental rivalries between the Forest and the Revenue Departments of the British colonial state. These rivalries were as a result of a curtailed use-right of forests under the control of local communities for extraction of timber for revenue. But the latest incursions of the forest department raised the special ire of the villagers. Their (villagers) grievances were particularly acute because of elaborated new rules that specified strict restrictions on grazing rights, restricted use of non-timber forest products, prohibiting the extension of cultivation and increased number of forest guards. These new laws goaded villagers into widespread protest. The demands of these social movement actors (villagers) resonated with the interests of the Revenue Department. The incessant, often violent protests forced the government to appoint the Kumaon Forest Grievances Committee (KFGC) to look into the local disaffection. The committee used the resulting evidence to make two major recommendations. First, it recommended that, the larger part of the newly created Reserved Forests between 1911 and 1917 be de-reserve and secondly, there must be a concerted efforts to create community forests that would be managed under a broad set of rules framed by the government, but for which villagers themselves would craft the specific rules for everyday use that fit local conditions. The government took both recommendations seriously, resulting in a devolutionary policies allowing villagers significant latitude in designing collective choice and operational rules. Nonetheless, it is worth noting that over time, the ability of villagers to exercise rights over their forests have changed in response to legislative changes introduced by the government of Uttar Pradesh (the state in which Kumaon is located). The results of these changes have also found reflection in the use and management of forests but not to the detriment of local livelihood and forest sustainability.

In the Nepal's Tarai case, which is named the "parks and people program" (Ostrom and Agrawal, 1999: 97), the practice of devolution did not translate into sustainable overall primary aim of protecting large mammals such as wild rhinoceros from poachers and preventing villager encroachment. The form of property rights used in this devolution exercise mainly occurred in areas of entry into and use of park resources. In this sense community members can only claim to have somewhat attenuated use and access rights into the protected areas of the forest. Rules relating to harvesting of firewood and grazing of animals were even stricter due to the practice of exclusion property right. Most of these rules were moreover crafted by protected area officials, without the involvement of local residents mainly due to an existing marginalized management right that is allocated to the local people. More so, local people were not involved in the enforcement of such proposed rules that governed the very resources on which their livelihood depend. Although Nepal is often seen among the leaders (in developing countries) in setting conservation goals and priorities, and creating programs and legislation that is locally centered (Heinen and Kattel 1992, cited in Ostrom and Agrawal, 1999). In this regard (forest management) government legislation continues to be the dominant means of practice in protected areas. The creation of buffer zones and the involvement of user groups in the settlements located close to or within protected areas are now seen as a crucial means of protecting nature but not until local people are giving considerable management rights (Ostrom and Agrawal, 1999). More specifically, unless devolution leads to synergy, where local users have at least the rights to manage resources and make decisions about resource use, the effects of collective action (synergy) cannot significantly protect biodiversity to encourage tourism and provide forest products and non-forest product that are needed to better the lives of the poor.

According to Martin and Lemon (2001), the "new institutionalism" for forest management is participatory involvement of a management partnership between the state and local communities. They argued that, the orthodox management regimes have often failed to safeguard either forest resources or the livelihood of those that depend on them, due to the strict state control that alienate local people and demise traditional system of management. They further enthusiastically argued that, the creating of this "new institutionalism" has raced ahead of emerging concerns about the lack of genuine participation and the potential for further marginalization of poor and women in forest management.

The authors demonstrated this by using a case of a "joint forest planning and management in Karnataka" India (Martin and Lemon, 2001: 587). The project (JFPM) was characterized

according to the authors as a “participatory institution” type of finding solution to degraded forest because it seeks to improve forest management practices through the development of village forest committees. Escobar described this, as the “remaking of development” (1995: 98, cited in Briggs, 2005: 99) as it examined the local context for sustainable solutions. The project management was a partnership between the village representatives and the state, with an intermediary role for NGOs. This was designed with a view to overcome local people’s alienation from forest and at the same time facilitates informal institutions’ degree of influence on formal institutional outcomes. Since “current development efforts focus on building institutional capacity through the encouragement of local self-reliance” (Marsden, 1991: 21), this was a way of empowering the hitherto excluded and at encouraging individual entrepreneurial activity. However, the authors finding concludes that, the legal and policy confusions at the project level, had frustrated villages whose right to manage existing forest was at the center of an increasingly antagonistic dispute with the state. Significantly this agitation stemmed from the fact that plantation usually commenced without, or prior to, any real consultation with community members including the integral process of participatory rural appraisal (PRA). In consequence, the emphasis has been on meeting time scale rather than concentrating on process. The attempt to implement such project without local consultation and feedback resulted in an inability of local actors to manage the project to meet their situated needs compromising sustainability.

2.1.3 Conservation and environmental sustainability: can this lead to Development?

At its most basic, development can be taken to mean the production of social change that allows people to achieve their human potential (Adams, 2009). Yet, development remains an ambiguous and elusive concept. Denis Goulet resonates to the above statement by making this point that;

Early practitioners took it [development] as a self-evident that economic development is everywhere and for everyone, a good thing: that technology should be harnessed to all human activities because it boosts productivity and that specialized modern institutions are desirable because they foster economic growth (1997: 1160).

Development cannot be taken as only philosophical enquiry into social change that enhances human dignity, but a “technical examination of how to mobilize resources and people most efficiently and fashion the institutional arrangements best suited for growth” (Goulet, 1997:

1160). Hence, the concept spans production as well as ethical issues and above all else, an enquiry into what constitutes a “tolerable costs to be borne in the course of change” (Goulet, 1997: 1161). This shows that for sustainable development to be achieved, links between the environment and development must be critically examine as it elucidate the end point of development. Changing the ideas about the meaning of development and policies necessary to achieve it depends on conservative policies that explicitly advocates for sustainability.

The concept of ‘environmental sustainability’ depends ultimately on the continued viability of the natural resource base (Brookfield, 1991). Meaning that, sustainability is a concept put forward partly as a means to promote conservation. It is therefore not surprising for Brundtland (1987:13) to define sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” In this sense living sustainably depends on accepting a duty to seek harmony with other people and with nature in terms of economic and social development initiatives and goals. According to Adams “... nature conservation has been the most deep-seated root of sustainable development thinking” (2009: 29). Yet debate about it threatens to lead into semantic, politics and indeed moral maze.

Usually, it is argued that there are substantial common interest between local people, who wish to retain their rights to land (purely forest land) in the face of competing demands and conservationist, who wish to maintain habitat for its biodiversity (Adams, 2009). However, practically the interest of forest dependent communities in development typically runs counter to those of biodiversity conservationist with regards to promoting the survival of species. The conservation of biodiversity is recognized as important due to the role biodiversity plays in underpinning many of the ecosystem services which humans depend upon for their well-being (MA, 2005, cited in Nellemann and Corcoran, 2010). But strict conservation practices that deprive people of their basic livelihood are unsustainable.

In Adams’ (2009) *Green Development; Environment and sustainability in a developing world*, it is noted that sustainable development depends on environmental conservation, specifically on the sustainable use of living organism and ecosystem. More so it is argued that development can be configured to promote conservation. With the introduction of the concept of sustainable development in the 1980s by the world conservation strategy, conservationist had claimed that conservation and development objectives could be achieved together at global, national and local scales. In particular, the argument gained ground that conservation could help meet the true interest of poor people and particularly the rural poor who are

themselves often victims of inappropriate development. According to the author, this idea led to increase flow of funds into conservation work in the 1990s. Advocates of ‘sustainable use’ of natural resource, proposed that conservation can best be achieved by giving rural poor and forest dependent communities a direct access to protected areas, thus literally harnessing conservation success to the issue of secure livelihood (Hutton and Leader-Williams, 2003, cited in Adams, 2009). According to Brookfield this is a way out of the dilemma because “strictly conservationist position is not practicable” (1991: 48), for it is impossible to satisfy human needs without some consumption of resource on which rural livelihood depends (Wiersum *et al.*, 2005-6). Nevertheless, such conservation strategies based on the consumptive use of natural resources by local people are often cautiously supported by conservationist, because of fear of over-hunting, over-harvesting or grazing (Adams, 2009).

The argument that pressure on natural resources may increase when people lack livelihood alternatives led to major changes in conservation policies (Brundtland, 1987) to accommodate the needs of the poor at both international and national scale. For example programs such as United Nations Development Programme’s Equator Initiatives was aimed precisely to reduce poverty through the conservation and sustainable use of biodiversity (Timmer and Juma, 2005, cited in Adams, 2009). This argument gained accelerated debates at Rio and Johannesburg and the new emphasis on an international effort to eliminate poverty through forest and ecosystems (for more explanation, see Wiersum *et al.*, 2005-6). However some conservationists have expresses concern that they are losing their grip on the development agenda, that “poverty alleviation has largely subsumed or supplanted biodiversity conservation” (Sanderson and Redford, 2003a: 390, cited in Adams, 2009: 277). In view of this scenario, much of the history of conservation practices in most Third World countries are not one of happily shared interests between rural poor and the state conservation bodies, but one of exclusion and latent or actual conflict. In order to potentially harness development through conservation, to alleviate poverty and achieve the millennium development goals (MDGs), require new thinking (Adams, 2009) by conservation managers and the local people alike. This is to ensure that services and products produce by nature are enhanced and quality of natural resources are maintained. Indeed the rules and reforms of the organization in which the parties work, the legislative and policy framework within which they operate are also a *sine qua non* of environmental sustainability with development.

2.1.4 Historical profile of Forest Management practices in Ghana

Forest management in Ghana has a long history and it is much affected by the policies and rules of the Colonial British government. Social beliefs, norms and practices of the communities also have well shaped forest management in Ghana. Traditional protected areas (sacred groves, burial groves and forests left at the headwaters and along the courses of rivers and streams) and perhaps the existence of Ghana's forests in general, represent evidence that "forestry" in Ghana, and in particular forest conservation, did not originate with the colonial administration and the establishment of a Forestry Department in 1909. Some traditional Ghanaian myths holds that forest are spiritual places for some deities as such they are protected and respected in order not to incur the annoyance of the gods.

Before the British Colonial policy of indirect rule, traditional chiefs were the custodians of the land as well as the forests. The strengthening and formalization of traditional institutions, particularly chieftaincy by the colonial masters, made it their main vehicle of local government. In the early years the colonial authorities tried to nationalize forest lands to form public forest reserves. However, this failed due to effective use of the courts by the traditional land owners. Later, the process of forest reservation proposed by the colonial masters that allows local communities the rights in forest reserves, including access to harvest non-timber forest products, were admitted by the landholding chiefs and local communities through consultation and persuasion (Kotey, *et al.*, 1998). These were forest reserves which were formally in custody of traditional chiefs and their people.

Yet the nature of the management and administration of these areas were such that when the "new colonial scientific" forestry began, it could not discern an "old" forester or forestry tradition and practice to which it would relate. If the new forester recognized these protected areas at all, they were seen as "fetish" groves. The new forestry therefore had no roots in, or affinity with, the old indigenous forestry tradition. The colonial government's first preference was to vest unoccupied lands in the Crown, and in the same legislation, made provision for government to regulate forest exploitation (Kotey, *et al.*, 1998). This was an application of the colonial common law doctrine on waste: an obligation on the part of the government to ensure that owners of renewable resources do not use them wastefully. However, it was also a reflection of a colonial attitude that saw the peoples of their African colonies as "minors" whose heritage had to be managed in trust for them. Nonetheless, the chiefs with their people vociferously protested against this choice of forest reservation under colonial authority. Subsequently, by-laws were made to fully ensure that, management of the forest can be in

accord with the then prevailing political doctrine of “indirect rule” – in which chiefs and “traditional authorities” were “given” considerable land and resource allocation powers (Kotey *et al.*, 1998).

2.1.5 The Management Period after Independence

After Ghana’s independence, forest policy was made to create and manage permanent forest estates. However, the 1962 concession Act, monopolized forest and timber resources in Ghana in the office of the president, to administer on behalf of chiefs and the local community (Amanor, *et al.*, 2002: 27). This gave the Ghana Forestry Service control over all trees whether in the forest reserve or on the farmer fields. Unfortunately, in the later case farmers have no right to any royalty payments when a tree is sold (Amanor, *et al.*, 2002: 27). The alienation of communities from the natural resource base through legislative instrument and system contrast to the importance of forest resource in national export and underlines the marginalization of the interests of the small farmer majority (Amanor, *et al.*, 2002: 27). Within this period, the perceived “omniscient government” with the Forestry Commission of Ghana, were responsible for the management of forest and wildlife resources, which includes the conservation, sustainable management and utilization of those resources and the coordination of policies related to them (Osie-Tutu, *et al.*, 2010). This period saw a “technocratic arrogance” and management style which assumed that, local people have no

“worthwhile knowledge in the area of forest management and moreover, have no interest in conservation or forest protection and would, if not watched with vigilance, quickly liquidate the forest or, at best, constantly nibble away at its resources” (Kotey *et al.*, 1998: 12).

This period saw forest management becoming “timber management” (Kotey *et al.*, 1998: 13) with an ultimate objective of ensuring that the flow of benefit from forest policy in practice would promote sustained production of timber. These developments in the sector brought animosity and eventually killed communal spirit in protecting forest resources particularly by local communities leading to proliferation of illegal chainsaw operation in the country. In this regard, Evans (1996a) reiterates the importance of “reformists” in the state apparatus to make the voices of the ordinary people matter in decision-making. The leading role that the state plays in development is undeniable but according to Marsden, there was the need to “attack on the monopolistic control of the state” (1991: 33) if indeed society want to espouse

development that is self-reliant. It is widely acknowledged in development circles that, communities with rich stock of social networks and civic associations have stronger position to confront poverty and vulnerability, resolve disputes, share beneficial information, provide informal insurance mechanisms, and have important impacts on the success of development projects (Akhter, *et al.*, 2007). The introduction of the state as a central actor in development and the new willingness to treat local community as partners in development trajectories both forced to broaden sustainable development (Evans, 1996a).

2.1.6 The Period of “Community Management” 1980s to 1990s

In the 1980s and 1990s, much attention in world forestry turned to “community” and “participatory” forestry management due to its advantages over centralized management (see table 2.1). Ghana government initiatives towards community participation in forest management owe much to the ideas prevalent on the world forestry scene in the mid 1970s (Osie-Tute *et al.*, 2010). In Ghana, “collaborative” forestry emerged in the 1980s; in response to government commentators increasingly drawing attention to their perceptions of failings in the policy and legislation system (Kotey *et al.*, 1998). Their issues of concern were the excessive centralization of forest management, the non-integration of rural production systems into forest management, the “acceptance” of the ultimate demise of off-reserve forests and the absence of a role for communities and industry in forest management (Smith *et al.*, 1995; Tufuor, 1996, cited in Kotey *et al.*, 1998). These agitations by civil servants saw massive programs of reform in the 1990s (Baffoe, 2009: 4) that adopted a number of tools and measures for collaborative management. These were attempts to “recover the hidden voices” and a way of ensuring that richness and diversity of knowledge are maintained and indeed enhanced (Marsden, 1991: 33) and also to serve as impetus for achieving sustainable forest management and elimination of illegal logging.

Under the “collaborative management” which was mostly called the “rural forestry” system, forest resources administration became a joint responsibility of the Forestry Commission, the Timber Utilization Contract holder (TUC), and the landholding communities (Baffoe, 2009: 1). The broad stakeholder participation was widely anticipated to improve decision making that will reduce corruption and safeguard the functional integrity of forest resources. However, according Kotey *et al.* (1998: 60), the success story of the policy “rural forestry” cannot be matched by the reported “success stories” of Korea, Thailand, Nepal, the Philippines and some states in India. Although some critiques have shown that, the

collaborative forestry management in Ghana never made a concerted effort to build up or facilitate the village level organizations that underpinned the 'Eastern' success stories. Moreover, the management practice has also been criticized for lacking pure collaborative measures that can ensure a sustainable yield of quality forest products for the benefit of all stakeholders (Kotey, *et al.*, 1998). Nonetheless, the policy inception has been enlightenment and a step in the right direction with regards to forest management in the country. The arguments have been that to be sustainable in development, strategies that are self-reliant and participatory (Marsden, 1991: 32) needs to empower the hitherto excluded and at encouraging local communities into civic engagement. The arguments that, people are more responsive if they are central to programs that affect them and if they have made some investment or commitment to them (Marsden, 1991: 22) manifested after the introduction of the new reforms in the forest management. The capacity of local farmers in maintaining and practicing agroforestry saw an increase in many forest zones in the country especially in Brong Ahafo (Abagale, 2003). The right to own trees in farm fields through certification by the Forestry Commission (Baffoe, 2009) propelled local farmers to safeguard the forest and even planted more trees.

Table 2.1: The Rationale behind Community Involvement in Forest Management

1. Proximity: The local populations are the immediate custodians of the forest. They are the stakeholders in closest touch with the forest, and dependent on it in a wide variety of ways. Hence they are best placed to ensure its effective husbandry.

2. Impact: Their livelihood activities likewise have a very direct effect on the condition of the forest; thus, their involvement in its management makes sound practical sense.

3. Equity: There may be important considerations of equity and social justice in the exploitation of forests. Community-based forest management may be expected to increase the resource flows to rural populations, leading to important effects on poverty alleviation and income distribution.

4. Livelihoods: Local needs and interests should likewise not be ignored, particularly where forest products provide key elements of livelihoods or - as is often the case with non-timber forest products (NTFPs) - important safety nets. There is evidence that the development of the forest sector for single-purpose industrial usage damages livelihood interests, shifts benefits away from the poor, and disadvantages important categories of forest users (such as women). Community involvement in forest management, where forests play important roles in rural livelihoods, is likely to lead to substantial changes in the ways forests are managed, ensuring the safeguarding and/or diversification of their multiple benefits. The social security component of community forest management may thus be significant.

5. Capacity: In recent years, the management capacity of forest-dwellers has been strongly promoted in the social science literature, while that of governments has increasingly been questioned. Community roles in forest management have been well documented in the past; equally, there is evidence from recent experience of community involvement, that this can substantially improve the quality and condition of the forest, over and above the levels which governments are able to establish independently (see, for example, Soussan et al.,1998).

6. Biodiversity: Because of their interests in multiple purpose management, local users are

likely to be much better conservers of biodiversity than either single-interest industrial concerns or the interests that serve them. Despite frequent assumptions to the contrary, biodiversity may well be enriched, instead of diminished, by the activities of forest dwellers.

7. Cost-effectiveness: In relation to efficiency considerations, there may often be little alternative but to involve communities in forest management. In many instances in the developing world, there is very limited capacity for effective management of the forest resource by the public sector. Even where public sector management is feasible, the costs of exclusive direct management by the state may be prohibitively high, and local management may be an important way of cutting costs.

8. Adaptation: Growing recognition of cultural and livelihoods diversity encourages an approach centered on local participation and contextual adaptation. Almost by definition, flexible and adaptive management cannot be delivered centrally, and local pressures and interests must be brought to bear.

9. Governance: Involving communities and community institutions in forest management (a sector often noticeably lacking in 'good governance') may help to introduce discipline into the management of the sector and offer significant checks and balances on otherwise unregulated public services. Several writers have emphasized the important roles which civil society organizations can play in augmenting public 'voice' and acting as 'voice surrogates' (see, for example, Paul 1991); the forest sector, because of the way it impinges on many aspects of local life, may be an important arena for the exercise of such public voice.

10. Development philosophy: CFM is likely to fit in well with the wider development assistance strategies of the international community. These give high priority to principles of local participation, decentralization and 'subsidiarity' (the view that decisions should be taken as close as possible to the affected citizens), as well as to the promotion of civil society, all of which are potential benefits of CFM.

Source: Brown, 1999

2.2 Theoretical Framework

2.2.1 Drivers that cause Forest Degradation and Deforestation

The United Nations Environment Programme (UNEP) defined drivers as “activities with a direct impact on the environment” (UNEP, 2007: xxii). Activities (like agriculture, logging, bush burning etc.) have environmental effects which can be negative in the form of forest degradation and deforestation. While deforestation involves the conversion of forests to another land cover types, degradation results when forests remain forests but lose their ability to provide ecosystem services or suffer major changes in species composition (Millennium Ecosystem Assessment 2005, cited in Sasaki and Putz, 2009) due to overexploitation, exotic species invasion, pollution and fires, among others.

Since development and environment are inextricably intertwined (UNEP, 2007), and contrary to the neo-Malthusian perception of degradation (Adams, 2009) it is usually argued by political ecologists that, environmental degradation includes both economic, political, social aspects and environmental conditions (Schubert 2005: 13). These conditions range from demographics; consumption and production patterns; scientific and technological innovation; economic demand, markets and trade; distribution patterns; institutional and social-political frameworks and value systems (UNEP, 2007). Gillis for example has established that shifting cultivation and fuelwood harvest are major culprits of degradation driven by poverty in Ghana (1988, cited in Baytas and Rezvani, 1993). Hence to reveal the links between environment, development and management, political ecology puts environmental change into a larger political, social and economic context (Robbins 2004: 14) in order to plan and implement sustainable solutions. The field of political ecology addresses the relations between the social and the nature, arguing that social and environmental conditions are linked in a number of nested scales (Adams, 2009). According to Adams political ecology is observed as the “centrality of politics” (2009: 197) made up of rules and regulations, rights and responsibilities, explaining the interactions between people and the environment.

Usually it is asserted that poor people often destroys their “immediate environment in order to survive” (Brundtland, 1987: 7). As such the poor have traditionally taken the brunt of the blame for causing society’s many problems including forest degradation (Duraiappah, 1998). However, with the argument that capital growth may contribute to an unbalanced relations of power, where the activities of powerful people (affluent) force the impoverished population into adopting unsustainable environmental activities (Duraiappah 1998: 2177), calls for new thinking into finding workable solutions to environmental problems. According to Antwi

(2009) this scenario has contributed to unsustainable logging, unsustainable agricultural practices, bush burning and encroachments on the Bobiri forest reserve which undermines the health of the forest as well as the well-being of surrounding communities.

2.2.2 Collaborative Management “Synergy”: Effects on Response to Mitigate Forest Degradation

Efforts towards sustainable forest management are built on processes of communication, learning and knowledge sharing, engaging people in their multiple roles as individuals and as members of community (see figure 2.2). According to Ostrom and Agrawal (2001), the need for synergistic management practices between state and community hinges on three important reasons. First, the lives of millions of households are affected by how government manages forest and admits local claims. Secondly, factors that lead to synergy (like norms of trust and reciprocity, complementarities and embeddedness) of forest management may be relevant in other areas where synergy is occurring. Lastly collaborative decision-making can be seen as an inherently important concern of democracy. With regards to the last point, synergy becomes a process of negotiating meanings of problems, of evidence, of strategies, of justice or fairness and of the nature of desirable outcomes (Innes and Booher, 2010). One essence of synergism in decision making process according to Innes and Booher is its “resilience absorption of radical changes in the environment” (2010: 34). Synergy can create new knowledge and unanticipated policies and programs that can lead to change in values, goals, shared understanding and underlying attitudes of participants that can be tailored to curb forest degradation. However for such partnership to flourish to meaningfully engage participants in joint learning process, Innes and Booher (2010) have proposed that, all utterances must be comprehensible among participants and statement must be true in the positive sense. Thus, as a lead agency in development politics and practices, the ‘state’ has significant implication for the type of participatory development that prevails in decision making. As such, it is a necessary requirement for it to be honest, efficient and effective in its bureaucratic apparatus. Moreover participants (local communities) must be treated equally and listened to equally and must have access to relevant information. Finally participants must be persuaded in policy decision only by the force of a better argument and not be power, ignorance or peer pressure.

However for the state to effectively carry out these and other functions it must strengthen its capacity in at least four different areas – institutional capacity, technical capacity, administrative capacity and political capacity.

This means that the state ought to have the “ability to assert the primacy of national politics, legal conventions, and norms of social and political behavior over those of other groupings.”

Secondly, the state’s *technical capacity* has to be consolidated. This implies “the ability to set and manage effective macroeconomic policies,” which in turn requires “a cadre of well-trained economic analysts and managers [and] well-staffed and appropriately placed units for policy analysis.”

Third, states need to strengthen their *administrative capacity*, which involves the “ability to perform basic administrative functions essential to economic development and social welfare.” Finally, states have to develop a full *political capacity*, which requires the construction of “effective and legitimate channels for societal demand making, representation and conflict resolution.” (Grindle, 1996; cited in World Bank, 2004).

For the purposes of this research, all these four areas will be summed up as institutional organization and basis, which will be defined as the effective and legitimate channels for societal demand making, conflict resolution, and civic engagement. Good governance continues to be absolutely an important prerequisite for creating synergy, but not without organizational basis necessary for realizing that potential. State organizational innovation in this regard is very crucial. Woolcock and Narayan have argued that, the “vitality of community networks and civil society is largely the product of the political, legal and institutional environment” (1999: 11). This presupposes that, the very capacity of social groups to act in their collective interest depends crucially on the quality of the formal institutions under which they reside. This realization, leads to repositioning of the state to be internally coherent, credible and competent in its external accountability to the society (Woolcock, *et al.*, 1996: 11).

The effectiveness of the state in dealing with the demands of the society compelled it to be “more open” to bottom-up participatory development, and secondly translate and help scale-up local organizations in communities and other networks into developmentally relevant organizations. Woolcock and Narayan (1999) stresses that corruption, vast inequality, divisive ethnic tensions, failure to safeguard property rights and frustrated bureaucratic delays, suppress civil liberty and are increasingly being recognized as major impediments to generating state-society synergy. In countries where these conditions prevail, there are little to show for well-intentioned efforts to safeguard resources towards developmental ends (Woolcock, *et al.*, 1999: 11). Ostrom (1996) also stresses that polycentric political systems, backed by decentralization of governance, as opposed to monocentric systems, allows for

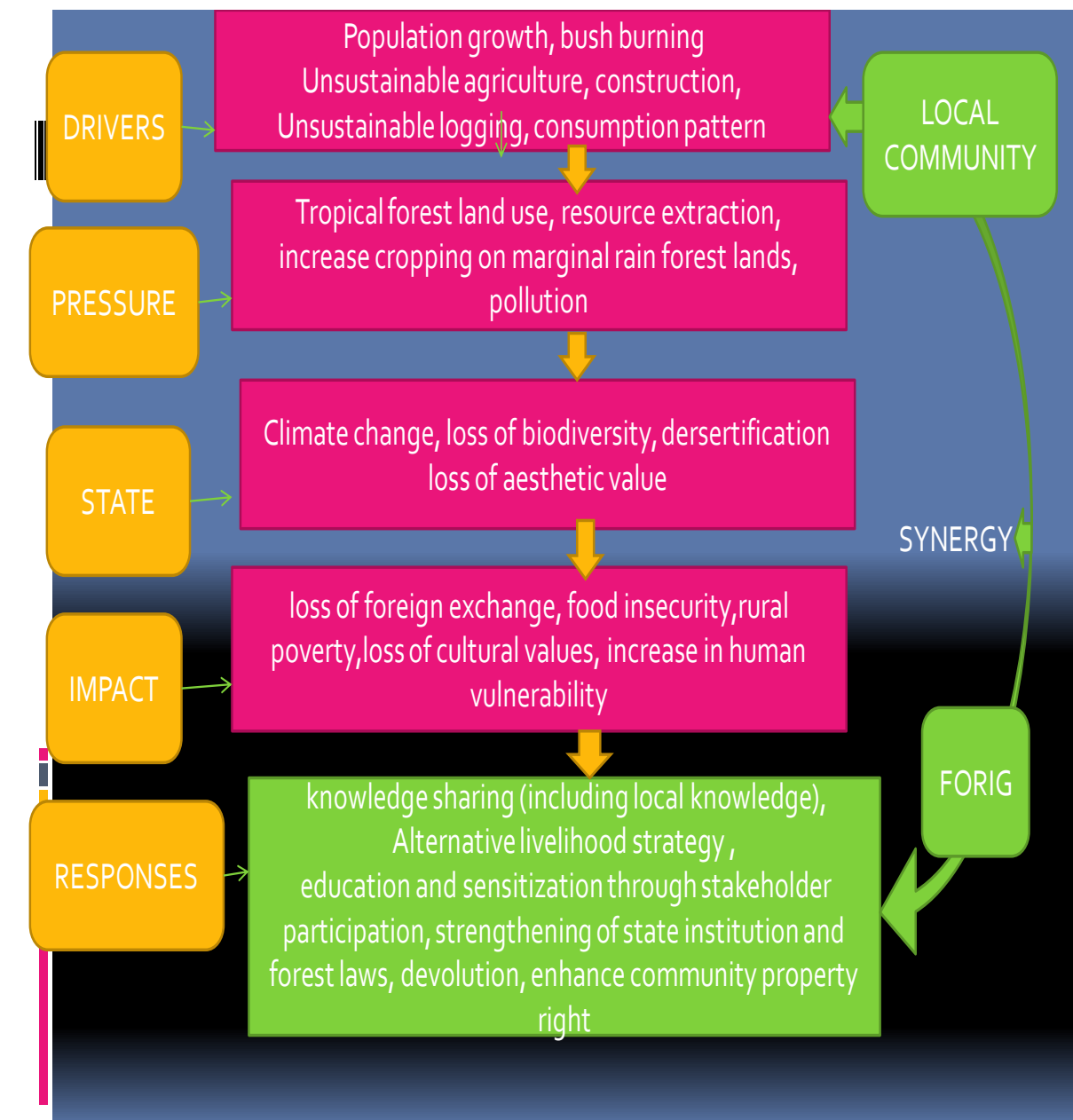
rules and policies at a large-system level to be adapted in a general form that can then be tailored to local circumstances and needs.

2.3 Conceptual Framework

2.3.1 DPSIR Conceptual framework

The concept of Drivers-Pressure-State-Impacts-Responses (DPSIR), was used to investigate the interaction between local communities in their environment and how possibly their day-to-day activities affect the health of the Bobiri forest and their well-being respectively. The framework adapted, identifies the diversity and multiplicity of trade-offs in resource utilization and opportunities for synergy. Although it is worth noting that resources that comprise multiple-stakeholder use present an increase complexity for decision-makers, such complexities must not be ignored. However it points to the need for innovative approaches to address the intertwined environmental and developmental challenges that face society made in part by synergy. The framework places, together with the environment, the social issues and economic in the ‘impact’ category and recognizes ‘drivers’ as a fulcrum that causes ‘pressure’ by human interventions in the environment. The consequences of these interventions (state) are manifested in climate change, loss of biodiversity, desertification and loss of aesthetic value. As useful as these explanations are the need for greater integration of policies across levels (both formal and informal) and investment in environmental and social sustainability programs through *inter alia* knowledge sharing, robust institutional building and policies, participation, devolution, among others to address the drivers and pressures in the framework.

Figure 2.1 Framework of DPSIR

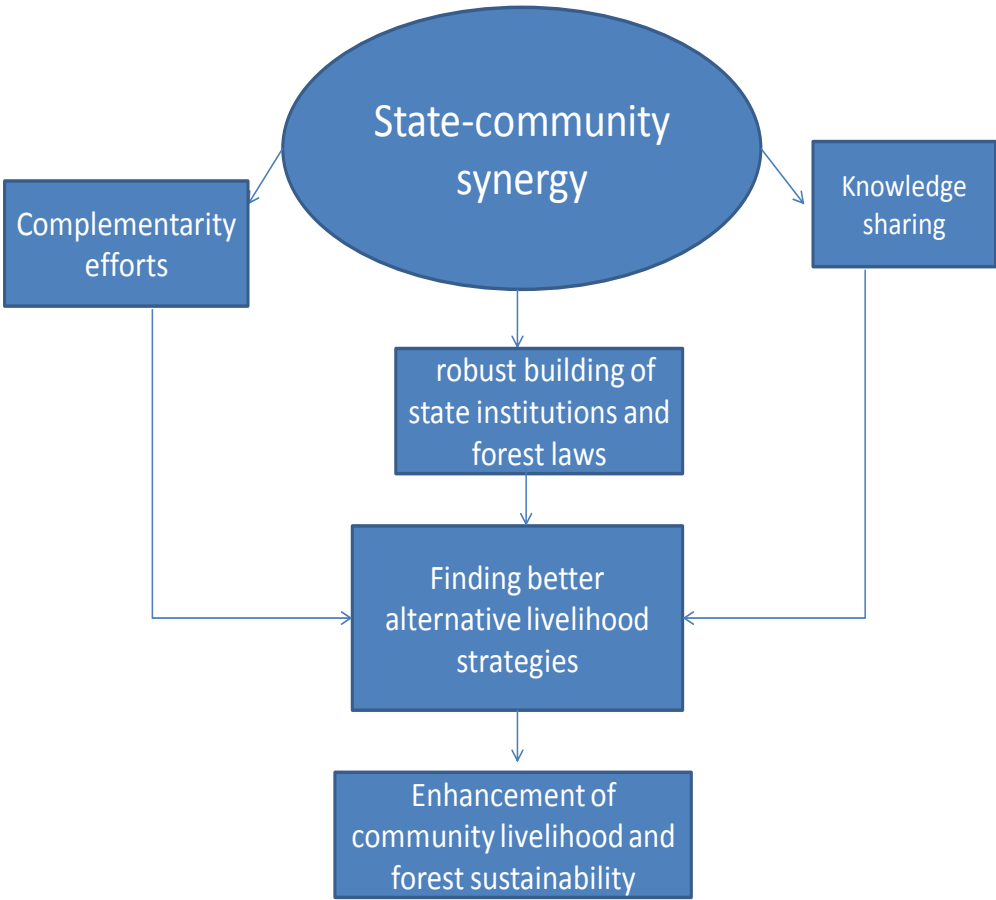


Source: Author, adapted from UNEP, 2007

In order to shed light on the links between forest resource utilization in relation to human well-being as well as forest health, the concept of synergy will be core in this framework, even though, it is not explicitly recognized in the (DPSIR) framework. Nonetheless its use is necessitated, with consideration to the chain of cause-and-effect that characterizes the interaction between society and the environment (UNEP, 2007). UNEP recognizes the need for responses to mitigate the drivers of forest degradation, but to bring ‘pragmatism’ in finding responses to the complex and multidimensional (UNEP, 2007) drivers of forest

destruction, Innes and Booher have argued for “collaborative dialogue” made in part by synergy in policy-decision making (2010: 27). Marsden (1991: 22) iterates this point by saying that local people are “more responsive if they are central to the design and implementation of programs that affect them”.

Figure 2.2: summary of figure 2.1 (showing the linkages between state-community synergy and livelihood/forest sustainability)



Source: Author, 2012

In recognition to the above figure (2.2), and the fact that the ‘state’ alone does not possess all the resources necessarily needed to promote broad-base sustainable development, crucially compels it to build synergistic relations with society across different sectors of development through complementarities and partnerships. Such practices ensure cohesion that leads to ‘better understanding of social and economic differences within communities, as well as institutional arrangements shaping patterns of differentiation’ (Gillingham 2001: 804).

This revised perspective on community brings to fore the need to bridge the state-community divide for mutual benefit. Evans (1996b) therefore has theorized that efforts at promoting synergy can take two mutually re-enforcing forms— complementarity and embeddedness.

Complementarity is a “mutually supportive relations between the public (government) and the [local community]” (Evans, 1996b: 1120) which presupposes that the state is better suited to deliver certain kinds of collective goods (both tangible and intangible) which should complement other inputs more efficiently delivered by local actors. It is rooted in the principles of division of labor and efficiency. The concept according to Evans (1996b) creates objective grounds on which cooperation between government and citizens can be fostered. For instance the state could provide conducive legal environments, make public information available, provide technical advice, etc to enhance the efficacy of local civil society organizations and other ordinary citizens for socially accountable and sustainable development and vice versa. The above scenario echoes Ostrom’s idea of coproduction, which is “the process through which inputs used to produce a good or service are contributed by individuals who are not in the same organization” (1996: 1073), implying that all public goods and services are better produced by a complementarity of efforts of both the state and citizens and embedded efforts of the state in civic engagement.

Embeddedness on the other hand has to do with “day-to-day public-private interactions and norms of loyalties that build up around them” (Evans, 1996b: 1121). This theory assumes that, people working in public agencies must be closely embedded in the communities they work with thorough routine interactions with local communities, which span the state-society divide (Evans, 1996b). Evans (1996b) also notes that care should be taken not to cross boundary where it may seem that the state is intruding on the will and ability of local organizations and communities for other self-organized development efforts based on elements of productive local knowledge systems. This however does not mean that, government or state must stand aloof rather it must provide the necessary inputs that civil societies need in their operations that they cannot provide themselves and “maintain a hands-off stance” (Evans, 1996b: 1121) with respect to activities that are within the domain of civic action.

The constructive importance of synergy also underscores the significance of public space that provides a learning process (thus knowledge sharing) between people and their governed institutions. The deliberate provision of public space for debates, serve as an appropriate grounds for the formation of values and priorities in the society by allowing and facilitating public discussions and debate. The essence of this process of dialoguing is to properly identify

needs, set priorities right, make prudent choices and build consensus around decisions that affect people's lives. Empirically, Ostrom's (1996) 'coproduction' and Evans (1996a, 1996b) 'complementarity' shows that, complementing ideas of complementarity and embeddedness create the potential for synergy and thereafter the organizational basis necessary for realizing that potential, in a form of robust state institution building. Demonstrably, the multiple effects by implication of these institutional-building and organizational changes are enhancements of community livelihood and forest sustainability.

2.4 Classification of Terminology

For purposes of this thesis, the term *state* will constitute the governmental system including institutions at all levels of government.

Civil Society is a term adopted from World Bank (2004: 9) to refer to both organized and unorganized citizens acting independently from government, political parties and the profit motive in order to transform society and governance. For the purposes of this thesis, civil society will fall under the term 'local communities' and participation of citizens in policy-making process outside formal organization.

Synergy: The assumption that, the relationship between state and society is characterized by a process of "particularistic demands, concessions and manipulation" (World Bank, 2004), leads to finding healthy ways of engagement that produces a robust bureaucratic apparatus and policy outcomes that are in the interest of the public as a whole. Mutually reinforcing relations between state institutions and society need to be committed to the importance of cooperative efforts. Synergy is therefore the term that is used throughout the thesis when referring to extra effectiveness created by society when citizens combine effort with state institutions which enhances the management of the Bobiri forest reserve and improves the flow of benefits to local people.

State-community synergy is the term used to describe the relationship between FORIG and local communities in their pursuit of ensuring sustainable management of Bobiri forest that leads to development.

Sustainability is a term used in this thesis to refer to the use of forest resources by local community's and timber industry that is long-lasting and environmentally sound and thus essential for the forest to maintain its structure and function over time.

Chapter 3: Methodology

This research is mainly based on investigating the efficacy of state-civil society synergy for sustainable natural resource management. Theoretically and empirically, the ‘synergy hypothesis’ has been touted as a force to “broadening of the developmental framework” (Evans, 1996a: 1034), by facilitating developmentally collective action by common citizens and state institutions in a diverse cases and settings around the world (see for example, World Bank, 2004). However, to empirically ascertain the impact of synergy in the management of forest (Bobiri forest reserve) in Ghana, the research employs a case study research design coupled with mixed research strategy to explore the social setting of Bobiri forest area. This was to provide an in-depth elucidation of the case and its effects on local livelihoods and forest sustainability. The chapter is organized in three sections. The first section discusses the research design and the research strategy. In the subsequent section, methods used for the study are discussed. The study employs mixed research methods, thus both qualitative and quantitative methods with their justification outlined. The final section presents the ethical issues in the field as well as limitations of the study.

3.1 Research Design: Case Study

A “case” as explain by Gerring (2007: 19), denotes a spatially delimited phenomenon observed at a single point in time or over some period of time. Case study research design according to Bryman, attempts to explain phenomenon as an “object in its own right” (2008: 53). This characteristic nature of case study helps researchers to understand the dynamics and particularities present within a phenomenon, by providing a detailed and intensive analysis of an empirical data of the case. Since the emphasis of this study is to investigate the character of relationship between the actors involved in the management of the reserve and whether such relationships have contributed to sustainable forest management, case study is thus preferred to guide the choice of framework for collection and analysis of data (Bryman, 2008). Looking at the complexity of the subject matter (synergy) and particularity of the social setting (Bobiri Forest Area), case study research design would provide for detailed nature of interaction and significantly enhance the reliability, validity and credibility of the findings of the research. The research design was carefully chosen to provide a coherent and an intensive analysis of the setting in order to give a refinement to the local circumstances. According to Yin (2003: 41), the objective of a case study is to capture the circumstances and conditions of an everyday or commonplace situation (cited in Bryman, 2008). Due to the particularity nature of the subject, case study was adopted to allow for such detailed scrutiny of the social processes.

The benefit of conducting a case study was to enable an examination of the impact of synergy on the social setting where it has been used. Moreover, the case study did not only allow for an investigation of the perspectives of the various actors, but also their interaction. As observed, synergy may be highly contextual depending on the prevailing governance conditions (organizational arrangements of government institutions) and endowments of social capital (norms of trust and reciprocity). As such, this case study may not necessarily yield the same findings and results as a similar case study in another social setting. Nevertheless, as Bryman (2008) notes, the purpose of a case study is not to make generalizations, but rather to generate an intensive examination of a particular case that the researcher engages in.

3.2 Research Strategy

A research strategy invariably shows how the research will be conducted (Bryman, 2008). The choice of a research strategy is by and large influenced by several factors including the researchers' epistemological and ontological orientation and consideration. An epistemological as well as ontological issues according to Bryman, influences how social reality is been perceived and hence persuade how social world must and should be studied (2008: 13). According to the author, while some see reality as dynamic, subjective and socially constructed by human interpretation and actions (*constructivism*), others perceive reality as being objective and external, meaning that there is an existing reality which is not being influenced by the entities that make it up (*objectivism*) (Bryman, 2008). For example, social constructivism or interpretivism assumes that, individuals seek understanding of the world in which they live and work (Creswell, 2003) through the process of interaction among other individuals. They believe that meanings are constructed by human beings as they engage with the world they are interpreting. Hence their arguments have been that, focus should be put on specific context in which people live and work in order to understand their actions and inactions (Creswell, 2003). Objectivism on the other hand assumes that social phenomenon is external 'fact' that is beyond peoples reach or influences (Bryman, 2008) and as such must be studied as a tangible object. With this later argument, it becomes possible to infer that, meanings have an existence that is independent of social actors.

The adoption of these suppositions with regards to a particular study generally has an impact on the choice of methodology a researcher employs. Although many researchers on methodological issues categorize research strategies into two camps; qualitative and quantitative. The quantitative is usually concerned with measurements, causality,

generalization, replications and explanations and testing of theories from an objective point of view (Bryman, 2008). Qualitative research is normally preoccupied with interpreting words and behavior and understanding reality from the point of view of the entity being studied (Bryman, 2008). Here emphasis is on the participant's view of the situation being studied. According to Creswell, questions under qualitative research become broad and general so that participants can construct their own meaning of the situation (2003: 8). However, literature suggests that the distinction between the two is not "hard-and-fast one" (Bryman, 2008: 23). Despite these two strategies having different approaches to research in terms of how reality is being viewed and knowledge acquired, the methods employed by the two can be synthesized (Burke, *et al.*, 2007) to explain variance in a result of underlying phenomenon. When adopting elements from two different approaches, the research is thus conducted using a mixed-strategy approach. This is the approach that has been adopted for this thesis.

3.2.1 Mixed Methods Research: Merging Qualitative and Quantitative Research

The term "mixed method research" is used when a single project combines qualitative and quantitative research strategies (Bryman, 2008: 603). The use of this approach to a large extent is for the qualitative study to provide the context for understanding "broad-brush quantitative findings" (Bryman, 2008: 620). Although the focus of this study is not to establish causal explanation, to some extent inferences can be made to it, to explain some social realities. However such occurrence may be classified as *interpretivism* and not in relation to an external reality as in *positivism*. Since reality presumably may vary between all actors involved in the study, it is crucial to understand reality from the point of view of the actors. As this reality is shaped by people's interaction and beliefs, it is dynamic rather than static, and the study thus has a *constructivist* orientation.

The combination of quantitative and qualitative methods, according to Bryman, helps to achieve "completeness" and gives a "comprehensive account of the area of enquiry" (2008: 609-612). The adoption of qualitative data was to allow access to the perspective of the people being studied while the quantitative data helped to explore specific issues of interest to the participants. Hence, emphasis was not just on combining an example semi-structured interviewing with observation, rather the approach was to provide a data "mutually illuminating" (Bryman, 2008: 603). The approach tends to base knowledge claims on pragmatic grounds by employing methods (both within qualitative and quantitative) that involved collecting data either simultaneously or sequentially and not just in tandem, to best

understand the research problems. The data collection also involves gathering both numeric information as well as text information so that the final database represents both quantitative and qualitative information (Creswell, 2003: 18-20). When using mixed method research, one research strategy can dominate the other or both methods can simultaneously be used. Simultaneous procedure in which the researcher converge both methods for data collection was used in this research in order to provide a comprehensive analysis of the research problem (Creswell, 2003).

Qualitative research was used for data collection, complemented by quantitative method. The reason had been that, qualitative research can give a holistic account of the social world been studied through a “dialogic explanation” (Creswell, *et al.*, 2006: 2) which later can be used to appropriately design surveys to obtain information from a larger sample.

This claim is important because some survey questions may appear threatening and result in a failure to provide an honest reply (Bryman, 2008: 255) and how people say they are likely to behave and how they actually behave may be inconsistent. Therefore to leverage such tendencies, the research combines semi-structured interviews and self-completion questionnaire with observations to see patterns in behavior of community inhabitants in order to validate findings.

3.3 Sampling

When using mixed method research with qualitative research methods as the leading approach to data collection, purposive sampling according to Bryman (2008) is recommended. This is a strategic approach to do with the selection of units (participants) with direct relevance to the research question being asked. This type of sampling essentially takes two forms snowball sampling and theoretical sampling. However, snowball sampling was used in this study. It started off by establishing contact with key informants of the Bobiri forest. This includes staff of the Forestry Research Institute of Ghana involved in the daily management of the forest as well as field workers in the forest area. On the basis of using this strategy, an overview of the different programs that the institute had implemented in the communities was obtained. The same sampling method was also used for data collection in the forestry commission division at Juaso.

Sampling of respondents within the communities took place using a simple random sampling approach. This was to ensure that people interviewed from the village population had no

human biases. Interviewees were selected on the basis of their occupancy in the village and not solely on their relevance for a certain topic within the investigation.

Regarding experts and key informants like the chief, assembly men, village committee leaders and chief linguist, the snowball technique was used. However as the study was to investigate the type of character of relationship between FORIG and the local communities, the community inhabitants were my primary interest for the study. In this respect it should be noted that, majority of the respondents involved in the study were sampled from the villages and this is thus reflected in the study. Table 3.1 shows the methods used, the actors involved and the sample size.

Table 3.1: An overview of methods used, actors involved and sample size

method	actors	Sample size
Qualitative interviewing	FORIG	2
	FC	2
	Key informants	5
Self completion questionnaire	Kubease village	60
	Krofofrom village	40

3.4 Data Collection

To answer the research questions, there was the need to collect data. Data collected for the research were primary data from the field. The data collection took place over a period of four months from December 2011 to March 2012. The process started off in the first month from the library of the Forestry Research Institute of Ghana conducting document analysis. Within the subsequent months, field work was carried out in the villages of Kubease and Krofofrom. All data collection was carried out in the natural setting of the study area, thus either in the office of FORIG, Forestry Commission (FC) or the selected communities for the study. The

data collection tools captured both measurable (quantitative data) and non-measurable (qualitative data such as opinions and perceptions) indicators of the concepts.

3.5 Qualitative Method Data Collection

According to Bryman (2008: 369) the main methods for data collection within qualitative research are participant observation, qualitative interviewing, focus group, discourse and conversational analysis as well as text and document analysis. This research however used participant observation, qualitative interviewing (semi-structured interviewing) and document analysis. This was made important in order to study the context through the eyes of the people (Bryman, 2008). Moreover, Creswell has suggested that “constructivist researchers often address the process of interaction among individual” (2003: 8), through face-to-face platform. Therefore these methods were employed for data collection to provide focused into important social issues of the day like causes of forest degradation and effects of synergy on addressing such issues.

3.5.1 Qualitative Interviewing (Semi-Structured Interviews)

In this research, semi-structured interview was conducted with the help of interview guide to provide an in-depth interviews that ask “fairly clear focus” (Bryman, 2008: 439) questions pertaining to the scope of the study. The interview guide prepared was less structured to give a greater generality of the questions. The rationale was to give greater room for the interviewees to make meaning of their own view of the situation. It was also aimed to help surface out questions that were not included in the guide but deemed important to the interviewees. The prepared interview guide, helped to minimize variability in the questions that were asked and this brought consistency in answers on how the people interpret, understand and define the world around them. As this study was concerned with people’s perception and thoughts, it was important that the respondents could take their time to tell their stories the way they wanted. Hence, “going off at tangent was often encouraged” (Bryman, 2008) if it gives insight into what the interviewee sees as relevant and important. This was important particularly to get an appreciation of what interviewee sees as significant and important in relation to each of the topic area. This was helpful because, such dialogic interaction revealed significant areas which were important to the research as well as the community. Many of the interviews that took place with FORIG staff, FC and some community members were of open-ended. This was helpful in exploring the level of knowledge and understanding of issues of the respondents especially with regards to FORIG and FC staffs. Moreover it helped in exploring new areas and terminologies of the institute.

Forestry officials, key informants and some local community inhabitants were also interviewed in order to investigate their level of education in forest management practices. In order to pursue topics of particular interest to the local inhabitants, like how their demand have being incorporated into FORIG's forestry policy and how often information is disseminated in the community, open-ended questions were used to give flexibility, that lead to a discursive nature of interviews permitting an interactive process of refinement (Beardsworth and Keil, 1992: 261-2, cited in Bryman, 2008: 439).

3.5.2 Observation

The use of unstructured observation in this study provided an opportunity to get a better foothold of inhabitant's behavior towards their natural environment in their social setting. This was necessitated with consideration to some of the problems (like problem of meaning, social desirability, question threat etc) (Bryman, 2008: 255) usually associated with using survey research to investigate behavior especially when the subject of investigation is linked to source of livelihood. This method of data collection was used as a complement to the interview to help 'see through other's eyes' (Bryman 2008:465) and observe what is 'taken-for-granted'; people's behavior and feelings around the issue of forest conservation and sustainability. Although the approach used was unstructured, it helped in gaining understanding of how the community approaches problem and interact with members on important issues of concern. These were aspects which may be neglected if the focus had solely been on verbal communication. Several visits to the forest area (off-reserve) also elicit the type of farming practices the community engages in. It also enabled flexibility in mapping the context of people's behavior and encounter the unexpected and conceivably even deviant and hidden activities (Bryman 2008:466) like illegal logging, bush burning, encroachment on the reserved and unsustainable agricultural practices. Observations as suggested by Bryman are conducted in a more natural setting than interviews, since it is based on observing behavior instead of "spoken words" (2008: 465). An advantage with the conduct of observation was the disclosure of unexpected issues.

3.5.3 Document Analysis

The main type of document analysis used in the research is based on documents produced by the state. Collection and analyses of documents from FORIG, Ministry of Lands and Natural Resources, Forestry Commission and a host of others played an important role in this research. According to Bryman (2008), the unobtrusive measure nature of documents, provide useful means for it's used with regards to qualitative research. However, because of its non-

reactive nature, it must be critically assessed and Scott suggest four criteria; authenticity, credibility, representativeness and meaning (cited in Bryman, 2008: 516). Although the documents used were in the public domain, the issues of credibility and representativeness were major concern of this study and an investigation into their relevance to the study was frustrating and highly protracted process. To make sure that the documents selected for the study were transparent representative of the institute, much attention was paid to what was not written, notably what could possibly be missing and why.

With considerations to Atkinson and Coffey suggestion that “documents have a distinctive ontological status” in that they can form a separate reality as a document representing the organization and not social reality (cited in Bryman, 2008: 526), to a large extent provided the background for cross-checking. Some issues in the documents during the interviews and the participant observation were fairly given enough consideration in order to validate their certainty. This was to establish whether these sources of information correspond with information gathered through the methods. To have access to all important documents in order to gain representativeness for comprehensive understanding of the institute’s work with regards to community forestry, led to diligent search for documents at the archive materials from FORIG library. Although time restrictions prevented the ability to thoroughly analyze all documents related to the institute; the amount that was analyzed provided a broader perspective on how the institute works to facilitate its core mandate. To ascertain social reality from the documents, several informal interviews were conducted at the forest and wildlife division of the institute to help make comparisons with what practically pertains in the community.

3.6 Quantitative Methods

“Quantitative research” methods according to Creswell is one in which the investigator primarily uses positivism claims to develop knowledge (i.e., on cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories) (2003: 18). To employ strategies of inquiry such as experiments and surveys, structured interviewing, content analysis (Bryman, 2008) to collect data on predetermined instruments that yield statistical data, the researcher is invariably using quantitative methods. As quantitative strategy was used as a complementary method in this study, self completion questionnaires were the method used for data collection.

3.6.1 Self-Completion Questionnaire

Being objective is essential aspect of competent inquiry and for this reason self-completion questionnaire was conducted which has a positivist connotation in addition to qualitative interviewing, observation and document analysis to glean the most from the used methods. Self-completion questionnaire was designed on the basis of the research questions and was informed by the documents from FORIG and interviews conducted in the field with some forestry officials. The purpose was to validate some of the qualitative findings as well as cross checking the findings that were emerging from the qualitative data. It was also employed to obtain answers from a larger sample on issues where it was difficult to explore the opinions of all members through interviews and conversations. The questionnaires were distributed randomly to some members of the community; the aim was to give the inhabitants exactly the same context of questions (Bryman, 2008) which minimizes variation in answers.

It was also purposeful in accessing household socio-economic structure of the community. The parameters used in the questionnaire included demographic variables, level of knowledge on forest conservation and sustainability, stakeholders involved, their role in the use and management of the forest resources, their beliefs and value systems about natural resources. An advantage of this method according to Bryman (2008) is the minimization of errors in aggregating respondent's replies and greater flexibility in processing the data.

3.7 Interpretation of Data

In order to analyze the data to make meaning out of it, all types of variables that were generated from the data collection were initially well defined. This was to guide against failing to carry out a true analysis. And more or less going by Miles (1979) description of qualitative data as an 'attractive nuisance', because of the attractiveness of its richness but the difficulty of finding analytical paths through that richness (cited in Bryman, 2008:538) led to this exercise. Knowing how to distinguish types of variables is "crucial [to] appreciate which method of analysis" to use (Bryman, 2008: 314). In examining the relationship between the concept of synergy and natural resource management from the theoretical framework, this study employed an analytical approach that entails a deductive element. The approach is where a researcher, on the "basis of what is known about a particular domain and of theoretical considerations [...] deduce a hypothesis" and used that theory as a template against which to compare an empirical result of a case study (Bryman, 2008: 9). Furthermore, "narrative analysis" (Bryman, 2008) that emphasizes the examination of state of affairs, people's sense of their place within those events (affairs), the stories they generate about them

and the significance of the context for the unfolding of events and the people's sense of their role within them, also formed basis for analysis in this study.

Quantitative data analysis was done using SPSS. Since most of the data were in words rather than numbers, there was the need for coding and development of themes. After carefully assigning codes to the data and using SPSS, a univariate and bivariate analysis were employed to generate descriptive statistics like frequency tables and charts to answer the research questions. Research question two (2) was answered based on documents extracted from FORIG, Ministry of Lands and Natural Resources, Forestry Commission and other relevant sources together with the semi-structured interviews conducted. Research question three (3) and four (4) were answered based on the communities' perception on how they have been involved in processes of strategic interaction with FORIG and how that has helped improved their farming methods and knowledge pertaining to natural resource use and management.

3.8 Ethical Considerations in the Field

As noted in chapter one, the study area for the research is predominantly rural communities where coverage of basic social amenities are short in supply and formal education and literacy levels above senior high school is generally very low. Also noted was the reliance on rudimentary agricultural practices and non-timber forest products as the main source of income. These circumstances have further been exacerbated by high incidence of poverty in the area. Coupled with this is the issue of 'suspicion' many rural inhabitants have about 'outsiders' are coming to interfere with their culture and other ways of life in their communities. Due to these issues involved in the study, the research was operated within the ethical principles enumerated by Diener and Crandall (1978; cited in Bryman, 2008: 118).

Moreover, by being well prepared before the fieldwork, as well as approaching people in a sensitive and respectful, open manner and focusing on building good relationships with the local communities from the start, the research was as unobtrusive as possible. In order to elucidate the community members from false expectations, close attention was paid to, explaining the motive behind the study to community members who were selected. Again as a social researcher, much attention was paid to the Social Research Association (SRA) ethical guidelines which states that "social researcher should try to minimize disturbance both to subjects themselves and the subject's relationship with their environment" (cited in Bryman, 2008. 118). This helped in selection of the research methods. With regards to the participant observation efforts were made to see to it that data collection in any way could not hinder the smooth day-to-day operations of the local communities in their various endeavors in relation

to their use of forest resources to enhance their livelihood. The issue of exhibiting good morals in approaching people and maintaining confidentiality of records was also adhered to (Bryman, 2008: 118) in order to build trust and confidence in the participants especially with regards to collection of data on illegal activities like chainsaw operation in the reserve and bush burning during farming seasons.

3.9 Limitations of the Research

The standardization of both interviewing and recording of answers pose problems in research. According to Bryman a poorly worded questionnaire may mislead interviewee in giving correct answers (2008: 193) and may result in variations in depicting the true nature of situation in the context of study. Therefore to leverage these tendencies a pilot questionnaire was first distributed to one community group, which revealed that the participants faced problems in understanding some of the questions and equally the questionnaire proved to be too long. It was thus redesigned and carried out again. Since most of the community inhabitants were farmers with little educational background, the questions had to be formulated in a simple manner. This notwithstanding, the complete absence of interviewer effects could also not be ensured as I was present during the activity and had to clarify issues as the participants went along. Although, to certain extent this enhanced the quality of the outcome of the activity as the respondents could make sure they properly understood a question before answering. For those who had no literacy skills, the questions were posed orally in their native language (twi), and thus almost resemble a structured interview. The selection of answers was fixed and the respondents had to choose from the available. The Open-ended questions used in the study were time consuming and required greater efforts from the respondents. Some of the respondents were frustrated with such questions comparable with the close questions. One limitation of the use of the open-ended questions was the difficulty of writing down verbatim what respondents say during the interview sections. Regarding the validity of observed data, it is important to note the possible influence that can ensue through reactive effects (Bryman, 2008). One such common research effect is that informants act differently because they know they are being researched. Hence, it was crucial to ensure that people are honest by ensuring anonymity. For instance a respondent whose main source of income was through pestle production from the reserve was reluctant to give information about his activities due to fear that I may report him to FORIG.

Chapter 4

Empirical Presentation of Findings and Analysis

This chapter will present the empirical findings and analysis of the study in the light of the literature on synergy and the theoretical framework. The chapter is divided into four main parts and each section is organized to answer the four research questions and achieved the research objectives. The first part deals with the actors involved in the use of the forest. Specifically, it responds to research question one by outlining the effects of multi-stakeholder forest use and its effects on sustainability. Thus the major drivers of forest degradation as well as products harvested from the forest with its impacts are also looked at under this part. The second part looks at the strategies and policies implemented by FORIG and the FC in ensuring collaborative sustainable forest management. This is done by examining and evaluating the institute's compliance to their action plans on paper and how it's been aligned on grounds in the communities with regards to complementarities and embeddedness. To better help understand the extent to which the institute is committed in partnering with local communities in its endeavor to ensure collaborative forest management, community perceptions and views will be juxtaposed with the policies and strategies of the institute. The third part explores partnerships and levels of participation in FORIG's policy-making process. This is done by assessing how the communities have been empowered to be involved in policy making processes and how their demands have been incorporated into strategic action plans that affect them. However, to ascertain the true picture of the situation, levels of policy awareness and knowledge on sustainable forest management in the community will form part of the assessment. All these three parts combined with the fourth part answers the research question number four. By exploring the character of relationship between the institute and the local communities, levels of partnership will be revealed. The aim is to determine whether or not the existing character of relationship addresses the drivers of forest degradation and more so how to improve or modify such relationship in order to promote sustainable forest management. It also forms part of a discussion on how to create synergy by bridging the divide between state institutions and local communities for developmental ends.

Part 1: Multi-Stakeholder Forest Use — Effects on Sustainability

Stakeholders¹ are significantly different in terms of their use of forest and non-timber forest products. Their heterogeneity in resource utilization compounds the problem of conservation and even makes it more complicated. Theoretically it has been argued that, users of a common resource can be caught in an inevitable process that leads to degradation of the very resource on which their livelihood depends (Hardin, 1968). The reason has been that, each user ignores cost imposed on others; compromising individual decisions to accumulate to a tragic overuse and the potential destruction of the resource. Importantly, the Bobiri forest is no exception from this scenario. Due to the ecological, social, cultural and economic functions provided by the forest, it has various actors [stakeholders] with various mandate and stake in the forest. The Bobiri forest reserve, serves many functions including production of timber, research centre for institutions of higher learning, eco-tourism and conservation. These functions provided by the forest, eludes it from having a single definition of use. As such, the Forest Commission (FC) as well as forest research institutions, namely FORIG, KNUST etc. have high concern for the area because of the forest reserve and the arboretum in the area (CSIR, 2006).

The reserve has significantly played and continues to play tremendous role in education, research and recreation since its inception in 1939. Because of its floristic rich nature, arboretum and butterfly sanctuary, it has become a hub for many research activities. Since the establishment of FORIG in 1964, Bobiri has been used as its research centre to identify floristic composition, plant diversity, protection of threatened and economic species, monitoring the state of the forest and most importantly planning and implementing biological diversity conservation. By this, the institute liaises with many institutions of higher learning such as Kwame Nkrumah University of science and technology, Sunyani School of forestry etc. to carry out a lot of learning activities within the area with the aim of recouping the rapid extinction of plant resources particularly from the wild. Logging companies as well as local communities also access a lot of timber and non-timber forest products from the forest area. Community inhabitants who are either natives or settlers depend on the forest for various products and services. Tables 4.1 and 4.2 shows the number of community inhabitants who depend on the forest and activities they have been using the forest for both past and present respectively.

¹ According to the WWF a “stakeholder” is any individual, or group, or institution who has a vested interest in the natural resources of the project area and /or who potentially will be affected by the project activities and have something to gain or lose if conditions changes or stay the same (2005:1).

Table 4.1 Community dependence on forest

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid yes	71	71.0	71.0	71.0
no	29	29.0	29.0	100.0
Total	100	100.0	100.0	

Source: fieldwork returns, 2012

Table 4.2 Activities forest has been used for both past and present

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid fuelwood collection	30	30.0	40.0	40.0
edible plants collection	7	7.0	9.3	49.3
medicinal plant collection	17	17.0	22.7	72.0
hunting	2	2.0	2.7	74.7
others	19	19.0	25.3	100.0
Total	75	75.0	100.0	
Missing 0	25	25.0		
Total	100	100.0		

Source: fieldwork returns, 2012

The table (4.1) shows that a larger percentage of community inhabitants (about 71%), depend on the forest one way or the other for various reasons. When asked specifically how the forest has helped enhance their livelihoods, many of the people were certain that, their dependence on the forest has help to meet subsistence needs such as fuelwood, food, medicinal plants among others. For instance one woman at Kubease village narrated that:

“... the forest help me in many diverse ways as a poor farmer. It is not possible to buy everything from the market after all how much do I gain from my farm produce? The forest has been a safety net for me in times of shortfall in income. In fact it provides my emergency needs like fuelwood every day” (field interview, 2012).

Reasons for household dependence on forest products according to Wiersum *at el*, (2005-6) are varied and are usually based on household circumstances and needs.

The fact that communities of Kubease and Krofofrom are villages and near (Kubease and Krofofrom are 4km and 3km away from the forest) to the forest area suggest that there may be an intrinsic relation between forest products and community inhabitants lives. Indeed table (4.2) has revealed that 30% of the community inhabitants rely on the forest for energy (fuelwood). About 7% depends on it for edible plants, 2% for hunting, 17% for medicinal plant collection and 19% for other purposes including snail collection, marantaceae, pestle, mushroom and raphia. All these categories in total represent 75% of the total sample frame. Inferring from the table, it could be seen that community dependence on the forest to a larger extent is for fuelwood collection. This scenario in the communities does not come as a surprise as many village households in Ghana of about 94.5% used firewood as their main source of energy (Ghana forest and wildlife policy, 2011). As the communities main source of energy for cooking and heating (firewood), its social importance is felt in every household in the villages (see photo 1). This finding further confirms Shackleton’s (2005), conclusion that the forestry sector can sometimes be used by local communities as a last resort to secure food and pertinent resources to prevent destitution (cited in Wiersum *at el*. 2005-6).

Photo 1: Fuelwood from Bobiri forest reserve heap in a house at Krofofrom for domestic consumption



Source: author, 2012

However surprisingly, many respondents in the villages complained that they are been denied access into the forest for this important household resource and one woman narrated her account by saying that:

“Firewood is all that we used for cooking, but it is not easy to come-by these days. We are restricted from entering into the forest for such purposes. Even if you are able to meander your way through and your been caught by the T.O, you will be asked to return the firewood into the forest for no apparent reason. What baffles me is that, taken firewood from the forest have no negative effect on the forest rather it prevents serving as fuels during wildfires outbreak” (field interview, 2012).

With the knowledge from the analysis on the importance the communities attach to fuelwood, one may naturally expect FORIG and the FC to freely allow the people to patronize the forest

with less restriction. But from the interviews conducted with the Forest Commission (FC), it was revealed that, the local people have different interest in the forest and each stakeholder has its own individual knowledge, belief and unique behavior. Each actor acts according to his/her own rational objectives and behavioral patterns hence the need for stricter rules (field interview, 2012) that can safeguard the resource. This account by the FC, in a way can be used to explain reasons why there is a vast difference in percentage wise between the national statistics and that of the communities. This notwithstanding many conservationist and development practitioners hold the view that, not all human activities are destructive (Brookfield, 1991) with regards to forest resource extraction by local communities. This sustainable development thinking was somewhat evident through my observation. Through the observation, it was obvious that the mode of fuelwood harvesting in the villages has no adverse effect on the forest as harvesting was done by cutting dead trees and looping dead branches from trees. Yet it is impossible to generalize this good practice to all the users of the forest for the same purpose.

4.1 Drivers of Forest Degradation

Environmental degradation has often been seen as the result of human activities and a growing demand on scarce resources (Brundtland, 1987). Drivers like population growth, bush burning, consumption patterns, poverty, chainsawing and poaching invariably impose pressure on Bobiri forest reserve (field interview, 2012). According to some residents, there has been rapid increase in population growth over the past years and this has compromise their inability to raise living standard. They explain that, community inhabitants who are farmers have neither enough land nor rich farm lands that can support tilling due to population increase. The resulting effects have been chainsawing and excessive reliance on non-timber forest products that undermines the regenerative capacity of the forest. According to some respondents, the increase in population figures in the communities has exerted pressure on available farmlands:

“Now we (community inhabitants) have less farm lands available for our farming activities. Time has changed with population increase in the village. Our traditional methods of farming like shifting cultivation that allows the land to rest to regain its fertility cannot be practice any more due to less land available per household. More fertile lands that are suitable for farming have now been cleared for building of residential houses” (field interview, 2012).

These factors coupled with poverty has seemingly “robbed [the communities] of any hope of participating in their national economic lives” (Brundtland, 1987: 7) and continue to put pressure on the forest resources. According to Dr. E. Marfo, a research scientist at FORIG:

“Illegal chainsaw milling activities in the country continues to boom in spite of a ban on the activity. The resulting effect among others is that the government potentially lost \$18 million in stumpage revenue to illegal milling last year alone [2008]. [...] about 100,000 people are involved in the chainsaw-related activities nationwide. Chainsaw operators alone felled about 2.4 million cubic meters of trees, a figure above the annual allowable cut of 2 million cubic meters given to licensed loggers” (FORIG News, 2009).

It could be suggested that since Ghana is less developed country with abundant of natural resource, it depends mostly on increasing export earnings on tropical agricultural products including forest products that are venerable to fluctuating terms of trade. Hence, expansion of output to increase living standard is often achieved at the price of ecological stress (see for example appendix 4: box 1). The box (1) empirically shows that much emphasis is been placed on “market first” at the expense of environmental sustainability. The extreme emphasis placed on consumptive demand through trade is evident from the box. The ensuing effects have been a significant increase in environmental pressure (UNEP, 2007) and slow-down in advances that can achieve social target and sustainable development. From the box, export of wood products in the year 2011(January-October) increased in volume terms of about 40.8% but with a corresponding decrease in monetary value of about 37.7%. This striking illustration shows how deteriorated earnings from primary products can be. Yet there is an excessive demand on tropical hardwood timber resource, without significant deliberate replacement.

Although such exports have some significant economic dimensions as indicated in the box (from the box Ghana raised about Euro 7,044,300 from wood trade in October 2011), it is worthy to infer that it has sometimes been achieved in ways that are far damaging in the long-term. This practices and trends in wood production have had unforeseen effects on the environment (see photo 2). Perhaps this can be accounted as a reason for the “Overexploitation of timber and wildlife resources with the official Annual Allowable Cut (AAC) being consistently exceeded by over 1.7m³ annually for more than a decade” in the country (Ghana Forest and Wildlife Policy, 2011: 5). Many of the risks stemming from overexploitation and bad production practices, has led to high biodiversity loss with more

than ten (10) species becoming extinct in less than a decade in Ghana. Most of the indigenous species like, *Milicia excelsa* and *Milicia regia*, the mahoganies (*Khaya* and *Entandrophragma* species), *Pericopsis elata*, *Nauclea diderrichii*, and *Triplochiton scleroxylon* which, mainly generate substantial revenues for Ghana's economy, have drastically reduced (Forest and Wildlife Policy, 2011). To imagine what might happen over the next half-century is daunting. Unless trends change, the consequences will be severe, an eventual compromise of sustainability and human well-being (Nellemann and Corcoran, 2010; Chomitz, 2007).

Photo 2: different sections of the forest within Bobiri reserve



Source: author, 2012

The photo (2) to some extent confirms the overexploitation of timber resources by timber contractors and gives an indication of how their (contractors with timber utilization contract (TUC)) activities are gradually leading into forest degradation in the Bobiri Forest.

According to Brookfield (1991) the cost of adopting no good measures to safeguard the sustainability of the forest will in the long-term be much higher, far exceeding any rate which would ensure a continuing generation of resources for future generation. The most urgent proactive measure for policy-makers is to investigate and find workable solutions to the pervasive drivers and pressures of forest degradation in the reserve. Since sustainable development involves more than economic growth, there is the need to incorporate good human values and change in attitude in order to “determining tolerable costs to be borne in the course of change” (Goulet, 1997: 1161). Moreover most literatures on sustainability have also shown that, the true indicators of development are not only growth in production but rather qualitative human and environmental enrichment that can provide continuous and quality of natural resources not for only current generation but generations of foreseeable future (Brookfield, 1991). This trajectory calls for new institutional approach to tackle traditional approaches to development, which makes growth less material. It requires a change in the content of growth that is more soundly based upon the realities of the stock of natural capital that can sustain itself.

Development is unsustainable if it increases vulnerability to natural resource depletion and eventual extinctions of some important forest products (‘Weak sustainability’ in the words of Adams, 2009). Changing the quality of growth requires changing societies approach to development, “nothing seems more legitimate than to spotlight what a discourse has been trying to hide, or take a position on the consequences flowing from it” (Rist, 1997: 3). The idea of sustainable development must permeate technocentric strategies and ‘modernity’ solutions of green development to adoption and inclusion of indigenous knowledge that are “the conditions for and of change” (Escobar, 1995: 98, cited in Briggs, 2005: 99). Rethinking development in order to reduce environmental, social and economic problems stemming from human intervention in the forestry sector, calls for strategic policies and programs that not merely seeks to generate revenue for the economy, but also seeks to take account of the effects of development upon the local environment and livelihood of the local communities in any balance sheet.

Part 2: Blueprints – Forest and Wildlife Policy in Ghana

One major aim of Ghana's forest policy (1994) was to transform the sector institute into a corporate forestry commission. This was to be achieved through equitable sharing of management responsibilities, increased benefit flow to local stakeholders, especially the rural poor and increase participation, transparency and accountability in the sector. As it has been discussed in the review of the literature, the fact that forestry includes an ever widening number of rural development activities as well as (inter)national economic activities, it has significant implication for Ghana's choice of development trajectories. In a country where forestry and logging accounted for 3% GDP in 2009 and formally employed about 120,000 people and in the informal sector contributed to about 11 million people's livelihood dependence (ranging from micro/small scale carpentry, hunting, illegal chainsaw operations, fuelwood collection to the gathering and commercialization of diverse NTFPs) (Ghana forest and wildlife policy 2011), plans and policies governing the sector offers an important source of safeguarding the benefits flowing from the sector and a potential model for spearheading broad-base poverty reduction and increase livelihood security.

Unlike the traditional public administration where government functionaries take charge of all routine service delivery and policy decision making, the 1994 forest policy reform acknowledged that, overcoming the challenges of the sector needs strategic management that can foster participation with the local population. It recognized that in order to find a better alternative to increase the standard of living among the rural poor, its technical policy for sustainable development was not enough to assure implementation. Hence participation of local population was central preoccupation, both in policy declaration and laws enacted. The reason for this was perhaps to nullify the notion that local people have no worthwhile knowledge in the area of forest management. It may also be an attempt of sustaining the interest of local people in conservation and protection of the very resources on which their livelihood depends. These new developments in the forestry sector, in the notion of Briggs are ways of showing that "indigenous knowledge [has] become central to later debates about sustainable development because of the way in which such knowledge has apparently allowed people to live in harmony with nature" (2005: 100).

A culture of exclusion in decision-making as shown in the review of literature is difficult to reconcile with participation and active managerial practices that is targeted at conservation (Brown, 1999). As such decentralization of policies and devolution of power from state institution and agencies are ways of ensuring that, a collaborative process is collaboratively rational, productive of socially valuable outcomes and adaptive to the opportunities and

challenges of its unique and changing context (Innes and Booher, 2010). This brings to the fore institutional and governance mechanisms like devolution in the policy framework to address the needs of the citizenry, particularly at the local level. The reason has been that, process that leads to synergism must include not only agents who have power because of their position but also those who have needed information or could be affected by the outcomes of the process. Since this aspect is imperative in ensuring that multiple perceptives are involved in decision making, the guiding principles of the '1994' policy recognized the importance of national convictions and international guidelines, intervention and conventions (Forest and Wildlife Policy, 1994) of public policy making. To consciously develop fundamental laws that incorporate government, organizations, companies and individuals in forestry and how all of these multi-stakeholders can harmoniously interacted for national interest and conservation of forest for individual livelihood enhancement has been some of the aims of the policy.

On this ground, the study finds it prudent to critically examine the exact aspect of the national forest policy framework targeted at ensuring local community use right, participation and collaborative forest management. Revisiting the theoretical framework, this part will cover some aspects of 'responses' that seek to strengthen state institutions and forest laws, community property rights enhancement necessary for elucidating the chain of cause-and-effect that characterized the interaction between society and the environment.

First of all, I will briefly outline the objectives and strategies of the national forest policy interventions and narrow it down to the action plans of FORIG on the study area level. This will then form the basis for presenting and analyzing findings on how localized the policy is with regards to FORIG action plans and needs of concerned stakeholders (local communities). This policy analysis will be done against the backdrop that the effectiveness of the policy in rigorously promoting sustainable forest management has strong direct and indirect effects on local livelihoods and forest sustainability.

The forest and wildlife policy in Ghana aims at "conservation and sustainable development of the nation's forest and wildlife resources for maintenance of environmental quality and perpetual flow of optimum benefits to all segments of society" (Forest and Wildlife Policy, 1994: 5). In order to realize this broad aim, the policy specifically attempts to achieve these objectives:

Table 4.3: Objectives of the 1994 Forest and Wildlife Policy

1. Manage and enhance Ghana's permanent estate of forest and wildlife resources for preservation of vital soil and water resources. Conservation of biological diversity and the environmental and sustainable production of domestic and commercial produce.
2. Promote the development of viable and efficient forest-based industries, particularly in secondary and tertiary processing, so as fully utilize timber and other products from the forests and wildlife resource and satisfy domestic and international demand for competitively-priced quality products.
3. Promote public awareness and involvement of rural people in forestry and wildlife conservation so as to maintain life-sustaining systems, preserve scenic areas, enhance the potential of recreation, tourism and income-generating opportunities.
4. Promote research-based and technology-led forestry and wildlife management, utilization and development to ensure resource sustainability, socio-economic growth and environmental stability.
5. Develop effective capability at national, regional and district levels for sustainable management of forest and wildlife resources.

Source: Forest and Wildlife Policy, 1994

In pursuance of the development agenda of Ghana, which is underpinned by the objectives of the Ghana Poverty Reduction Strategy (GPRS II) and the attainment of the Millennium Development Goals (MDGs), pursuing each of the stated policy objective, focus on strategies that placed emphasis on:

“Revision of resource management standards and techniques of detailed prescription and plans to guide the sustainable management of forest resources and wildlife protected areas as well as unreserved forest; encouragement of local community initiative to protect natural resources for traditional, domestic and economic purposes and support with the reservation of such lands to enable their legal protection, management and sustainable development. To increase public awareness and people's involvement in conservation of forest and wildlife resources particularly where they directly affect the livelihood of communities and the

stability of the environment, emphasis will be placed on integrated efforts to reduce the incidence of uncontrolled wildfires and to rationalize the demand and supply of fuelwood to ease the pressure on existing forest. Accordingly, relevant strategies will include promotion and implementation of public education programs to increase awareness and understanding of the role of trees, forest and wildlife and the importance of conservation” (Forest and Wildlife Policy, 1994).

Broadly, the policy touches on resource expansion, enabling environment, public education and participation, socio-economic development and institutional strengthening as ways of conserving and improving the state of the environment. In the policy paper, it was outlined that public participation will form a continuum of initiation and maintenance of dialogue with all interests (both formal and informal) through a national advisory forum and related district conservation committees to ensure active public participation in forestry and wildlife matters. To better understand the policy intervention at the local level, formal institutions will liaise with local authorities and communities to pursue integrated development activities related to sustainable resource management. Since it is a proviso for forestry related institutions, agencies and departments to align their strategies to the national level strategies, it will be interesting to compare and contrast FORIG action plans to the national policy.

4.2 Practice – Monitoring FORIG Compliance to the National Action Plan

In the Bobiri forest reserve, the Forestry Research Institute of Ghana is the main institution charged with the administration of the forest. Therefore implementation of policies and programs for the management of the reserve, are planned by the institute in line with its mandate. The work plan of the institute is grouped into divisions headed by divisional heads. Thus to synthesized the strategies of the institute with the national strategies, a summary of the divisions and their main activities and expected outcomes are summarized including forest product, trade and marketing, forest industry development, ecosystems services and climate change, biodiversity and land use, forest livelihood and governance, forest and wildlife management and lastly commercialization and information in Box 2 (see appendix: 5). The box (2) shows that FORIG has chosen not only to concentrate on natural forest estate management, but also plantation development in the reserves as well as silviculture. The reason cited for this practice was to replenish some degraded portions of the forest due to

ever-increasing pressure from rapid population growth, illegal logging and excessive fuelwood collection. Traditionally, the 'taungya system' has helped to replant some impoverished forest reserves and off-reserves; FORIG's aim is to modify the system to bring sustainable yields through commercial planting development. As a result, a plantation development fund have been established to provide funding to the private sector to invest in plantation establishment to reduce the pressure on natural forests, which is not capable of meeting the increasing demands to satisfy both domestic and export demands for wood.

Comparing the national strategy to FORIG action plans implemented at the local level, it becomes obvious that, both strategies are aligned on common grounds. The programs that have been introduced by the institute are directed at ensuring broad-base effective stakeholder participation if they are not 'rhetoric'. For instance, the decentralization and devolution of power policy of the institute aims to transfer responsibility and authority of administering the forest to the local resource users and to also serve as impetus for local participation in integrated policy formulation. This is a strategy when implemented, will transform 'squatters' into citizens, and provide them with a legitimate 'voice' in key decision-making processes and empower the hitherto excluded and at encouraging individual entrepreneurial activities (Marsden, 1991: 21). Yet what seems to be an obstacle to this policy implementation is the "very first step that government reformers [institutions] looking to construct state-society synergy [should take] to actively involved the society" (World Bank, 2004: 38). The issue of social capital can be paramount in this instance. Social bonds and norms, relations of trust and confidence, reciprocity and exchange and connectedness in networks and groups that bind society to work together may perhaps be a prerequisite for this cooperative venture. The argument have been that reformers should not wait for civil society to start trusting government nor should they wait to involve society until after the government has already designed a new participatory mechanism from above (World Bank, 2004).

Thus, in assessing the decentralization and devolution of power policy of the institute, much focus will be put on measures that have been established by the institute to foster collaborative management. For the purposes of this paper, all these will be summed up as complementarities and embeddedness which are necessary ingredients to foster mutually reinforcing relations between FORIG and the local communities.

4.2.1 Efforts of Complementarities and Embeddedness–Ways of Fostering Synergistic Relations

As shown by the review of the literature, complementarities and embeddedness are possibilities of building synergistic relations. Complementarities as shown in the theoretical framework postulates that FORIG is suited to deliver certain kinds of collective goods which may complement locally produced intangible and tangible inputs more efficiently. According to Nugent “effective states [institution] deliver rule-governed environments which strengthen and increase efficiency” of local organizations into developmental ends (1993, cited in Evans, 1996b: 1120). Scaling-up local organization to achieve policy goals requires resource and action mobilization in the appropriate direction. Before resources are mobilized and actions initiated, policy change tends to be largely a paper exercise. Based on this, a community based-organization known as “Friends of Bobiri” (FoB) was formed and duly inaugurated on 3rd February 2005 to support the development of ecotourism in the Bobiri Forest Reserve, which has come to stay. Among other things, the ‘FoB’ was aimed at supporting the development that improves the welfare of the local people and conserves the environment in the long-term. The reason for this initiative was that “the [institute] can only get out of society as much as it puts into it” (World Bank, 2004: 38) through opening new spaces for participation. However lack of complementarities from FORIG in the form of “start-up cost”, setting up the organization meetings, explaining what the organizations core duties and mandates are with regards to forest management and conservation, mediating conflicts between members and updating the FoB of relevant information led to the collapse of the organization. Although the information division of the institute could have been a very useful complementarity input to stimulate the actions of the local organization into productive ends, there were no such openings from above (field interview, 2012). Support was frequently absent. According some members of the FoB, the institute limited its role to the provision of complementarities, assuming that local citizens would provide the appropriate response without the involvement of FORIG staff in the construction of a set of reinforcing ties. Since small efforts are better than nothing and without the thousands of day-to-day interactions between the officials and community members of the organization to give it a substance, the local efforts of setting up the organization were fruitless.

Comments from the defunct chairman of the FoB indicated that support from FORIG could have been very important to help scale-up their efforts. According to him, they were not expecting anything extraordinary from FORIG but just recognition of their initiative and efforts. This he said was “equally important as given them money to fund the organization”.

He further stated that, the institute support could have been an impetus to increase their effectiveness and ultimately preserve their integrity increasingly besieged in the area of forest management (field interview, 2012). The relevance of these issues according to Evans (1996b) cannot be overemphasizing as it spells out a well-defined complementarity of division of labor between the bureaucracy and the local citizens in interconnections and intermingling.

Table 4.4: confidence in other community members

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid everybody	33	33.0	33.0	33.0
majority	19	19.0	19.0	52.0
some	43	43.0	43.0	95.0
nobody	4	4.0	4.0	99.0
I dont know	1	1.0	1.0	100.0
Total	100	100.0	100.0	

Source: fieldwork returns, 2012

The introduction of the state as a lead agency in development and the willingness to treat community norms, interpersonal networks, reciprocities and traditional ways of life (Evans, 1996a) as an end to such means can both forced to broaden sustainable development, but the two are not well integrated in this case. Evidence from the table (4.4) has shown that, if Interconnectedness and confidence that people have in each other are anything to go by with regards to formation of local organizations (like FoB), then, the key problem that led to the collapse of the FoB was not lack of social capital at the grass-root level. Rather it was complementarities to help scale-up such personal and community ties to form the organization that can be developmentally efficacious. The table (4.4) shows that the total numbers of respondents belonging to the categories “everybody, majority and some” which are indicators for level of confidence that people have in their co-inhabitants in the community constitute 95% of the total sample frame. These indicators are parameters which have been used to show the degree of confidence that community member have in each other. Respondents belonging

to the “everybody” category have absolute confidence in all community members. Respondents who answered “Majority” have absolute confidence in some of the community members. “Some” are responds of people who believe to have relative confidence in many of the community members. “Nobody” respondents have no confidence in any member of the community. Although the results shows varied degrees in confidence, ranging from everybody 33%, majority 19% and some 43%, it is significant to note that these differences are parameters to differentiate absolute confidence from relative confidence. This notwithstanding, the findings in a way confirms that social ties of trust rooted in day-to-day interaction among the community members are not in such short supply as to exclude the possibility of synergy rather a major missing ingredient is the “institutional entrepreneurship” (Evans, 1996b: 1124) capable of scaling up such personal and community ties to form the organization that can be developmentally efficacious.

Table 4.5: Cross-tabulation of Perceptions on values that unit people * participation in problem solving

			Participation in problem solving			Total
			yes	no	I don't know	
Perceptions on values that unit people	many	Count	38	3	0	41
		% within participation in problem solving	46.9%	16.7%	.0%	41.0%
	some	Count	16	11	0	27
		% within participation in problem solving	19.8%	61.1%	.0%	27.0%
	few	Count	18	1	0	19
		% within participation in problem solving	22.2%	5.6%	.0%	19.0%
	none	Count	9	3	1	13
		% within participation in problem solving	11.1%	16.7%	100.0%	13.0%
Total		Count	81	18	1	100
		% within participation in problem solving	100.0%	100.0%	100.0%	100.0%

Source: fieldwork returns, 2012

Collective life of individuals in development, has been a polity to care for the common good of society and serves as a vehicle to help people come together voluntarily to articulate and advance their interest (Ford Foundation, 2003). However “people with similar values,

dispositions and interest” (Prakash, *et al.*, 2005: 3) in development are better suited for this collectivization. This notwithstanding, values that unite people like confidence of trust and reciprocity in voluntary associations can also serve as impetus for building consensus with one-another through negotiations constantly evolving sense of common interest (Edwards, 2005). Importantly, strong community levels of social capital can create the civic infrastructure, which supports formal and informal processes of decision making and public involvement in community problem solving (Potapchuck, *et al.*, 1997).

The table (4.5) constitutes a straightforward analysis to elucidate the above proposition. Interestingly, the finding from the table reveals a crude relationship between levels of perceptions on the values that unite people and participation in problem solving in the communities. Among the people who answered that they have “many” values that unite them constitute about 41% of the sample frame. Out of this percentage, 38 of the respondents within the same category indicated that, they help in problem solving, while 3 responded that, they do not help community problem solving. With respect to the category of respondents who answered “some” (27%) to the perceptions of values that unite people, 16 out of the proportion always helped in community problem solving while 11 people out of the respondents do not take part in community problem solving. Similarly, only 1 person out of 19 respondents who indicated that they have “few” values that unite people do not help community problem solving. Again, of the only 13% who indicated that they have “none” of the values that unite people, 9 mostly extend help in community problem solving with 3 not helping at all.

Inferring from the table, it could be seen that social ties among community members based on trust and other human values that unite people for cooperative arrangements in problem solving rooted in every day interaction is apparent in the villages waiting to be tapped. Through my observation, it was detected that reciprocity in terms of simultaneous exchange of goods and knowledge of roughly equal value, or continuing relations over time is a common character of relationship in the villages. This is a unique character of relationship in the communities, when capitalized, can “lubricate cooperation, and so reduce transaction costs between people” (Jules, 2003:1913) for development ventures.

Table 4.6: Frequency of FORIG visit in the communities to disseminate information

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid every month	6	6.0	6.0	6.0
every six month	19	19.0	19.0	25.0
every year	25	25.0	25.0	50.0
others	50	50.0	50.0	100.0
Total	100	100.0	100.0	

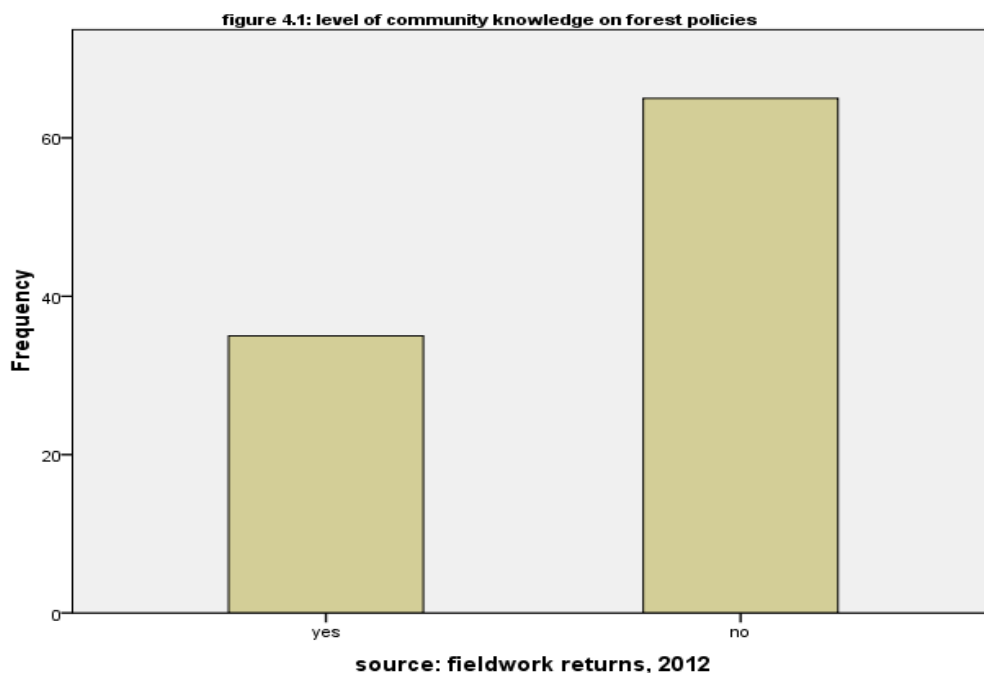
Source: fieldwork returns, 2012

The constructive importance of synergy underlines the significance of embeddedness as a provision for constructing a healthy relationship between the “public and private spheres and sees trust and productive informal networks not only as a property of civil society but as spanning the public-private divide” (Evans, 1996a: 1036). This means that, the day-to-day informal interaction between public officials and ordinary citizens can be an effective tool for mutually reinforcing social ties between the state and local communities. The enmeshment and intermingling that embeddedness creates according to Evans (1996b) are potential for mutual gain realization. This study uses the frequency of FORIG visits in the communities as a form of embeddedness. Looking at the rate of FORIG visit in the community to disseminate information about sustainable forest management, it becomes obvious that public information as a requisite for complementarity is lacking. The table (4.6) shows that only 6% of the respondents answered that FORIG for every month visit them to disseminate information about good forest practices. 19% responded to every six months as the visiting periods for FORIG in the communities. 25% of the respondents answered that, they only see the face of FORIG officials in their communities yearly. Interesting, the table shows a large percentage of respondents (about 50%) in the communities identify “others” as periods for FORIG visit in the communities. The explanation some set of respondents gave was that:

“It is not just that FORIG does not visit our community they come here every day and even have one of their officers stationed right here in Kubease. We always see them around, but not for the purpose of educating us about their policies and programs or our rights with regards to forest use or any good forestry practices. What they [FORIG] often do, is to come

and spy if there are no illegal activities going on in the forest. Their visits for education purposes in the communities are occasional and unplanned (field interview, 2012).

Unfortunately those few who have actually had opportunities to participate in some sort in the educational programs with FORIG, claimed that, the will to participate is no more there mainly because in the few times that they have participated, the program does not touched on their interests like their use rights of forest so they see no reason to attempt to participate any more.



However according to the stationed officer at Kubease, the institute’s information division is charged with the responsibility of disseminating information in the communities and when the need for their services arise they respond to accordingly. However, looking at the whopping rate of respondents (from fig. 4.1 about 65%) who responded “no” to show that they have no knowledge on forest policies in the communities, validate the need for institutional change that must adopt new and improved analytical structures as well as new planning procedures and “soft institutional technologies” that can disseminate information appropriately to enhance the work of the local communities.

Though synergy depends much on complementarities between public officials and communities, embeddedness are essential support to complementarities (Evans, 1996b). Complementarities without day-to-day public private interactions and norms of reciprocity at the local level seemed to be ideal for collaborative forest management. Although there is

some sort of an enmeshment in the form of dense networks of social relationship between FORIG and the local communities, it cannot be characterized as a key to effective management of the forest at the local level. The reason has been that most people at the local level feel marginalized as they are not directly part of the management of the forest resource although they were born in the communities, have lived there all their lives and in many case depend on the forest for various reasons. This ill feeling of marginalization and frustration over unfulfilled policy promises sometimes force some community members to resort to illegal activities as a means of attracting attention and expressing deep-seated grievances.

Through the qualitative interview with the chief of Kubease and some key informants, it was revealed that, the various interventions by the institute at the local level under a decentralized management arrangement and devolution of power were not informed by situation-specific issues of the local stakeholder demands and concerns within the communities (field interview, 2012). Many of the community inhabitants described the interventions and programs as “just paper work” without any significant improvement in their socio-economic lives (field interview, 2012). However, some key informants asserted that, some community members have been given some sort of training by FORIG in the area of grass cutter rearing, mushroom production, snail rearing and bee keeping, to help find alternative livelihood aside farming. Yet they still have the view that probably, these were attempts and efforts to restrict them access to the forest for their ostensible livelihood aims (field interview, 2012). To ascertain whether these programs claimed to be initiated by the institute is still in existence and to know how meaningful it has been contributing to people’s sustainable livelihood, a specific question was asked during the survey as “*do you have any alternative livelihood support aside farming*”. Startlingly none of the respondents answered yes to show that they have. For instance, one woman narrated that all she knows is her farm:

“I have nothing to do aside farming. I farm all year round even in the off-season because there is no alternative. I have not heard of any project like grass cutter or snail rearing in the village” (field interview, 2012).

Part 3: Partnerships and Levels of Participation – Community Involvement in Policy-Making Processes

The preceding section has demonstrated that, the work plan of FORIG (including policies and programs on paper) in the communities on purpose or reflexively does correspond to many of the sustainable livelihoods and developmental needs of the communities. However, achieving these goals requires the possibility of decentralized and devolution of power interventions by the institute to shift to more cooperative behavior. This may be achievable through participation and partnerships. Against this background, it becomes clear that, sustainability in the communities is in peril if the most important stakeholders – the forest fringe and forest dependent communities—are either excluded from the decentralized process of intervention or do not represent the true interest of members in the community. It is therefore necessary to look for positive synergies between different bases at the level of partnerships – between FORIG and inhabitants in the communities. Specifically this section aims to investigate how community members are (through their representatives) included in the processes that aims at improving forest sustainability and their quality of life? Do they have a real possibility to influence decisions? Are the ‘villagers’ operating in a way which suggests that they are really aware of and benefiting from the interventions outlined in the action plans and claimed to be implemented? In the following section, I will start by exploring levels of partnerships and participation in FORIG policy making processes. I will then move on to look at how the communities have been empowered to involved in policy making process and simultaneously explore local community awareness on forest policies and sustainable forest management practices.

4.3 Beneficiaries (Local Communities) Levels of Participation.

Participation of beneficiaries in the design, implementation and execution of policies and programs that affect them according to Cornwall (2000) are efforts of enhancing efficiency and effectiveness, self-determination and mutual learning. This vision of participation makes it “a basic need” and essential for realignment of political power in favor of the disadvantaged and marginalized groups for social and economic development (ILO, 1978:2, cited in Cornwall, 2000: 18). However, incentives for participating in solving issues of collective concerns must be influence by better process of communication, respect, listening and learning between institutions and systems which govern people lives and those they serve.

4.3.1 Community Participation: Issues at Stake

Although the policy literature and practices have been modified and redefined since its inception for the past five decades. A significant feature of policy-making process in many institutions in Ghana and for that matter FORIG is the remarkable degree of similarity and consistency of approach from the colonial era to present. Where local communities were perceived as having:

“no worthwhile knowledge in the area of forest management and that local people have no interest in conservation or forest protection and would, if not watched with vigilance, quickly liquidate the forest or, at best, constantly nibble away at its resources” (Kotey *et al.*, 1998: 12).

Kotey *et al.*, statement asserts the perceived notion “epistemic community” (Sutton 1999) have of local communities and for that matter in policy-making. Conceiving local people this way, gradually has construe policy-making as a product of politicians and bureaucrats and within such ambit is where decisions flows, programs are formulated and implemented and inter-organizational dependencies and interactions take place (Osman, 2002). Implicitly this process of social policy-making assumes that information is symmetric and government officials are “all-knowing” making less significant, support from society as input for decision making. However, a growing body of knowledge on democracy and participation underscores the significance of public participation in providing long-term institutional assurance for the livelihood and dignity of human beings (Tadese *et al.*, 2006; Cornwall, 2000; Kleemeier, 2000; Gillingham, 2001). The need for inclusion of energies from society, espoused by such theories as communicative model, according to Healey (1992: 236) is an “enlightenment tradition of modernity” in policy decision making. Healey’s “modernity” in policy making reiterates Innes and Booher, (2010) policy planning that focus on empowering local communities through a shared decision-making mechanism and other concerned stakeholders through two-way deliberative avenues such as workshops, discussion forums, or partnerships. This approach to policy-making is imperative if governance for development is intended to truly benefit the collective good of society.

This modern idea of policy making process according to Healey is linked to virtues of democracy, that is build on espousing ways in which citizens, through acting together can manage their collective concerns with respect to the sharing of time and space (1992: 236).

These arguments have shown that decision making process must transcend political and bureaucratic “dominatory consensus” to a communicative action that is sustained in a dynamic critique that involves diverse, fluid and overlapping discourse which accord voice, ear and respect to all those with an interest in the issue at stake. The rationale is that, there is no superior authority, with superior knowledge to undertake on its own the necessary analysis capable of providing required package to the needs of the people (Tadesse, *et al.*, 2006: 8). As such, organized groups and unorganized citizens, on their own inventiveness, must seek access to information to develop their social capital with the aim of augmenting the limitations of the state. By re-capacitating the state through civic engagement to search out the “optimal configuration of public private” (Kabeer and Cook, 2000: 4) collaborations that can heed to the needs of the local context in bringing about the emergence of sustainable development constitutes democracy.

An important determination of partnerships and participation in decentralization and devolution of power depends on how the capacities of community members have been built to meaningfully and effectively contribute to policy process and program initiations. It is evident from box 2 (in appendix:5) that, the institute has implemented many programs and policies in the communities but the policy processes have sometimes failed to translate them into real mechanisms that make community members feel valued, respected and acknowledged. For instance the institute’s policy on forest livelihood and governance which aims at improving local community use rights and control of forest resources as well as building sustainable partnerships and collaborative management, demonstrates the institute’s commitment in supporting participation at the local level. However upon an investigation about the impact of the policy and how the communities were involved in its implementation, some respondents specifically have this to say:

“We have no forest use rights; although we are forest fringe communities we need to obtain permit from Juaso (the forest administration) like any other community before we can access resources from the forest. The extent of our exclusion from the forest resource use is overwhelming in the villages. If the forest belongs to us, and FORIG and the FC are only custodians managing it for us, then why are we treated as strangers in our own land? It is somewhat true that timber production is considered to be out of reach for us because of the large scale and capital-intensive nature of mechanized timber exploitation and the high entry costs of engaging in the timber trade. But it is incomprehensible to be excluded from NTFPs

which are important to our livelihood and are within our capacity to harvest” (field interview, 2012).

This unfolding event shows the need for better institutional governance and participatory mechanisms that can analyze local community’s natural resource utilization rather than extracting information from a distance. According to Arnold and Townson (1998) “adapting licensing regulations to accommodate local interests would seem the more profitable approach in appropriate circumstances” like this (cited in Brown, 1999: 10). But for such regime to be attractive, the opportunity costs in relation to local circumstances must not be excessively high. This means that, the cost of obtaining the license must be economically feasible and more locally friendly. For instance, some respondents explained that, it is unprofitable to travel to Juaso (the forest administration) to apply for costly licenses to cover the collection of small quantities of NTFPs, mostly for home consumption (field interview, 2012). Another set of response was that:

“... Since we are not part of decision making, our priorities and needs as a unique community are not set right. We (people of Kubease and Krofofrom) are the closet communities to the forest and in case of wildfires outbreak we are the first to combat it. Yet individuals from other places are allowed access to some resources (like rattan and fuelwood) in larger quantities whiles we live in poverty because of our inability to obtain permit. This is not fair with regards to our circumstances as forest dependent and forest fringe communities (field interview, 2012).

However upon an investigation (from the Forestry Commission), it was revealed that, forest fringe communities (communities who live 5km away from the forest) are by principle qualified to access NTFPs for home consumption without permits. Yet this practice according to the FC is strictly checked in order to prevent illegitimate harvest for both home consumption and sale (field interview, 2012). But surprisingly, if not all, most community inhabitants do not know of this basic right.

Reasons for this state of developments in the communities were varied and complex. Among other things were lack of policy awareness, low levels of community involvement in policy decisions making and low levels of education in the communities as indicated in table 4.7 and 4.8 below. Although the focus of forest management in Ghana is gradually shifting from a government-led system to a community-government collaborative management approach

(Forest and Wildlife Policy, 2011), local communities still lacked knowledge on the operations of devolution of power system. Specifically, the lower levels of education and lack of policy awareness in the communities have limited their necessary potential and confidence in confronting the state to seek for what they are entitled to as forest dependent and forest fringe communities.

Table 4.7: Educational status in the community

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never been to school.	21	21.0	21.0	21.0
Primary school.	10	10.0	10.0	31.0
Junior high school/ Middle school.	48	48.0	48.0	79.0
Senior high school/Secondary school.	18	18.0	18.0	97.0
Technical/Vocational	2	2.0	2.0	99.0
University/Polytechnic	1	1.0	1.0	100.0
Total	100	100.0	100.0	

Source: fieldwork returns, 2012

From the table, only one person out of the total respondents from the total sample frame had attained university/polytechnic educational status. More than one-fifth (about 21 %) of the total respondents had never been to school before. Although most of the respondents (about 48%) fall within the Junior high school/ Middle school category a whopping proportion cannot read nor write. This compelling situation to some extent has restricted their ability to meaningfully assess and be “able to collect and process information that will reinforce [their] position, and be able to present that information in an accessible manner to the appropriate people” (Brinkerhoff and Crosby, 2002: 77) and quarter’s. This notwithstanding, some local views and indigenous knowledge are deliberately sought and respected according to FORIG in decision making processes. This may be due to the culturally specific nature of some of the socially constructed knowledge like taboos.

Seeking to draw on local people’s perspective and capabilities in decision making enhances mutual learning experience that offer accessible and pragmatic methods for finding out about local conditions and needs and for building consensus on potential course of action (Cornwall, 2000). Having found this, it will be interesting at this point to explore the level of community involvement in policy decision and how that has contributed to their knowledge and awareness of policies and programs initiated by FORIG.

Table 4.8: Community Involvement in FORIG policy-making*Community level of Knowledge on forest policies Cross-tabulation

			Comm. knowledge on forest policies		Total
			yes	no	
Comm. Involvement in FORIG policy-making	most times	Count % within comm. Knowledge on forest policies	4 11.4%	6 9.2%	10 10.0%
	sometimes	Count % within comm. Knowledge on forest policies	18 51.4%	20 30.8%	38 38.0%
	never	Count % within comm. Knowledge on forest policies	13 37.1%	39 60.0%	52 52.0%
Total		Count % within comm. Knowledge on forest policies	35 100.0%	65 100.0%	100 100.0%

Source: fieldwork returns, 2012

It is usually expected to see an institution whose aim is to decentralized policies through devolution of power to be more focused on ensuring greater consultation with stakeholders,

especially local communities who are direct beneficiaries of the outcome of the policy. However, the table (4.8) reveals interesting findings about community involvement in FORIG policy making and their level of knowledge and awareness on such policies and programs initiated by the institute. From the table ‘most times’ is used to represent the best way of community participation in FORIG policy making process. ‘sometimes’ shows that relatively communities are involved and ‘never’ means that they are not involved in FORIG policy making in any way. From the above interpretation, an anticipated finding most theorist of “devolution of power” will expect to see is an overwhelming majority constituting the ‘most times’ category. However unfortunately only 10% of the respondents constitute that category with 4 people having some degree of knowledge about some FORIG policies; the remaining 6 had no knowledge of any policy of FORIG at all. About 38% of the respondents answered that they are been involved in FORIG policy making process ‘some times’. Even so, only 18 people had some sort of knowledge about some policies of the institute, 20 had no knowledge on any policy of the institute. Interestingly, 52% of the respondents representing more than half of the total sample frame answered that, they have ‘never’ in any way been involved in FORIG policy making processes. Within that category 39 of the respondents representing 75% had no knowledge on forest policies.

This finding, in a way seems to be in agreement with Brinkerhoff and Crosby’s (2002) observations in “Citizen Participation in the Policy Process” that in many developing and transition democracies, there may be well formulated participatory governance structures on paper but in reality there is a general lack of “processing capacity” mainly on the part of institutions that are clearly strategic to offer a broader citizenry participation.

However, information gathered through the results from the qualitative interviews from both FORIG and the FC seem to suggest that local people lack the necessary skills or training of both formal and informal character that could be of interest for sustainable forest management. Perceiving local people this way usually seem to suggest that process of deciding who participates and what to include in that consultation process must mainly be top-down one, where there is very little regard and opportunities for majority of the communities to influence the policy process.

However, with consideration to the statement by Julius Nyerere (1968) that;

“Rural development is the participation of people in a mutual learning experience involving themselves, their local resources, external change agents and outside resources. People cannot be developed; they can only develop themselves by participation and co-operative

activities which affect their wellbeing. People are not being developed when they are herded like animals into a new venture” (cited in Oakley et al, 1991: 2, cited in Cornwall, 2000: 21).

Participation is less about top-down policy and program initiation, challenge the institute to find better ways that can empower the powerless through skills and training and management techniques to effectively play a part in the every-day administrative and bureaucratic demands of sustainable development trajectories. The use of regular systematic consultation, meetings, training workshops, exchange of ideas, sharing best practices of forest management by FORIG and the FC under these circumstances can help scale-up the knowledge base of the local communities into developmental ends.

Part 4: Character of Relationship

This part assesses the character of relationship between FORIG and the local communities, answering research question number four – *what is the character of relationship between the institute and local communities? Does the existing relations leads to sustainable forest management that addresses the activities and interest of the major drivers of forest degradation?* It is impossible in this study to explore such character of relationship without gleaning the perspective of the local communities. Since local communities have being at the receiving end of such character, their perceptions will forms major part of the discussion, this however does not mean that insight of such character of relationship from FORIG will not be factored into consideration. However, the aim of concentrating on the local perspective is to get better analytical purchase on the complexities of the relations.

4.4.1 Community Perception on Existing Relationship

Development theories on state – community synergy suggest that a healthy relationship between the state and society is a catalyst for empowering individuals to oblige state institutions to uphold the rule of law and fulfill their promises (World Bank, 2004). This becomes prudent and obvious to say that, the state needs to be strengthened institutionally, administratively and politically to effectively carry-out its core mandates. As discussed in the review of literature, the fact that the state is the lead agency in development politics and practices, it has significant implication for the type of participatory development that prevails in decision making. Evans (1996a) demonstrates that whether a state is “developmental” or “predatory” was crucially dependent on both the capacity of its public institutions and the nature of the state-society relations – by implication an idea of synergy. The role of the state as a lead agency in development planning constitutes a necessary requirement for it to be honest, efficient and effective in its bureaucratic apparatus. This seems to suggest that, the state must not be “ill suited [in] assuming full responsibility” (Skocpol, 1995, 1996, cited in Woolcock, *et al.*, 1999: 11) of its mandates. A corrupt state apparatus erodes confidence and trust that civil society is supposed to have in the state to justly tackle developmental problems. With this argument, it is incumbent on the state to be transparent to the outer society to best transformed it from a tradition of particularistic and domination, to a healthy partnership engagement that can produce a solid bureaucratic apparatus and policy outcome.

According to Isham and Kautmann (1999) weak, hostile or indifferent governments institutions have a more profoundly adverse effects on people and development projects, than institutions that respect civil liberties, uphold rule of law, honor contracts and resist corruption

(cited in Woolcock, *et al.*, 1999: 3). Øyhus (2011) reaffirms this statement by stating that, corrupt practices bring “general lack of confidence and trust, and large portions of the people try as much as possible to avoid any contact or business with the state apparatus”. This leads to little motivation for society to support the state through, for instance, their monetary contributions and civic synergies.

According to Evans (1996a), social trust based on ties among state and individuals rooted in everyday interactions are essential foundations for harmony and general confidence for each other. Social capital is not a panacea to sustainable development and more of it isn't necessarily better. But the broader message is that how state institutions associate with local communities, and on what terms, has enormous implications for social well-being and environmental sustainability (Woolcock, 2002). It is therefore important that positive synergies in social capital be complemented and embedded by the activities of the state.

Interestingly, Smulovitz (2003) notes that although some level of social trust in government is necessary for national cohesion, too much trust can be counter-productive; “the social trust that results from value-sharing weakens citizens' oversight and control capacities of what rulers do, and increases, in turn, the chances of opportunistic actions by one of them” (pp.27). The above statement suggests that, informal ties and trust do not necessarily promote improvements in human well-being any more than ‘soft institutional technology’ that are necessary to combat corruption. But if people cannot trust each other or work together, then improving societies welfare will be an “uphill battle” (Evans, 1996b: 1034). Relations of trust and honest according to Jules (2003) lubricate cooperation and reduce transactional cost between people and their governed institutions. Table 4.9 outlines community perceptions on the nature of existing character of relationship between FORIG and them.

Table 4.9 Comm. Perception on existing relationship with FORIG

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid very good	44	44.0	44.0	44.0
satisfactory	19	19.0	19.0	63.0
poor	15	15.0	15.0	78.0
very poor	22	22.0	22.0	100.0
Total	100	100.0	100.0	

Source : fieldwork returns, 2012

The table shows that (about 63% of the respondents) more than half of the total sample frame has a better standing relationship with FORIG, ranging between ‘very good’ and ‘satisfactory’. ‘Very good’ which denotes strong tie of relations between FORIG and the local communities constitute 44% of the total sample frame. 19% of the respondents answered satisfactory, showing that averagely they have some good standing relations with FORIG. 37% of the total respondents answered that, the nature of relations between them and the institute can be described as poor and very poor. When asked specifically to explain what they mean by such (poor and very poor) relations, many of the respondents were certain that: they are not part of decision making and even on occasions that they are been called upon, there are no ears for their concerns and contributions during meetings (field interview, 2012).

Although the table indicated that, there is a good term of relationship (amiable) between FORIG and the local community such relationship cannot be termed as synergistic. The reasons has been that, there are general lack of complementarities and commitment from the institute to implement existing collaborative management schemes that can enhance synergistic decision-making, which can use civic energies from the local community for sustainable forest management. On paper, the action plans of the institute acknowledges the importance of local knowledge in forest management, however, provision of incentives and capacity to encourage effective complementarity efforts for effective civic engagement that can addressed the activities and interest of the major drivers of forest degradation are lacking.

In order to strengthen the capacity of public sector agencies and local community involvement in natural resource management, the politics of public sphere decision-making and interests of all actors needs to be leveraged by further institutional innovations and just legal frameworks. This is to allow for civic engagement and free access to public information for accountability and inclusiveness in order to bridge the state-society divide. By implication, there is the need for rule of law; civil liberty and bureaucratic quality. Building strong synergistic relations and collective decision-making structures demand that, the institute “respect and make use of native wisdom and indigenous knowledge and experience and accept local decision making” in mainstream development thinking (Huijsman and Savenije, 1991: 25, cited in Adams, 2009: 364). Against this backdrop, it becomes imperative to look for positive synergies that motivate large number of people to shift to more cooperative behavior in part made by informed institutional change.

Chapter 5: Summary of Findings and Conclusion

This chapter outlines the conclusion and major findings of the thesis. Based on the analysis, summarized answers are provided for the proposed research questions. The discussions drawn from the review of literature coupled with the empirical findings forms the basis for the conclusion made.

5.1 Conclusion

Reviews on the effects of state-civil society synergy have demonstrated that, the active involvement of civil-society (local communities) and the strengthening of the state apparatus are not mutually exclusive or even contradictory initiatives (World Bank, 2004). More importantly, the specific nature of relationship between the state and society can be a catalyst for development or an impediment to its achievement. This thus has been the central idea of synergy to properly design a virtuous cycle that reinforces both state and society towards developmentally possible ends. This is particularly important to emphasis today, given the thrust of much of the literature that proposes devolution and decentralization of state responsibility to social actors in the area of natural resource management.

Review of literature on the topic has revealed that, the empowerment of society does not have to pass through the weakening or reduction of the “overall lead agency” status of the state in development politics and practices. Indeed it again showed that the opposite is true. The state-community synergy analytical framework also revealed that both FORIG and the local communities are better strengthened by the mechanisms that allow each side to stimulate the other, thus creating a positive feedback loop that can lead to significant improvements in governance in both short and long terms. Hence the objective of this study has been to investigate the character of relationship between FORIG (state institution) and two local communities (Kubease and Kroforom) in ensuring sustainable forest management with a special focus on whether or not such relationships address the contextual drivers of forest degradation. The need to identify ways that can make synergy more tailored to development is central idea of this thesis.

Generally, perception has been that poor people are exceptionally unwilling and incapable to maintain or manage their natural resources. Yet empirical analysis about the concept of synergy has shown that state can only get out of society as much as it puts into it (World Bank, 2004). Social capital is not a panacea to sustainable development and more of it isn't necessarily better. But the broader message is that how state institutions associate with local

communities, and on what terms, has enormous implications for social well-being and environmental sustainability (Woolcock, 2002). It is therefore important that positive synergies in social capital be complemented and embedded by the activities of the state. Empirically, the data analysis revealed that many of the interventions in the institute's (FORIG) action plan seemed to conform to the most critical pragmatic measures that can enhance implementation of existing collaborative management schemes. However, the institute has not made a mark for such implementation that can lead to synergistic decision-making in the communities. To finally conclude, some insights are provided to the posed research questions in the thesis.

Question 1: Who are the major drivers of forest use and degradation in the Bobiri forest? What forest products are harvested and to what extent does it lead to forest degradation.

Due to the ecological, social, cultural and economic functions provided by the Bobiri Forest, it has no single use or actor. The forest, serves many functions including production of timber and NTFP's, research centre for institutions of higher learning, eco-tourism and reserve. Logging companies as well as local communities access timber and non-timber forest products from the forest area. Community inhabitants and non natives of the surrounding communities depend on the forest for various products and services including Fuelwood, edible plants, medicinal plant, hunting etc. As the findings of 'community dependence and activities the forest has been used for' have shown, the forest serves as a safety net for many community inhabitants. While these actors have various reasons for depending on the forest, plausibly their activities to some extent may lead to forest degradation.

In the communities' findings shows that population growth, bush burning, consumption patterns, poverty, chainsawing and poaching invariably impose pressure on the reserve. Findings from national documents (Forest and Wildlife Policy, 2011) also revealed that increasing export demand of forest products have also led to overexploitation and bad harvesting practices by timber firms in the country, which has led to high biodiversity loss with more than 10 species becoming extinct in less than a decade.

Question 2: Who are the institutional actors involved in the Bobiri forest and what are their organizational, policies and objectives for its management?

In the Bobiri Forest, the Forestry Research Institute of Ghana is the institution charged with administration and implementation of policies and programs for promoting sustainable forest

management. The work plans of the institute are drawn in aligned with the national forest policy. A synthesize summary of the work plans of the institute showed that they cover a wider range of programs including forest product, trade and marketing, forest industry development, ecosystems services and climate change, biodiversity and land use, forest livelihood and governance, forest and wildlife management, and commercialization and information. It is worth noting that FORIG has chosen not only to concentrate on natural forest estate management, but plantation development in the reserves as well as silviculture. On the conceptual design level, it also appeared that the strategies and interventions were consciously developed to incorporate elements of law, government, organization, companies and individuals in forestry and how all of these multi-stakeholders can harmoniously interact for national interest and conservation of forest for individual livelihood enhancement. While this can be said about the policy interventions on paper, efforts of complementarities and embeddedness as an important aspect for fostering synergistic relations in the communities are lacking to respond to specific needs of local beneficiaries.

Question 3: How have local communities been involved in FORIG's policy-making process to improve forest management?

With consideration to the general situation of low literacy in the communities, forest policy-making has gradually become a product of politicians and bureaucrats, within such ambit is where decisions flows, programs are formulated and implemented and inter-organizational dependencies and interactions takes place. Although on paper, policy interventions are made to increase public awareness and local community involvement in policy-making on forest and wildlife resources particularly where they directly affect the livelihood of communities and the stability of the environment. However on the ground, such interventions are not properly implemented through appropriate coordination of efforts from various stakeholders including effective participation of beneficiary local communities in decision-making and resource allocation. Moreover, adequate dissemination of information and logistical commitment to such course is also lacking. Reasons cited for this situation was that local people lack the necessary skills or training of both formal and informal character that could be of interest for sustainable forest management. Given this general situation FORIG could voluntarily, use regular systematic consultation, meetings, training workshops, exchange of ideas, sharing best practices of forest management to help scale-up the knowledge base of the local communities into developmental ends, but this is not the case. As a result majority of the community inhabitants are not aware of their forest use rights.

Question 4: What is the character of relationship between the institute and local communities? Does it lead to sustainable forest management that addresses the activities and interest of the major drivers of forest degradation?

Results from table 4.9 and the primary results from the observation data showed that there are some forms of consensus among the communities that, the relationship between FORIG and them are amiable. However it cannot be characterized as synergistic. The reasons for this (non-synergistic relationship) development are attributed to general lack of complementarities from the institute to help scale-up local capacities in informed decision making processes. A key manifestation of lack of synergism in decision making was when specifically some community members commented that they feel marginalized and frustrated with the process of decision making. Even for the very few people who have had some levels of direct occasional meetings with FORIG, they complain that, they are losing their quest to seek participation opportunities mainly because in the few times they have enjoyed some participation – however small – their priorities and concerns have not been catered for so they see no reason for participation. Generally, the assessment by this study reveals lack of complementarities from FORIG as the lead agency in development initiative, especially in interventions of thematic areas that enhances implementation of existing collaborative management schemes that can lead to synergistic decision-making.

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Appendices

Appendix 1:

Structured Questionnaire for Local Communities for Quantitative Assessment

A. Demographic Information of the Household Head

1. Gender of household head

(a) Male []

(b) Female []

2. Age

(a) 20 – 30 years []

(b) 31 – 40 years []

(c) 41 – 50 years []

(d) 51 – 60 years []

(e) 60 years and above []

3. Educational status

(a) Never been to school []

(b) Primary School []

(c) Junior high school/Middle school []

(d) Senior High School/Secondary school []

(e) Technical/Vocational []

(f) University/Polytechnic []

(g) Other, please specify.....

4. Marital Status

- (a) Single []
- (b) Married []
- (c) Divorced []
- (d) Widow/Widower []

5. Number of persons in household/family.....

B. Economic conditions of the community

1. What is your main source of income?

- (a) Farming []
- (b) Forest/Non-timber forest products []
- (c) Animal husbandry []
- (d) Commercial work []
- (e) Others please specify.

2. What are your other sources of income/livelihood aside answer to question (1)?

- (a) Remittances (cash and gifts sent by family members not living with the household) []
- (b) Laborer []
- (c) Trading []
- (d) Formal job []
- (e) Other, please specify.....

3. If you farm, where is your farm-land located?

- (a) in-reserve []
- (b) off-reserve []

4. Do you have any alternative livelihood support aside farming?

(a) Yes [] which.....

(b) No [] why.....

5. Do you depend on the forest for any resources?

(a) Yes []

(b) No []

6. If yes (to question 5), which of the following activities have you used the forest for, in order of importance that is, in the past or presently.

(a) Fuel wood collection []

(b) Edible plants collection []

(c) Medicinal plant collection []

(d) Hunting []

(e) Timber []

(f) Others please (specify).....

7. How do your activities in the forest affect it?

.....
.....
.....
.....

8. Are you satisfied with the current benefits you derive from the forest?

(a) Yes []

(b) No []

How.....

Why?

9. Have you noticed any changes in the forest over the years?

(a) Yes []

(b) No []

If Yes, what changes have you observed?.....

If No, why not?.....

10. In your view, what causes the changes in the forest? In order of magnitude

(1).....

(2).....

(3).....

(4).....

(5).....

11. Who are the worst offenders of the forest in the community?

.....

12. How do the changes negatively affect the forest and community livelihoods?

.....
.....
.....

C. Questions about the community

Community name:

1. How long have you live in this community?

(a) Since birth []

(b) 10-20 years []

(c) 5-10 years []

(d) 1-5 years []

(e) Less than 1 year []

2. Have you observed any changes in the community population for the past 10 years?

(a) Yes [] what changes

(b) No []

3. Do you have confidence in your chief?

(a) Yes []

(b) No []

(c) I don't know []

4. Do you have confidence in the Forestry Research Institute of Ghana in terms of Bobiri management?

(a) Yes []

(b) No []

(c) I don't know []

5. Do you have confidence in other community members?

(a) In everybody []

(b) In the majority []

(c) In some []

(d) In nobody []

(e) I don't know []

6. Do you think that your community has values that unit people?

(a) Many []

(b) Some []

(c) Few []

(d) None []

(e) I don't know []

7. Do you participate in solving problems in your community?

(a) Yes []

(b) No []

(c) I don't know []

8. Who does your community confront when you need assistance with community concerns?

(a) The chief []

(b) The Municipal Assembly []

(c) Non-governmental organization which:

(d) Others please specify

9. Does your community have any village committees on forest?

(a) Yes [] which one

(b) No []

10. What are their aspirations/activities?

.....
.....
.....

11. Are they actively functioning?

(a) Yes [] what are their impact on forest sustainability?.....
.....
.....
.....

(b) No [] why

D. Communities' Relationship with the Forestry Research Institute of Ghana

1. How well do you know Forestry Research Institute of Ghana.....

2. How often do they come to educate your community about sustainable forest management?

- (a) Every month []
- (b) Every six months []
- (c) Every year []
- (e) Others please specify.....

3. What is your perception on the relationship between the community and the Institute (FORIG)?

- (a) Very good []
- (b) Satisfactory []
- (c) Very poor []
- (d) Poor []

4. Do you know any forestry policy of Forestry Research Institute?

- (a) Yes [] Which
- (b) No [] Why.....

5. Has your community been involved in FORIG forestry policy making process?

- (a) Always []
- (b) Most times []
- (b) Sometimes []
- (c) Never []

6. Do you think that, your community involvement in forest policy making can improve community livelihood and the forest?

- (a) Yes []
How

(b) No []

Why.....

7. Do you think there is synergy (collaboration) between the community and FORIG?

(a) Yes []

How

(b) No []

Why

8. If NO, (in question 7) in your opinion how can the community and FORIG create synergy towards sustainable forest management?

(1).....

(2).....

(3).....

(4).....

(5).....

9. If yes, does the institute incorporate your demand and local knowledge into their forestry policies?

(a) Always []

(b) Most times []

(c) Sometimes []

(d) Never []

10.

What would the community like to change in the existing relationship with FORIG?

.....
.....

Appendix 2:

Qualitative Interview guide, for FORIG Officials

1. Who are the owners of Bobiri forest and who are the managers?
2. Do you think local livelihood is dependent on the bobiri forest? Why and how
3. What are some of the main resources harvested from the forest?
4. How do they negatively affect the health of the forest?
5. In your expert view, are local livelihood given considerations in forest policy making processes? How? (Probe; what alternative livelihood strategies have the Institute provided in the communities aside farming?)
6. How often does the institute disseminate good forestry management practices information in the communities?
7. What kind of property rights (eg, access, withdrawal, management, exclusion and alienation) do local communities have within the reserve? How does it affect the forest?
8. Does conflict usually ensue between the management of the forest and the local communities? (Probe on what issues, is it on property rights?)
9. Is there conflict on management positions from the local communities?
10. By what means and measures do the managers resolve such conflict (probe; does the institute have any conflict resolution policy)
11. Do you think forests degradation and deforestation can be prevented in the reserve through collaborative management “synergy”? How?
12. What are the main action plans for improving the collaboration between local communities and the institute? (Probe; what specific policies and programs are available?)

13. Does the institute incorporate local demands into forest policy-making (probe; demand like resource-use, conflict resolution and representation?) how?

14. How do you perceive the character of relationship between the institute and the local communities? (Probe; are they synergistic?)

15. What specific policy interventions of the institute is targeted on building sustainable forest management with local people.

16. According to FORIG, there is the need for “innovative local practices” how do you incorporate local knowledge in your policy-decision making.

17. Do you think that the communities (villagers) also have skills or training of informal character that could be of interest for forest management or income earning activities? (Probe what skills you know of)

18. Can you tell me about how FORIG handles community relations?

What kind of interaction takes place?

What are the communities' issues of concern?

How do you respond to these concerns?

19. According to FORIG, it seeks to ensure “Improvement in access to natural resource information by the poor, forest fringe and forest dependent communities”. How does the institute perform this task?

20. In your expert opinion what do you think are the reasons why mostly local inhabitants of forest-dependent communities degrade their natural environment (forest)? (Probe to know if it is lack of education, value system and culture, poverty, unsustainable logging, etc)

Appendix 3

Qualitative interview guide for the chiefs and key informants of the Bobiri forest

1. Is your community part of the management team of Bobiri Forest? How?
2. How knowledgeable are your community on sustainable forest management
3. Do you think that the communities (villagers) also have skills or training of informal character that could be of interest for forest management or income earning activities? (Probe what skills do your community has)
4. Does your community have forest management policy? Which
5. Is your community actively involved in FORIG forest policy-making?
6. How often do FORIG visit your community? (Probe; for what purpose)
7. Is your community demand incorporated into FORIG forestry policy?
8. What are your general impressions about FORIG relations with the community?
9. Does conflict usually ensue between the management of the forest and the local communities?
10. If there is conflict what brings these conflicts
11. By what means and measures do the managers use to resolve such conflict (probe does the institute/your community have any conflict resolution policy)
12. Does the community have village committees on forest? Which one, what are their aspirations, is it actively functioning?
13. Please tell me about any suggestions you have to improve the current relationship between the community and FORIG that can meet your community specific needs.

Appendix 4:

Box 1: Wood products and their market values in 2011 (January- October)

Ghana raised Euro 7,044,282 from the export of 19,336m³ of wood products in October 2011. The corresponding figures for the same period in 2010 were Euro 11,303,765 and 32,636m³, showing decreases of 37.68 % in value and 40.75% in volume respectively.

Primary products (Poles and Billet) accounted for Euro 4,029,621 (4.33%) of the total wood export earnings of Euro 92,967,264 raised in Jan- October 2011 as compared to Euro 5,926,312 (5.10%) of the total exports of Euro 116,311,765 in Jan-October 2010.

Tertiary products registered Euro 8,121,923 (8.74%) in Jan- October 2011 and Euro 8,478,961(7.29%) in Jan- October 2010.

Secondary products contributed Euro 80,815,720 (86.93%) in Jan- October 2011 and Euro 101,906,492(87.61%) in Jan- October 2010

Africa recorded Euro 35,964,200 and 146,180m³ (38.67% and 52.49%) in value and volume of total wood exports for Jan-October 2011. Figures for the same period last year were Euro 44,982,346 and 165,514m³ (38.67% and 48.44%)

Europe accounted for Euro 26,941,227 (28.98%) and 51,112m³ (18.35%) in value and volume respectively of total wood exports in Jan- October 2011. Figures for the similar period in 2010 were Euro 35,043,517 and 74,602 cubic meters (30.09% and 21.83%) respectively.

Key European markets included Italy, France, Germany, The United Kingdom, Belgium, Spain, Ireland and Holland.

The emerging markets in Asia/Far East: India, Malaysia, Taiwan, China, Singapore and Thailand together contributed Euro 12,903,572 (13.88%) to the total of wood export value in Jan- October 2011. Export value for Jan-October 2010 stood at Euro 19,624,700(16.87%).

The US accounted for 7.86% and 3.72% of the total export value and volume respectively of Ghana's wood export for Jan- Oct 2011 as compared to 6.90% and 4.53% in Jan- Oct. 2010.

The ECOWAS market (mainly Nigeria, Senegal, Niger, Gambia, Mali, Benin, Burkina Faso and Togo) absorbed Euro 31,236,281(86.85 %) of Africa's Euro 35,964,200 wood imports from Ghana in Jan-October 2011.

The Middle East countries, notably Saudi Arabia, Lebanon, United Arab Emirate and Israel together contributed Euro 7,312,420 (10.51%). Oceania (New Zealand and Australia) recorded Euro 90,000(0.10%) to the total export value for Jan- October 2011.

Source: timber industry development division, 2011

Appendix: 5

Box 2: Divisions, their activities and expected outcomes at FORIG

Divisions	Main activities	Expected outcomes
<i>Forest products, trade and marketing</i>	<ul style="list-style-type: none"> - Establishment and functioning of viable small to medium scale village enterprise - Harvesting, production, processing and marketing of timber and non-timber products - Promotion of artisanal wood-base enterprises and products - Development of technologies that combined for instance low input agriculture and forestry - Development of traditional sources of energy and its efficient utilization - Development of forest products certification and validation of legal origin of forest products 	<ul style="list-style-type: none"> -To improve the lives of forest fringe communities -To engaged in wild animal domestication establishment as a way of safeguarding wildlife -Increase alternative livelihood support avenues that can ensured secure rural income and food -Enhance efficiency in utilization of fuelwood -improve the tracking of exploited forest products like medicinal plants, biodiversity and other non-timber forest products.
<i>Forest industry development</i>	<ul style="list-style-type: none"> - Efficient and value-added processing utilization - Development of chemicals and/or extractives from forest products - Promotion of lesser used species, small diameter logs and wood residue utilization - International trade in forest resources - Valuation of forest and wood industry products and services 	<ul style="list-style-type: none"> - Promote appropriate uses of wood products to reduce residue - Improve wood quality of plantation grown species - Make full utilization of resources through refine processing technologies - Efficient utilization of wood residues (eg. For energy generation)

<p><i>Ecosystem services and climate change</i></p>	<ul style="list-style-type: none"> - Wood industry auditing - Voluntary partnership agreement within the overall European Union - Wetlands - Desertification - Watershed management - Carbon sequestration and clean development mechanism - Promotion of ecotourism and scenic values - Ecosystem health and vitality - Payment for environmental services - Soil and water conservation - Pollution control - Advocacy of positive local practices 	<ul style="list-style-type: none"> - Reduction of emission from deforestation and forest degradation - Mitigation of drivers and pressures of forest degradation - Adaptation to climatic change - Advocacy of posit - Better understanding of resource issues especially at the local communities
<p><i>Biodiversity and land use</i></p>	<ul style="list-style-type: none"> - Biodiversity conservation - Ecosystem diversity - Generic diversity - Species diversity - Land use management 	<ul style="list-style-type: none"> - Conservation priorities across ecosystems - Active involvement of local community in biodiversity protection - Rehabilitation and restoration of mined sites and degraded cocoa landscapes. - Improvements in access

<p><i>Forest livelihood and governance</i></p>	<ul style="list-style-type: none"> - Land access, tenure rights and ownership - Local community use rights and control of forest - Sustainable partnership and collaborative management of forest resource - Gender rights in natural resources - Poverty reduction 	<ul style="list-style-type: none"> to resource information by the poor, forest fringe and forest dependent communities - Implementation of existing collaborative management schemes that can enhance synergistic decision-making - Provision of incentives and capacity for sustainable interest in participation by using indigenous knowledge - Diversification and maximization of rural income from natural resources - Strengthening of capacity of public sector agencies and local community involvement in natural resource management
<p><i>Forest and wildlife management</i></p>	<ul style="list-style-type: none"> - Resource assessment, planning and management - Silviculture systems - Timber harvesting - Wildlife management and nature-based eco-tourism 	<ul style="list-style-type: none"> - To address the wood deficit problems - To prevent wildfires from destroying the forest - Improve logging manuals and harvesting guidelines - Improve law enforcement

<p><i>Commercialization and information</i></p>	<ul style="list-style-type: none"> - Plantation development - Land restoration - Wildfire management - Securing existing natural resource endowments - Forest legislation and resource harvesting and management prescriptions - Institutional governance and transparency - Dissemination of information - Commercialization of the institute products 	<p>and resource allocation, that eradicates corruption</p> <ul style="list-style-type: none"> - Decentralisation of forest governance and power devolution, that leads to effective monitoring, accountability and legal safeguards - Promotion of pluralism in natural resource management - To publicize the institute research activities
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Source: Author (based on divisions and their activities at FORIG, 2011)

Appendix 6:

Qualitative interview guide for F.C

1. Who are the owners and what actors are involved in the management of the Bobiri forest reserve. (Probe; what do they do?)
2. Do you think surrounding communities' livelihood depends on the reserve? How and why
3. What resources are harvested from the reserve?
4. What effects have these harvests on the reserve?
5. What property rights do local communities have in the reserve? (Probe access, withdrawal, management, exclusion and alienation)
6. How is these rights obtained? Probe, is it through permit, how easy is it to obtain a permit, what are the cost involved, do you think the villagers have the means to buy a permit
7. According to the F.C, it will ensure "collaborative management with forest dependents communities" how is this policy executed? How often does F.C visit the communities?
8. Do the F.C incorporate indigenous knowledge in it policies? How, which ones
9. According to the F.C "overexploitation of timber and wildlife resources with the official Annual Allowable Cut being consistently exceeded by over 1.7m³ annually for more than a decade". Do you think these practices can be prevented in the reserve through collaborative management "synergy"? How?
10. Do you think that local demands in forest are given the need consideration at the policy levels? (Demand like resource use, representation, conflict resolution)
11. What is the character of relationship between the local communities and the F.C? Is it synergistic or conflictive and acrimonious?
12. Do you think that the communities (villagers) have skills or training of informal character that could be of interest for forest management or income earning activities? (Probe if not, what specific policies are there to up- grade their skills?)
13. Usually the interest of local communities runs counter to export-oriented forestry, how does the commission deal with such situations for fairness and equity?