

# Fighting over forest



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Interactive governance of conflicts over  
forest and tree resources in Ghana's high  
forest zone

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## List of acronyms

AAC	Annual Allowable Cut
ACM	Alternative Conflict Management
ADR	Alternative Dispute Resolution
AfDB	African Development Bank
AFD	French Development Agency
AG	Attorney General
AISSR	Amsterdam Institute for Social Science Research
ATO	African Timber Organisation
CBAGs	Community Biodiversity Advisory Groups
CBD	Convention on Biological Diversity
CBO	Community-Based Organisation
CFC	Community Forest Committee
CFMU	Collaborative Forest Management Unit
CIFOR	Center for International Forestry Research
CREMA	Community Resource Management Area
DANIDA	Danish International Development Agency
DCE	District Chief Executive
DFID	Department for International Development
DGIS	Directorate-General for International Cooperation
DSD	Dry Semi-Deciduous
EU	European Union
FAO	United Nations Food and Agricultural organization
FC	Forestry Commission
FIP	Forest Investment Project
FLEGT	Forest Law Enforcement, Governance and Trade
FRNR	Faculty of Renewable Natural Resources
FORIG	Forestry Research Institute of Ghana
FSC	Forest Stewardship Council
FSD	Forest Services Division (of the FC)
FSDP II	Forest Sector Development Project II
FWP	Forest and Wildlife Policy
GDP	Gross Domestic Products
GEF	Global Environment Facility
GHI	Genetic Heat Index
GI	Governance Interaction
GIRAF	Governance Initiative for Rights and Accountability in Forest Management
GS	Governing System
GSBA	Globally Significant Biodiversity Area
GSS	Ghana Statistical Services
GTA	Ghana Timber Association
SWOT	Strength, Weakness, Opportunity and Threat
TBI	Tropenbos International
TFAP	Tropical Forest Action Plan
TIDD	Timber Industry Development Division
TIF	Tree Information Form
TUC	Timber Utilisation Contract

TUP	Timber Utilisation Permit
UNCED	United Nations Conference on the Environment and Development
UNEP	United National Environmental Programme
UNFF	United Nations Forum Forests
USAID	United States Agency for International Development
VPA	Voluntary Partnership Agreement
WATSAN	Water and Sanitation
WCED	World Conference on Environment and Development
WCFSD	World Commission on Forests and Sustainable Development
WD	Wildlife Division
WE	Wet Evergreen
WFP	World Food Programme
WITC	Wood Industry Training Centre
WRI	World Resources Institute

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## Introduction

### Background to the research

Forest governance is high on Ghana's development agenda. The government, together with international donors, civil society and the private sector, is undertaking several initiatives to strengthen the governance process. Examples are the Ghana Natural Resource and Environment Governance (NREG) Review, the Forest Law Enforcement, Governance and Trade (FLEGT), the Voluntary Partnership Agreement (VPA) with the European Union to combat illegal logging and strengthen forest governance and Reducing Emissions from Deforestation and Degradation plus (REDD+). Thanks to these initiatives the management and distribution of forest resources have become a major societal concern.

However, widespread conflicts over forest and tree resources and the absence of constructive conflict management mechanisms undermine these attempts to ensure good forest governance and sustainable forest management, as well as people's livelihood sources (Ostrom 1999, Yasmi 2007). The latter may threaten food security and efforts to minimise poverty in forest fringe communities. According to the World Bank (2004: 1) forest resources contribute to the livelihoods of 90% of the 1.2 billion people living on less than one dollar a day. These people depend fully or partly on these resources to meet their daily needs for subsistence and cash income. Forest resources also play an important role in rural livelihoods in Ghana (Falconer 1992, Dadebo & Shinohara 1999, Blay *et al.* 2008, Marfo 2009 & 2010, Ros-Tonen *et al.* 2010, Appiah *et al.* 2010).

Illicit forest activities, especially illegal timber exploitation and chainsaw milling, as well as the excessive exploitation of non-timber forest products (NTFPs) and the use of farming land in forest reserves due to population increase and the need for fertile soils for crop cultivation, play an important but not exclusive role in these conflicts. The underlying drivers are multiple and interdependent. They include vague policy directions, institutional failure, competition between different land uses, and poverty (Tyler 1999, Ostrom 1999, Marfo 2006). Other factors include tenure insecurity, greed, corruption and weak law enforcement (Contreras-Hermosilla 2001, Kaimowitz, 2003). These hamper forest governance processes and present challenges to both the state and non-state

actors. Forest governors therefore face difficult choices when it comes to creating an enabling governance environment for sustainable forest management and to ensuring an equitable distribution of resources for diverse actors.

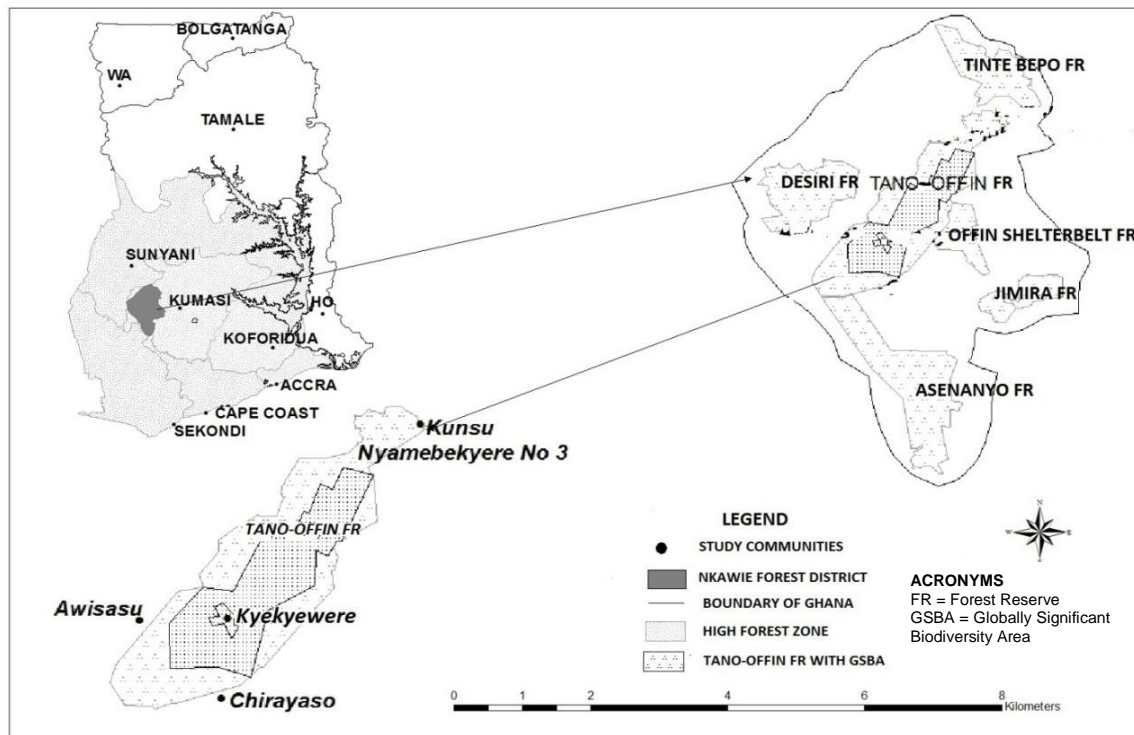
The Forest and Wildlife Policy (FWP) of 1994 initially provided a glimmer of hope. It resulted in the concept of collaboration, with the anticipation of the involvement of all stakeholders at different levels of scale. It created hope that on-going decentralisation and co-management with local people could contribute to sustainable forest management and improvement in forest governance and livelihoods. True to this, the government of Ghana, through the Ministry of Lands and Natural Resources and the Forestry Commission, as well as civil society and the donor community, have pursued several programmes aimed at promoting good forest governance and enhancing forest and tree-based livelihoods. Contrary to expectations, these programmes have not produced the desired impact due to some of the aforementioned problems.

According to the World Bank (2009), conflict management is a key building block of forest governance, but it has received little or no consideration in most of the ongoing governance initiatives in Ghana, except for the REDD+ process (FC 2010: 19 & 63). Understanding and finding means to deal with forest and tree livelihood conflicts became an important research area under the '*Governance for sustainable forest-related livelihoods*' programme carried out as a joint effort by Tropenbos International (TBI) Ghana, the Amsterdam Institute for Social Science Research (AISSR) at the University of Amsterdam and Kwame Nkrumah University of Science and Technology (KNUST) from 2008-2012. The overall objective of this programme is to generate insight into and formulate recommendations on governance arrangements that enhance forest-related livelihoods so as to contribute to sustainable forest management and poverty alleviation. The present PhD study, the focus of which is outlined below, is part of this programme.

## The study area

The study was undertaken in the high forest zone of Ghana, an area of about 7.5 million hectares. It is a zone where most of Ghana's forests are found and most conflict and illegalities occur with regard to the use and management of forest and tree resources. The zone is endowed with 204 forest reserves of which the Tano-Offin forest reserve and its environs in the Nkawie Forest District were selected as the study area (Figure 1.1). The Tano-Offin forest reserve has different management regimes, namely protection (the Globally Significant Biodiversity Area), a plantation regime (the modified taungya system) and a production regime, each of which was taken as a case in which governance arrangements, conflicts and conflict management were analysed. The intention was also to analyse conflicts in the off-reserve area, but there a scenario of cooperation prevailed rather than conflict. A mixed method approach was employed to triangulate quantitative data obtained from structured and semi-structured survey questionnaires with actor's perceptions of conflict issues and dynamics. Qualitative data was obtained by using research methods like focus group discussions, community meetings and stakeholder workshops, structured and semi-structured interviews, field observations and document analysis (see Chapter 3 for a detailed description of the methodology).

Figure 1.1 The study sites



## Objective, research questions and propositions

The challenge of relevance in the context of this study is the absence or ineffectiveness of mechanisms to manage competing claims to forest and tree resources (*i.e.* to accommodate them and ensure cooperatives actions), which often results in conflict. Such conflicts, when not handled well, mostly impact negatively on the resources and the actors whose livelihood sources are affected. This study aims to provide insight into constructive conflict management pathways capable of minimising conflicts and contributing to the strengthening of the ongoing forest governance process in Ghana. The overall research question addressed in this study is *'How can forest and tree livelihood conflicts in Ghana's high forest zone be understood and constructively managed?'*

The central argument in this thesis is that forest resource use and management are complex, dynamic and involve multiple actors at different level of scales and, consequently, are characterised by conflicts. Diversity, complexity, dynamics and scale are essential components of natural resource systems, which are addressed in interactive governance theory (Kooiman *et al.* 2005, 2008). The use of this theory, complemented with conflict analysis, is therefore considered as being appropriate for an understanding of the governability of the systems studied. Analysing the nature of conflicts and means of dealing with them in terms of governance interactions between the system-to-be-governed and the governing system helps to assess how and why governance sometimes falls short of desirable outcomes (Chuenpagdee & Jentoft 2009).

Kooiman *et al.* (2005) defined interactive governance as 'the whole of public, as well as private, interactions taken to solve societal problems and create societal opportunities' (Kooiman & Bavinck 2005: 17). It is a theory that facilitates an analytical under-

standing of system components before proposing interventions. In this thesis, this approach is complemented with the conflict analysis wheel (Mason & Rychard 2005), which is a tool that can be used to understand the nature and various dimensions of conflicts (i.e. context, issues, actors, causes, dynamics and conflict management options).

In order to find answers to the main research question, the study is divided into eight empirical studies with each study constituting a chapter. Sub-questions addressed in these chapters include:

1. What are the natural and socioeconomic characteristics of Ghana's high forest zone and how do they interact? (Chapter 4)
2. What are the characteristics in terms of features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does it deal with forest and tree-related conflicts? (Chapter 5)
3. What are the perspectives of forest governors and experts in the forest sector regarding the nature of forest and tree-related livelihood conflicts and conflict management options in Ghana's high forest zone? (Chapter 6)
4. What conflicts occur with regard to forest and tree resources and what conflict management strategies are employed under several governance regimes in the Tano-Offin forest reserve (Chapter 7 on a protected area, Chapter 8 on a plantation forest, Chapter 9 on a production forest) and what are their implications for forest governance?
5. What factors facilitated the cooperation between the local community and the timber operator in Tano-Offin off-reserve area? (Chapter 10)
6. What are the characteristics of forest offences and their judgments in law courts in Nkawie Forest District and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means to overcome them? (Chapter 11)

Table 1.1. further specifies the research questions addressed in each chapter.

*Table 1.1* Research questions addressed in the various chapters

Chapter	Sub-question addressed	Sub-questions
4	What are the natural and socio-economic characteristics of Ghana's high forest zone and how do they interact?	<ol style="list-style-type: none"> <li>1. What is the nature of Ghana's high forest zone in terms of diversity, complexity and dynamics?</li> <li>2. What forest users prevail and how do they interact with the natural system?</li> </ol>
5	What are the characteristics in terms of features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does it deal with forest and tree-related conflicts?	<ol style="list-style-type: none"> <li>1. What is the historical context of the Ghanaian forest governing system in terms of its policies, legislations and conflicts?</li> <li>2. What features prevail in the forest governance process (in terms of diversity, scale, complexity and dynamics)?</li> <li>3. What is the quality of the three governance orders (principles, institutional arrangements and day-to-day management of conflicts) in the forest governing system?</li> <li>4. How responsive is Ghana forest governance in terms of the governance modes (hierarchical, co-governance and self-governance) ?</li> <li>5. What is the fit of governance elements (in terms of forest actors' images, instruments and actions) with conflict management and how do actors assess the potential to strengthen forest conflict management in the governance process?</li> </ol>
6	What are the perspectives of forest governors and experts in the forest sector regarding the nature of forest and tree-related livelihood conflicts and conflict management options in Ghana's high forest zone?	<ol style="list-style-type: none"> <li>1. What are respondents' images regarding forest and tree-based livelihood options and associated conflicts?</li> <li>2. What are respondents' perceptions regarding the instruments available to manage these conflicts?</li> <li>3. What actions do forest governors and experts propose to improve conflict management?</li> </ol>
7	What conflicts occur with regard to forest and tree resources and what conflict management strategies are employed in the Globally Significant Biodiversity Area in the Tano-Offin forest reserve and what are their implications for ongoing trends in forest governance such as the VPA or REDD+?	<ol style="list-style-type: none"> <li>1. What are the characteristics of the Tano-Offin GSBA as a system-to-be governed in terms of the natural and socio-economic sub-systems and the interactions between the two?</li> <li>2. What governing systems operate within the Tano-Offin GSBA?</li> <li>3. What are the perceptions of the inhabitants of Kyekyewere regarding the nature of forest and tree-related livelihood conflicts in Tano-Offin GSBA?</li> <li>4. What do the findings mean for ongoing trends in forest governance such as the VPA and REDD+ processes?</li> </ol>
8	What conflicts occur with regard to forest and tree resources and what conflict management strategies are employed in relation to the modified taungya system in a plantation forest in the Tano-Offin forest reserve and what are their implications for the co-management scheme?	<ol style="list-style-type: none"> <li>1. What are the characteristics of the plantation forest (i.e. MTS scheme) in the Tano-Offin forest reserve as a system-to-be-governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?</li> <li>2. What are the characteristics of the governing system (i.e. institutional arrangements) that steers the plantation regime?</li> <li>3. What are the perspectives of the inhabitants of the communities at the forest plantation fringe regarding the nature of forest and tree-related conflicts in the plantation regime?</li> <li>4. What conflict outcomes arise and what are their effects on the governance arrangements?</li> </ol>

9	What conflicts occur with regard to forest and tree resources and what conflict management strategies are employed in a production forest in the Tano-Offin forest reserve and what are their implications for law enforcement?	<ol style="list-style-type: none"> <li>1. What are the characteristics of the production forest in the Tano-Offin forest reserve as a system-to-be governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?</li> <li>2. What governing system (i.e. institutions and policy instruments) function in the production regime?</li> <li>3. What are the perspectives of the inhabitants of the communities at the production forest fringe regarding the nature of forest and tree-related conflicts in the production regime?</li> <li>4. What are the implications of the findings for law enforcement under VPA?</li> </ol>
10	What factors facilitated the cooperation between the local community and the timber operator in Tano-Offin off-reserve area?	<ol style="list-style-type: none"> <li>1. What are the characteristics of the Tano-Offin off-reserve area as a system-to-be-governed in terms of the natural and socio-economic sub-systems and the interaction between the two?</li> <li>2. What governing systems (i.e. challenges and opportunities, access to farming lands, customary and statutory arrangements) operate within the Tano-Offin off-reserve area?</li> <li>3. What are the perceptions of the inhabitants and the timber operator on why crop damage compensation and SRA conflicts are minimal or absent?</li> <li>4. What are the views of government officials with regard to crop damage compensation and recommended actions for improvement?</li> </ol>
11	What are the characteristics of forest offences and their judgments in law courts in Nkawie Forest District and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means to overcome them?	<ol style="list-style-type: none"> <li>1. What are the characteristics of the Nkawie Forest District reserves as a system-to-be-governed?</li> <li>2. What governing system (i.e. institutions and legislative framework) with regard to law enforcement is available in the forest district?</li> <li>3. What governance interactions arise from the system-to-be-governed and the governing system and what are their outcomes?</li> <li>4. How do officials of the Forestry Commission, the Ghana Police Services and the judiciary perceive their institutional roles in dealing with forest offences?</li> </ol>



These questions are supported by four propositions that contribute to identifying relevant information and serve as a reference point for generalising the results.

1. Forest resource use and management are complex, dynamic and involve multiple users at different levels of scales and are consequently characterised by conflicts. A clear understanding of these users' perceptions of their common and conflicting interests at different levels of scales will contribute substantially to our understanding of the nature of conflicts and their underlying factors as well as the prevailing management mechanisms.
2. Ineffective conflict management and absence of appropriate conflict management systems in the forestry sector are the main causes of the widespread conflicts and the resultant rapid deforestation rate. If constructive conflict management strategies and systems of relevance to natural resource management (taking account of the multiple interest groups) are institutionalised in policy and programmes, they will go a long way towards strengthening forest governance arrangements and improve livelihoods, especially those of the rural poor.
3. The interactive governance approach provides an analytical and normative means of understanding the governability of the different forest management regimes (*i.e.* protection, plantation, production and off-reserve areas).
4. The interactive governance approach complemented with conflict analysis generates a picture of forest actors' images (that guide conflicts and conflict management), instruments (that link images to actions) and actions (that put the instruments into effect) in relation to conflict under various forest regimes.

## Justification

A review of sources available on forest research in Ghana reveals that research on forest-related livelihood conflicts is still scarce. Within the context of the TBI-Ghana programme, a PhD study was carried out on forest conflicts (Marfo 2006), but this focused on actor-response processes, power relationships and actor empowerment, and not so much on livelihood-related conflicts. This study looks beyond the forestry (*i.e.* timber) sector proper to include the perspectives of other stakeholders from NGOs, the international community, academia, the private sector and local communities to obtain a deeper understanding of the societal problem at hand and identify opportunities. Going beyond the timber sector allows the full range of forest-related livelihood activities to be covered around which conflicts occur in the high forest zone and the full range of forest management regimes, namely protection, plantation, production and off-reserve areas. This study further analysis both the statutory and customary structures that govern the various management regimes. The theoretical debates in which this study is embedded include political ecology as the overarching theoretical perspective and three strands of literature to which it is linked: those on forest-based livelihoods, conflict and conflict management theories and interactive governance theory (see Chapter 2). The interactive governance theory coined by Kooiman and colleagues has hitherto been applied exclusively to fisheries. Bringing this concept to forestry is feasible because of the similarities of system inherent characteristics (*i.e.* diversity, complexity, dynamics and scale) which influence both the forest system-to-be-governed (including the natural and the human sub-systems) and the governing system.

## Thesis outline

This thesis is presented in twelve chapters. Chapters 1-3 present the introduction to the research, the theoretical strands underpinning the study and the methods used to conduct the study. The empirical chapters begin with Chapters 4 and 5 that analyse the context of the study, presenting the high forest zone, its sub-systems and forest users (i.e. local communities, timber operators etc.) as the 'system-to-be-governed' and the institutions, instruments and mechanisms that govern the system-to-be-governed as the 'governing system'. Chapters 6-11 present the analysis of the case studies conducted in the high forest zone, more specifically the Tano-Offin forest reserve management regimes and off-reserve area in the Nkawie Forest District. All the empirical chapters are part of an overall research design (outlined in Chapter 3) and follow the same format (introduction, methodology, results, discussion and, sometimes, recommendations) so that each of them can be read as a study in its own right. The core of each chapter is as follows.

**Chapter 1** briefly introduces the study. It presents the reader with general background information, a brief introduction to the study area, and the problem statement, objectives, research questions, propositions and justification for the study. It further presents the outline of the thesis.

**Chapter 2** describes the theoretical debates in which this study is embedded. It encompasses four strands of literature: political ecology, literature on forest-based livelihoods, conflict and conflict management theories and interactive governance theory. The interactive governance theory was coined by Kooiman and colleagues and hitherto applied exclusively to fisheries. This theory focuses on interactions between the governing system and the system-to-be-governed, with the latter comprising both the natural and socioeconomic system and the interactions between them referred to as the governance interactions. In this study, interactive governance theory, complemented with the conflict wheel as an analytical tool developed by Mason & Rychard (2005), forms the basis of the conceptual framework that guides the data analysis.

**Chapter 3** presents the research design and the methods that guided data collection and analysis. It highlights the rationale for selecting a case study approach and justifies the selection of the study areas, units of analysis and respondents. It also examines the research methods and addresses issues of validity and reliability as well as techniques used for data analysis.

**Chapter 4** is the first of the empirical chapters and describes Ghana's high forest zone and key forest resource users as the system-to-be-governed. Using interactive governance theory this chapter explores the characteristics of the natural and socioeconomic characteristics of the high forest zone, as well as how the natural and socioeconomic sub-systems interact.

**Chapter 5** aims to contribute to the governance debate by applying interactive governance theory to assess the status of Ghana's forest governing system and the governability limitations it faces with regard to dealing with forest and tree-related conflicts. It also explores the opportunities that the interactive governance approach holds for the forest sector of Ghana to manage forest-related conflicts from a normative perspective.

**Chapter 6** analyses conflicts for the full range of forest and tree-based livelihood components from the perspectives of forest governors and experts. It does so by employing a scaled methodology that promotes a shared problem definition and ownership of recommendations on much-needed changes in forest governance among those who have to implement them.

**Chapter 7** addresses the livelihood implications for inhabitants situated in the middle of a protected forest regime (Globally Significant Biodiversity Areas (GSBAs) and the associated conflicts that arise from this location. The chapter discusses the implications of these conflicts for ongoing forest governance initiatives such as the Voluntary Partnership Agreement (VPA) with the EU to combat illegal logging and enhance forest governance.

**Chapter 8** analyses the co-management context of the modified taungya system (MTS) in the plantation regime and the arising conflict issues from the perspectives of members of local communities. It ascertains whether the MTS functions as a process from which lessons can be learned for further governance improvement or whether it is a fixed-state system meant to serve the interests of the Forestry Commission to secure timber supplies for the future.

**Chapter 9** examines conflict incidences in the production forest regime in Ghana's high forest zone and the implications of the findings for law enforcement under the Voluntary Partnership Agreement (VPA). It analyses the interaction between the production regime (the system-to-be-governed) and the governing system (the institutional and legislative frameworks) with respect to conflicts related to forest resources, operational conflicts with timber utilisation contracts (TUC) holders, and land-use conflicts.

**Chapter 10** reports on the off-reserve case where a scenario of cooperation between local people and a timber contractor contrasts the frequently cited conflict scenario. This achievement is based on the construction of social capital such as networking, shared responsibility, and the provision of incentives and creation of social ties and trust by the timber contractor, which was reciprocated by the local people.

**Chapter 11** provides insights that may support the national objective to strengthen law enforcement by analysing forest offences and their judgments in law courts in Nkawie Forest District and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means to overcome them.

**Chapter 12** brings together the various issues raised in the chapters whilst reflecting on the thesis statement and questions. It does so by providing answers to the research questions and identifying the theoretical and policy implications of the study. It also presents suggestions for future research.

## Theoretical outlook

### Introduction

This chapter presents the theoretical debates in which this study is embedded. Taking political ecology as a starting point, it links up with three strands of literature: forest-based livelihoods, conflict and conflict management theories and interactive governance theory. The first section discusses political ecology. The next one looks at scholarly literature on forest-based livelihoods and how these are subject to conflicts. Then the chapter unearths scholarly literature on conflict theories and conflict management paradigms related to natural resource management, with a focus on forest resources. Subsequently, the chapter looks at interactive governance theory coined by Kooiman and colleagues and hitherto applied exclusively to fisheries. This theory focuses on interactions between the governing system and the system-to-be-governed, with the latter comprising both the natural and socioeconomic systems. The end of the chapter integrates the various theoretical strands and presents the conceptual framework that guides the analysis in this study. The overall objective of this theoretical framework aligns with how governance is understood in interactive governance theory, namely as ‘the whole of public, as well as private interactions taken to solve societal problems and create societal opportunities’ (Kooiman & Bavinck 2005: 17). In this case, the aim is to understand the societal problem relating to conflicts about forest and tree resources and the societal opportunities relating to the functioning of conflict management strategies.

### A political ecology perspective

Political ecology is a discipline that emerged during the 1980s as a neo-Marxist-influenced analysis of resource use and environmental conservation (Ros-Tonen 2012). This discipline has been evolving dynamically, focusing on the politics and the complexity of human interaction with the environment (Blaikie & Brookfield 1987, Gezon 1997). The studies carried out in this field address cross-cutting issues from local to global concerns. Major themes in political ecology include power imbalances and social action (e.g. Peluso 1992, Escobar 1995, Bryant 1998), the role of politics of knowledge

and discourses in natural resource management (e.g. Byrant 1998, Fairhead & Leach 1996, 1998, 2003), conflicts in forest conservation and institutional politics (e.g. Gezon 1997, Dietz 1999) and gender and the environment (Rocheleau *et al.* 1990). As Ros-Tonen (2012) highlighted, themes that have become more prominent in political ecology since the turn of the century – in line with other literature on environmental change – include the dynamics of cross-scale interactions (e.g. Adger *et al.* 2006, Neumann 2009) and resilience and adaptation to global change (e.g. Adger 2000, 2009, Batterbury & Mortimore 2011).

This chapter links the political ecology approach with debates on forest-based livelihoods, conflicts and conflict management and interactive governance. There are several reasons for taking political ecology as a starting point for my theoretical framework. In the first place, political ecology (or political environmental geography as Dietz (1996, 1999) termed it), examines the dynamic interactions between people's needs and nature as a resource and sinks, helping to access the power structures behind the causes of environmental problems and attempts to solve them (Dietz 1996: 33). This focus on dynamic interactions aligns well with Kooiman and Bavinck's interactive governance concept quoted above, while it allows an unravelling of the power structures on which conflicts are based. Secondly, political ecology pays particular attention to the scalar dimensions of conflict situations, situating the actors involved within the broader environmental and socio-political contexts in which they are embedded (Bryant 1992, Dietz 1996, Gezon 1997). This allows us to understand the roots of conflicts that may be historical, or based on social, economic and power relations (Blaikie & Brookfield 1987, Peet & Watts 1996), while also providing an analytical perspective to unravel the multi-level character of conflicts, with interactions between actors operating at different levels of scale. Thirdly, political ecology pays particular attention to uneven access to resources, which allows us to analyse conflicts in terms of competing claims to forest resources.

## Forest-based livelihoods

The World Bank (2004) estimates that 60 million indigenous people are almost wholly dependent on forests and 350 million people depend on forests for a high degree for subsistence and income. In addition, about 1.2 billion people rely on agroforestry farming systems. Hence, forest resources contribute immensely to the livelihoods of people, and particularly the world's poor. Indeed, according to the World Bank (2004: 1), forest resources contribute to the livelihoods of 90% of the 1.2 billion people who live on less than one US\$ a day. These people depend fully or partly on these resources to meet their daily subsistence and commercial needs.

Ellis (1998: 4) defines livelihood as 'the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living'. According to the DFID Sustainable Livelihood Guidance Sheets (1999: 1), it encompasses the assets (human, financial, physical, natural and social capital), the capabilities and the activities needed for a means of living. Attention to livelihoods from the perspectives of the poor received a boost with the Sustainable Livelihood Approach developed by authors like Chambers and Conway (1992), Carney (1998), Scoones (1998), Bebbington (1999) and Ellis (2000). Attention for the role that forests play in people's livelihoods dates back to 1978 when the FAO held the VIII Forestry Congress under the title 'Forestry for People' (Col-

chester *et al.* 2003, cited in Ros-Tonen *et al.* 2005), but has acquired a more prominent place on the agenda since the World Conference on Environment and Development (WCED) in Rio de Janeiro in 1992. Chapter 11 on combating deforestation in Agenda 21 (UNCED 1992), which was the outcome of the Rio conference, not only recognises the rights of forest dwellers to have an economic stake in the forest, but also highlights the cultural and spiritual value of forest and the need to protect indigenous rights.

Sunderlin *et al.* (2005) mention several ways in which forest resources play a role in people's livelihoods. First, forests are an important source of maintaining agriculture, both directly as a source of farming land (i.e. shifting cultivation) and indirectly through soil formation and securing water supplies. Second, timber resources are a major source of revenue for those working in the timber industry and for the country as a whole. In Ghana, for example, the formal timber industry contributes about 6% to the Gross Domestic Product (GDP) and 11% to Ghana's export earnings (Marfo 2010). It also creates about 100,000 jobs through direct employment in the legal timber industry and an estimated 130,000 jobs in chainsaw milling (*Ibid.*: xi & 2). Third, non-timber forest products (NTFPs), such as food items, medicinal plants, bushmeat, forage and fibre play an important socio-economic role in most local communities, not only for subsistence and commercial purposes, but also for their cultural and spiritual values (see Falconer 1992, Blay *et al.* 2008, Bell 2010, and Bokhorst 2011 for the role of NTFPs in Ghana). NTFPs can be an important source of cash and non-cash income for forest-dwelling people (Bell 2010), but overall they function mainly as a 'safety net' (in times of emergency) and 'gap filler' (in times of low agricultural income) (Sunderlin *et al.* 2005: 1386) rather than as a potential route out of poverty (Belcher *et al.* 2005, Kusters *et al.* 2006, Vedeld *et al.* 2007). The fourth way forest resources contribute to livelihoods is through environmental services which support farming and agroforestry systems (such as soil formation and securing water supplies as mentioned above). Environmental services may become more important as a source of cash income through carbon and other payments for environmental services (PES) within the framework of Reducing Emissions from Deforestation and Degradation (REDD+) schemes, as compensation for keeping the forest intact. Finally, Sunderlin *et al.* (2005) mention a number of indirect livelihood benefits, such as the boosting of local markets due to the presence of a logging workforce and the creation of a road network which facilitates access to markets, health services and education. In addition, people may receive logging compensation payments. In Ghana such compensation payments take the form of Social Responsibility Agreement (SRA) and crop damage compensation which are discussed in Chapters 9 and 10.

Despite their importance as sources of livelihood, the use of forest resources also creates challenges associated with illicit uses, restricted access, an unfavourable governing system and competing claims that undermine their importance to forest dwellers and the nation's wellbeing. Such competing and conflicting interactions often result in conflicts. Tropenbos International Ghana (TBI 2005) identified challenges facing forest-based livelihoods in Ghana during focus group discussions held in 2005 on 'Alternative livelihoods and sustainable forest management'. These are summarised as (i) inadequate incentives for local communities in forest resource management, (ii) inadequate exploration of the opportunities for improving forest employment, (iii) inefficient utilisation of NTFPs hindering their promotion as assets for livelihood improvement, (iv) a lack of proper analysis of forest-dependent livelihoods resulting in deficient decision making, and (v) conflicts inherent in livelihood activities relating to forest and tree resources (TBI 2005). Some of the problems and associated conflicts also result from the incom-

patibility in the statutory and customary tenure system inherited from the colonial and post-colonial era (Castro 2008). This issue is addressed in more detail in Chapter 5. First and foremost, I review the theories on conflict and conflict management.

## Conflict theories and conflict management paradigms

The scholarly literature on conflict theories and conflict management have been evolving in scientific and policy debates for decades and interface with many disciplines (e.g. Pondy 1967, Fink 1968, FAO 1996, Glasl 1999, UNEP 2009). There seems to be a consensus that ‘conflict’ is generally ill-defined. The term ‘conflict’ is often used interchangeably with the term ‘dispute’. However, Burton (cited in Spangler & Burgess 2003) makes a clear distinction between the two concepts, based on different scopes (‘conflict is a larger umbrella under which smaller and short-term disputes occur’), time frames (‘disputes are short-term phenomena while conflicts are long-term problems’) and degrees of negotiability. With regard to the latter, ‘conflicts are different to disputes because they manifest themselves in issues that are seemingly non-negotiable’ (*Ibid.*: 2). Despite the variation in definitions and lack of consensus on a definition, most scholars agree that conflict is a ‘process’ (Pondy 1967, Fink 1968, Glasl 1999). According to Pondy (1967: 299):

‘Conflict can be more readily understood if it is considered to be a dynamic process. The reason being that conflict relationship between two or more individuals in an organization can be analyzed as a sequence of conflict episodes. Each conflict episode begins with conditions characterized by certain conflict potentials. The parties to the relationship may not become aware of any basis of conflict, and they may not develop hostile affections for one another. Depending on a number of factors, their behaviour may show a variety of conflict-prone traits. Each episode or encounter leaves an aftermath that affects the course of succeeding episodes’.

This section focuses on natural resource conflicts and first reviews literature on the causes of conflicts. After that it examines theories on conflict characteristics and dynamics, and then reviews various paradigms regarding conflict management.

### *Natural resource conflicts: causes*

Conflicts differ according to context (Moore 2003, Wall & Callister 1995) and causes. In order to understand the latter, Tosi *et al.* (2000) developed a model that presents the dynamic conflict process (Figure 2.1) based on the ‘process school of thought’ (Pondy 1967, Hickson *et al.* 1971, Thomas 1976). Tosi *et al.* (2000: 277-278) explained the first three conflict stages as follows:

*Antecedent conditions*: ‘the conditions that cause or precede a conflict episode’.

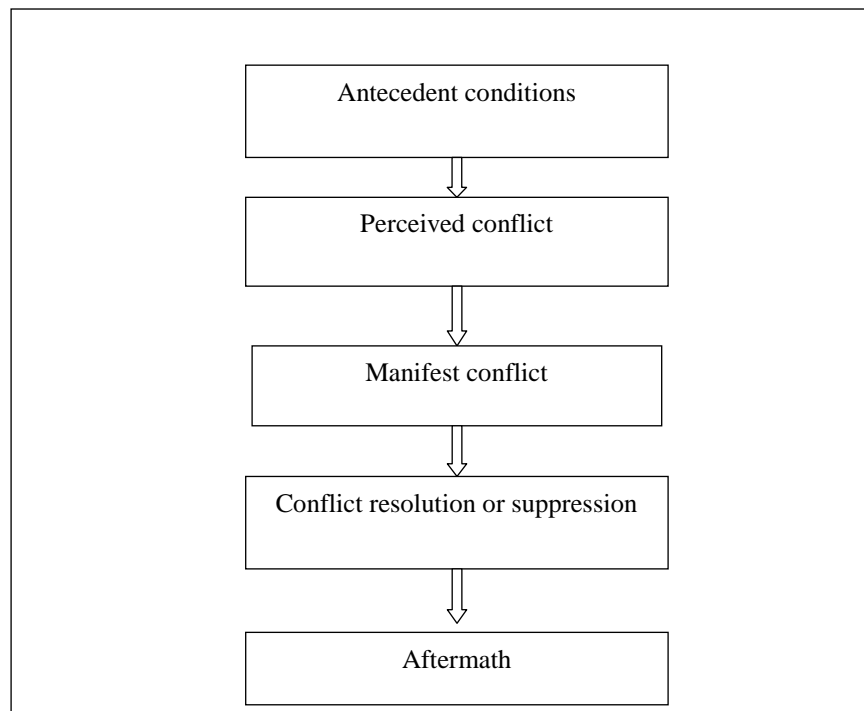
*Perceived conflict*: ‘the requirement that, for conflict to exist, the conflict must be perceived by one or more parties involved’.

*Manifest conflict or behaviour*: ‘a stage of conflict that occurs when parties that have perceived a conflict behave in a way that makes the conflict observable’.

The perceived conflict is what Schmidt & Kochan (1972: 362) identified as being two underlying causes of conflict, i.e. ‘perceived goal incompatibility’ with respect to the resources and activities that the conflicting parties share and the ‘perceived opportunity for interfering with the attainment of one another’s goals’. Glasl (1999) added to the intermediating variables that trigger conflicts the differences in perceptions, emo-

tions and interests, which he labelled ‘sources of impairment’. Glasl’s impairment model was adapted by Marfo (2006) and Yasmi & Schanz (2007) within the context of natural resource management. Marfo (2006) employed this model to understand the role of actor empowerment in the management of natural resource conflicts, whereas Yasmi & Schanz (*Ibid.*: 58) used the model to clarify conceptual confusion by recognising conflict as a two-actor constellation, with one actor behaviour experienced as an impediment by the other actor.

Figure 2.1 The conflict process (Adapted from Tosi et al. 2000: 277)



Several scholars (e.g. Homer-Dixon 1994, Buckles 1999, Le Billon 2001, Ohene-Gyan 2004, Yasmi & Schanz 2007, Schanz 2007) have theorised and analysed conflicts specifically related to natural resources. This body of literature revealed a great diversity of conflict occurrences. They can occur at household level, at local level within or between communities, at national level and at international level (FAO 1996, Fisher 2000). Due to the complexity of natural resource conflicts there are usually many causes and many interconnected issues, and that makes it difficult to pinpoint the key issues in the conflict scenarios. Different scholars have symbolised these conflicts in different ways. Among the main driving factors are power plays (LeBillon 2001, Marfo 2006), competing and diverging interests and the needs of stakeholders (Warner 2000), the scarcity of environmental resources (Homer-Dixon 1999, Theisen 2008), the resource curse (LeBillon 2001), inequity in benefit sharing and the absence or inadequate consideration of conflict management in national policies (Tyler 1999, Ohene-Gyan 2004). Given that it is a social process, the pivot of the conflicts is the human being – termed either as ‘stakeholders’ or ‘actors’ or ‘resource users’ (Grimble & Wellard 1996, Kotey *et al.* 1998, Marfo 2006).

Three conflict theories have been reported as being essential in natural resource conflicts. According to Yasmi & Schanz (2007) the scarcity theory, usually labelled as a



neo-Malthusian approach, sees conflicts as being inevitable due to the increased scarcity of natural resources – resulting either from increasing demand, decreasing supply or ‘structural scarcity’ caused by uneven distribution of resources – and emerging violent conflicts as a main threat for mankind (Kaplan 1994, Homer-Dixon 1994 & 1999). A contrasting view emanates from political ecology where the belief is that conflicts are largely determined by a set of broader processes of change within a specific historical context and embedded in the interplay of social, ecological and political processes (Peluso & Watts 2001, Turner 2004). An arena of contested entitlements therefore exists which comprise the right to own resources, the right to use resources, and the rights to intervene in resource situations (Dietz 1996, Neumann 1998). A third theory, related to political ecology, is the ‘environmental framing model’, which views conflict as perception driven (Lewicki *et al.* 2003, Adams *et al.* 2003). According to Gray (2003: 11), framing is the process of constructing and representing our interpretations of the world around us. Adams *et al.* (2003: 1915) argue that differences in knowledge, understanding, preconceptions and priorities among stakeholders provide a deeper meaning of why conflicts arise, but that they are often overlooked in conventional policy dialogue. Such knowledge allows stakeholders to define problems of resource use in three realms: (i) knowledge of the empirical context, (ii) knowledge of laws and institutions, and (iii) their beliefs, myths and ideas (*Ibid.*: 1915). A deeper understanding of these diverse frames creates opportunities for reaching consensus and/or compromise to facilitate conflict management.

A different perspective is taken by Buckles & Rusnak (1999) who relate conflict causes to four characteristics inherent in natural resources:

1. The interconnectedness of the space in which natural resources occur, as a result of which actions by one individual or group may generate effects for others, sometimes way beyond the actual site in which resources are used;
2. The shared social space in which natural resources are embedded, with complex and unequal relations among a wide range of actors with diverging interests in the same resource;
3. Their increasing scarcity due to factors identified by Homer-Dixon (1999), as cited above;
4. Their symbolic value related to a particular way of life, ethnic identity, gender or age roles.

Many of these characteristics are related to interdependency and interrelationships between resource systems, which often result in conflicts.

Other authors also view institutional failures, lapses in policy and legislation, and governance failures as causes of conflicts. Tyler (1999: 263) asserts that the level of attention paid in policy to conflict management has been relatively low, and that this has had a ripple effect on ‘long-term sustainability and short-term economic feasibility’. He clarifies several ways in which public policy may become a cause of natural resource conflicts, including (i) uncoordinated planning and investment in protected areas and other natural resource sectors, (ii) inadequate information and consultation on natural resource policies, (iii) government-supported migration and displacement, (iv) discriminatory or unclear tenure policies, (v) a piecemeal approach to tenure, decentralisation and natural resource management reforms, (vi) vague policy directions, and (vii) poor recognition of legitimacy of multiple stakeholders (see Tyler 1999 for further details). Furthermore, conflicts over natural resources arise because of the failure of mandated organisations to govern effectively (McKean & Ostrom 1995). The problem in conven-

tional hierarchical governance is the state's over-emphasis on law enforcement and control, while overlooking the interactive component of the natural resource system and its inherent conflicts (Jentoft 2007). How stakeholders frame their perceptions of resource use problems and solutions may also generate policy conflicts because of differences in knowledge and understanding between policymakers and stakeholders (Adams *et al.* 2003). According to these authors, a failure to recognise such cognitive dimensions of conflicts results in shallow policy measures which fail to address the deeper underlying differences among the resource users (*Ibid.*: 1916).

#### *Natural resource conflicts: dimensions*

Other authors have examined natural resource conflicts in terms of analytical dimensions. For example, Anderson *et al.* (1996) distinguish between actors (*e.g.* stakeholders, government structures and private entities), resources (*e.g.* land, forest, ownership, access) and stakes (*e.g.* economic, political, socio-cultural). This categorisation enables conflicts to be analysed either through an actor-oriented approach, a resource-oriented approach, a stake-oriented approach or a combination of the three (*Ibid.*). Similarly, Engel & Korf (2005) propose unravelling natural resource conflicts by looking at three interrelated elements, namely people, process and problem. Key factors to be considered as far as people are concerned are their feelings, emotions and perceptions of the problems and how they relate to each other and the natural resources over which conflicts occur (*Ibid.*: 20). According to Engel & Korf (2005: 20), processes are 'the way decisions are made, and how people feel about it'. The authors argue that it is important to consider these processes as feelings of resentment and as being treated unfairly or powerlessness as a frequent cause or trigger of conflict. Problems are the concrete issues (or 'root causes' in the terminology of Engel & Korf) around which conflicts evolve. They may include diverging values, interests, needs or shares in resource access or benefits. Adams *et al.* (2003) also argue that attention should be paid to the cognitive dimension of conflicts (*i.e.* knowledge and understanding) between and among stakeholders as an essential element in defining the root causes of the conflicts.

Conflict analysis or what other scholars term 'conflict assessment' is an initial stage of conflict resolution in which parties seek to gain a deeper understanding of the dynamics in their relationship. It could also be defined as the systematic study of the profile, causes, actors and dynamics of conflicts (Mason & Rychard 2005). Skutsch (1996) perceives conflict analysis as an analytical framework which views conflicts on a case-by-case basis. As an analytical approach which uses a number of different tools, conflict analysis is considered to be useful to the disputants, convener and assessor by (i) offering a reflective tool which clarifies their own interests, positions and issues with regard to the conflict, as well as revealing those of other stakeholders, (ii) building a shared body of information and knowledge, and (iii) reframing relationships and building trust and issue-based coalitions and providing insights into the type of intervention likely to succeed (Skutsch 1996, Shemueli 2003). There are several tools which can be used to conduct conflict analysis. These include strategic conflict assessment (SCA) (Oshita 2003), the conflict assessment framework (USAID 2004), and the conflict wheel (Mason & Rychard 2005) (Figure 2.2). In this thesis the conflict wheel is used. It is unique because it is a 'meta' conflict analysis tool that facilitates a multi-dimensional understanding of the causes and dynamics of conflicts, as well as the capacities for conflict management in Ghana's high forest zone. The tool considers various conflict dimensions, including the actors involved in the conflict situation, the issues at hand, the con-

text in which the conflict is embedded, the causes and the options for conflict management. The wheel enables a first overview of a conflict to be obtained which serves as a basis for analysing specific aspects in greater depth (Mason & Rychard 2005). Such in-depth analysis involved the use of the interactive governance approach outlined later in this chapter.

*Natural resource conflicts: characteristics*

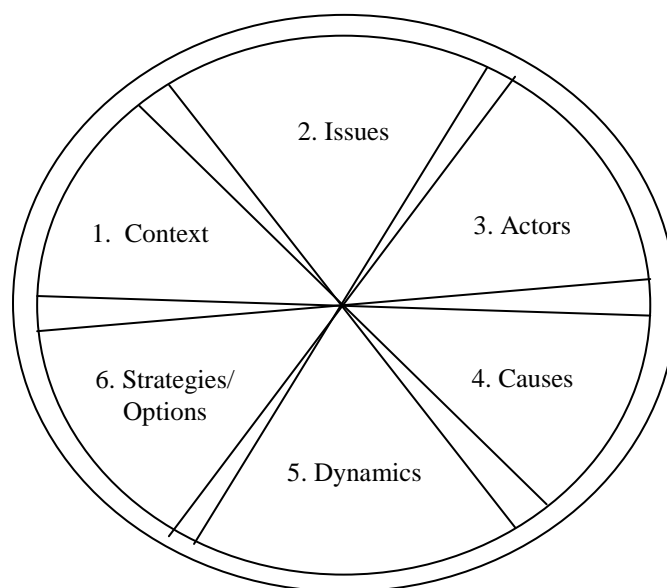
As indicated above, most authors agree that conflict is a process (Fink 1968). This dynamic process involves a sequence of stages, which can be categorised into ‘violent’ and ‘non-violent’, with variations in the level of intensity (Axt *et al.* 2006, Warner 2000, Moore 2003, Buckles & Rusnak 1999). In between the violence and escape is what Noorduyn (2005) termed ‘cascade to violence or escape’ (*Ibid.*: 20). As cited above, Tosi *et al.* 2000 distinguished between antecedent conditions, perceived conflict, manifest conflict, conflict resolution or suppression, and aftermath. This corresponds to similar categorisations like the one by Pondy (1967) who distinguished between latent, perceived, felt, manifest and aftermath stages. Similarly, Brahm (2003) distinguishes between latent, emergent, escalation, stalemate, de-escalation, resolution and reconciliation. In practice it must be noted that not all conflicts complete the entire process or follow these stages in succession. Table 2.1 presents an overview of conflict categories adapted from HIIK (2005), which focuses on conflict intensity.

*Table 2.1* Overview of the conflict categories and intensities

Conflict category	Name of intensity	Definition
Non-violent	Latent conflict	A positional difference on definable values of national meaning is considered to be latent conflict if respective demands are articulated by one of the parties and perceived by the other as such.
	Manifest conflict	A manifest conflict includes the use of measures that are located in the preliminary stage to violent force. This includes, for example, verbal pressure, threatening violence explicitly, or the imposition of economic sanctions.
Violent	Crisis	A crisis is a tense situation in which at least one of the parties uses violent force in sporadic incidents.
	Severe crisis	A conflict is considered to be a severe crisis if violent force is repeatedly used in an organised way.
	War	A war is a type of violent conflict in which violent force is used with certain continuity in an organised and systematic way. The conflict parties exercise extensive measures, depending on the situation. The extent of destruction is massive and long-term.

*Source:* Adapted from HIIK (2005).

Figure 2.2 The conflict wheel as an analytical tool



Source: Adapted from Mason & Rychard 2005

The key point that can be deduced from the work of scholars from the ‘process school of thought’ is that the process entails varying degrees of one party blocking or interfering with another party’s interests, goals, values, aspirations or needs (Pondy 1967, Schmidt & Kochan 1972, Fisher 1990). However as indicated by Axt *et al.* (2006: 5) one pitfall in conflict literature is that most studies are concentrated on violent conflicts (particularly wars) rather than on non-violent conflict.

#### *Conflict management paradigms and implications in natural resource conflicts*


There are various conflict management approaches that emanate from social sciences and natural resource management disciplines. These approaches not only differ according to their underlying objectives and assumptions (Yasmi & Schanz 2007: 35) but also with respect to their coping strategies. Ways to resolve or minimise conflicts have been identified by scholars using different conflict management terminologies. These include conflict resolution (Coser 1967, Zartman 1991, Mayer 2000), alternative dispute resolution (ADR) (FAO 2000), conflict management (Fisher & Ury 1981, Susskind *et al.* 2000, Marfo 2006), conflict capability (Glasl 1999, Zapf & Gross 2001), alternative conflict resolution (ACR) (Ury *et al.* 1988, Hoffmann & Wagner 1993), integrated conflict management system (ICMS) (SPIDR 2001) and reframing (Spangler 2003, Lewicki *et al.* 2003). These terminologies are sometimes used interchangeably.

Conflict management approaches and coping strategies employed in natural resource management can be classified in three categories, i.e. avoidance, consensual approaches (negotiation, facilitation, moderation, consultation, conciliation and mediation) and non-consensual approaches (arbitration, adjudication and coercion) (Glasl 1999, Moore 2003, Engel & Korf 2005, Wehrmann 2008). A definition of the various conflict management strategies can be found in Table 2.2.

The underlying assumption of conflict management is that it is possible to promote a win-win solution, whereas strategies like avoidance, adjudication and violence in most cases lead to win-lose outcomes. These are often not considered desirable for conflict

management (see Wall & Callister 1995, Engel & Korf 2005). From a conceptual perspective, conflict management is a systematic process geared towards finding mutually satisfying outcomes for two or more conflicted parties. It is therefore defined

*Table 2.2* Conflict management strategies

Approaches	Conflict management or coping strategy	Definition	Level of third party involvement
No approach	Avoidance	Acting in ways that prevent conflicts being acknowledged publicly.	No meeting between conflict parties or third party.
Consensual approach	Negotiation	Parties reach agreement through consensus in a voluntary process. Consensus means a decision that all can support.	
	Facilitation	The facilitator helps the parties come together, with the parties still being able to resolve the problem by themselves.	
	Moderation	The moderator helps the parties come together to clarify and settle minor differences, with the parties still being able to resolve the problem by themselves.	
	Consultation	The 'tutor' accompanies the process, working on the deeply internalised perceptions, attitudes, intentions and behaviours of the parties in order to placate them.	
	Conciliation	This is a mixture of consultation and mediation. The conciliator helps the parties to negotiate while – whenever necessary – addressing internalised perceptions, attitudes, intentions and behaviours with the objective of reducing prejudices and hostility.	
Non-consensual approach	Mediation	Mediation, too, requires the parties to be willing to face each other and to find a compromise. The mediator follows a strict procedure, giving each party the opportunity to explain its perceptions and to express its feelings, forcing the other party to listen and finally moderating a discussion aimed at finding a solution with which both parties can live. The mediator does not have the authority to impose a solution.	
	Arbitration	The parties submit the conflict to a mutually agreeable third party who issues a non-binding decision. Arbitration follows strict rules. Unlike the moderator, however, the arbitrator needs to make direct suggestions on how to settle the conflict. He is more influential and powerful than moderators, tutors or mediators and has decision-making authority.	
	Adjudication	The final decision is taken by a powerful authority (e.g. a judge).	
	Coercion	Threatening or using force to impose a position.	

*Source:* Adapted from Glasl (1999), Moore (2003), Engel & Korf (2005) and Wehrmann (2008).

in this study as a ‘generic’ term that refers to all interventions in a conflict with the aim being to prevent and solve problems, transform relations, and change structures (adapted from Glasl 1999).

The kind of conflict outcome relates to the academic debate about whether natural resource conflicts should be considered as being destructive and damaging to the people and the resource base or whether they should be seen as a factor of positive social change. Adams *et al.* (2003) are of the opinion that conflicts result in socio-political, economic and infrastructure stability. Scholars from the ‘positive school’ believe that constructive or positive conflicts have the potential to facilitate learning and bring about positive social change and policy reform if they are properly handled. Conflicts over natural resources have the potential to contribute to equality and equity in resource distribution (Castro & Nielsen 2001, Hirschman 1994, Peets & Watt 1996). The positive impacts of conflict, like this one, are examined in Chapter 8 which explores strategies for dealing with conflict in the modified taungya system (MTS) – a co-management arrangement between the Forestry Commission and local communities for plantation development – which resulted in more equitable sharing of MTS benefits and strengthened the democracy in the MTS group in Chirayaso community. There is a third category of scholars who perceive conflict to have both negative and positive impacts. According to Deutsch & Coleman (2000) and Krisberg (1998) conflict is neither good nor bad. Rather it is the way in which they are handled which determines its constructiveness or destructiveness. Yasmi (2007: 2) endorses this statement by asserting that ‘the biggest challenge is how constructive aspects of conflict are fostered and destructive ones are prevented or limited’.

Despite all the strategies and desire for win-win outcomes and positive social change, conflicts over forest resources are still widespread. There is therefore a need to search for alternative intervention strategies that fit rapidly into the changing governance processes. In exploring such an alternative strategy, this corresponds with Zartman’s (1997) notion that conflict management cannot be separated from governance, and that the right mechanisms should be put in place to deal with conflicts among groups before they escalate and block the governing process. However, in contrast to Zartman, who perceives the government as being the lead broker in terms of conflict management in the governance process, this chapter adopts the notion of ‘interactive governance theory’ developed by Kooiman *et al.* (2005) as a starting point to assess its potential for facilitating conflict management, especially in the domain of forest and tree resources.

Departing from this point, the conflict wheel is applied with a view to analysing conflicts over forest and tree resources from various forest actors’ perspectives (*i.e.* both state and non-state actors, local communities and timber operators). The analysis of the views of these respondents is blended with the analysis of the governing system. In Chapter 5 the historical perspective of forest and tree conflicts is analysed on the basis of documentary analysis. In Chapter 6 the conflict causes are categorised based on existing scholarly literature (notably Schmidt & Kochan 1972, Homer Dixon 1999, Tyler 1999), whereas the distinction between antecedent conditions and manifest behaviour is used in the analysis of conflict cases in Chapters 7-9. In terms of conflict dimensions, conflict intensity levels are categorised as being violent and non-violent. The categorisation of conflict management paradigms in Table 2.2 is used in subsequent chapters to interpret respondents’ answers regarding ways of dealing with conflicts.

## The governance concept and interactive governance theory

This section begins with a brief description of the evolution of the governance concept from different disciplinary backgrounds and highlights the differences between governance and management. Next, it examines the notion of forest governance and the main challenges related to it. Finally, it presents interactive governance theory and how it can be applied to understand forest and tree resource conflicts and conflict management strategies that form the topic of this study.

### *The governance concept*

Over the past three decades, governance as a concept has gained prominence in both academic and policy debates. At a global level, governance debates have been centred on three fields of studies, namely management, public administration and development studies. Within management studies, the governance discussion is linked to decentralisation and neo-liberal reforms with concepts like participation and mobilisation (World Bank 1997, Stoker 2000, Nuijten *et al.* 2004). Scholars in the field of public administration perceive governance as an interactive process of governing and steering processes of both state and non-state actors (Kooiman 1993, Jessop 2002). The third group of governance debates stems from development studies and has been prominent since the early 1990s (Nuijten *et al.* 2004). Governance is not merely something governors do, but comprises the totality of the interactions between the governing system and the system-to-be-governed (Kooiman & Bavinck 2005). Governance has different definitions according to its evolution into the different disciplines. However, three common features in these varied definitions include (i) governing as a matter of public as well as private actors, based on the premise that government alone cannot solve societal problems, (ii) a blurred dividing line between public and private sectors, as a result of which interests among these actors are often shared, and (iii) the recognition that governance has its roots in societal developments (*Ibid.*: 15-16). The central theme in most definitions is that the state cannot do things alone but needs non-state actors to assist in development.

#### Box 2.1 *Distinction between governance and management*

- Governance is the most inclusive term followed by public policy and then management.
- Governance goes beyond the problems at hand to consider longer-term societal trends and needs, while management is about implementation in a technocratic sense.
- Governance does not limit itself to one particular sector but looks at the relations between sectors.
- Governance is not the natural prerogative of government or of resource managers, but rather a widely practised activity and a broadly shared responsibility.
- Governance transcends a problem-and-solution focus and brings in an interest in the creation and exploitation of opportunities. It balances a concern for difficulties and issues with an eye for new and promising opportunities.
- Governance pays systematic attention to institutional arrangements for governing activities and to the normative principles that guide them.
- Governance is about politics while management is about action.

*Sources:* Béné & Neiland 2006, Kooiman & Bavinck 2005.

Adams (1996), who researched fisheries and aquaculture governance in the Pacific Islands region, questioned whether the terms management and governance could be used interchangeably. Although the two concepts are related, most scholars adhere to the view that a distinction must indeed be made (e.g. Béné & Neiland 2006, Kooiman & Bavinck 2005). Some key distinctions between the two concepts are outlined in Box 2.1. In forestry, Ros-Tonen *et al.* (2008: 1483) summarise the difference as ‘forest governance provides the political, legal and institutional framework in which (...) sustainable forest management can thrive’.

#### *Forest governance*

The concept of governance is a relevant discourse in the development of a global forest regime (Arts 2006). Applying this concept to the forest sector, Ros-Tonen & Kusters (2011) state that forest governance is about how and to what ends forests are managed. In their view, forest governance encompasses (i) the processes, mechanisms and formal and informal institutions in place to take decisions on forest use, (ii) the actors involved in these decisions and (iii) the way in which forest policies, laws and regulations are enforced on the ground (*Ibid.*: 189).

Governance or the lack of it, in forestry is a central issue that affects millions of people engaged in forest-related livelihood activities at all levels. For this reason, good forest governance is essential to protect people’s livelihoods and improve their well-being, and to protect them from the consequences of illegal logging and unauthorised removals of forest resources. At a global level, good and pro-poor forest governance faces several challenges. According to Brown *et al.* (2002), these include (i) the nature of the resource that offers multiple benefits to different people with diverse interests, (ii) the nature of property and access rights, and (iii) the value of forest resources (global vs. local values, marketed vs. un-marketed values, values of interest to actors operating at multiple levels of scales and with highly diverging powers, and values subject to illegal exploitation (*Ibid.*: 2). Mehta *et al.* (2001) add to these challenges the ecological, livelihood, knowledge and socio-political uncertainties that may affect people’s use of natural resources. According to Bavinck *et al.* (2005: 28) such uncertainties can make governance processes ‘very troublesome’.

#### *Interactive governance theory*

Focusing on ways to overcome some of the governance uncertainties, Kooiman & Bavinck (2005: 17) define governance as:

‘the whole of public as well as private interactions that are initiated to solve societal problems and create societal opportunities. It includes the formulation and application of principles guiding those interactions and care for institutions that enable them’.

According to Kooiman & Bavinck (*Ibid.*), the most important feature of their governance definition is interaction (see Box 2.2). For this reason, they label their approach to governance ‘the interactive governance approach.’ Three elements stand out in Kooiman and Bavinck’s views of governance as interactions: structure, actors and interaction:

- *Structures* are the frameworks within which actors operate, and which they take into account. They include culture, law, agreements, material and technical possibilities as well as inherited traits (Kooiman & Bavinck 2005: 17).



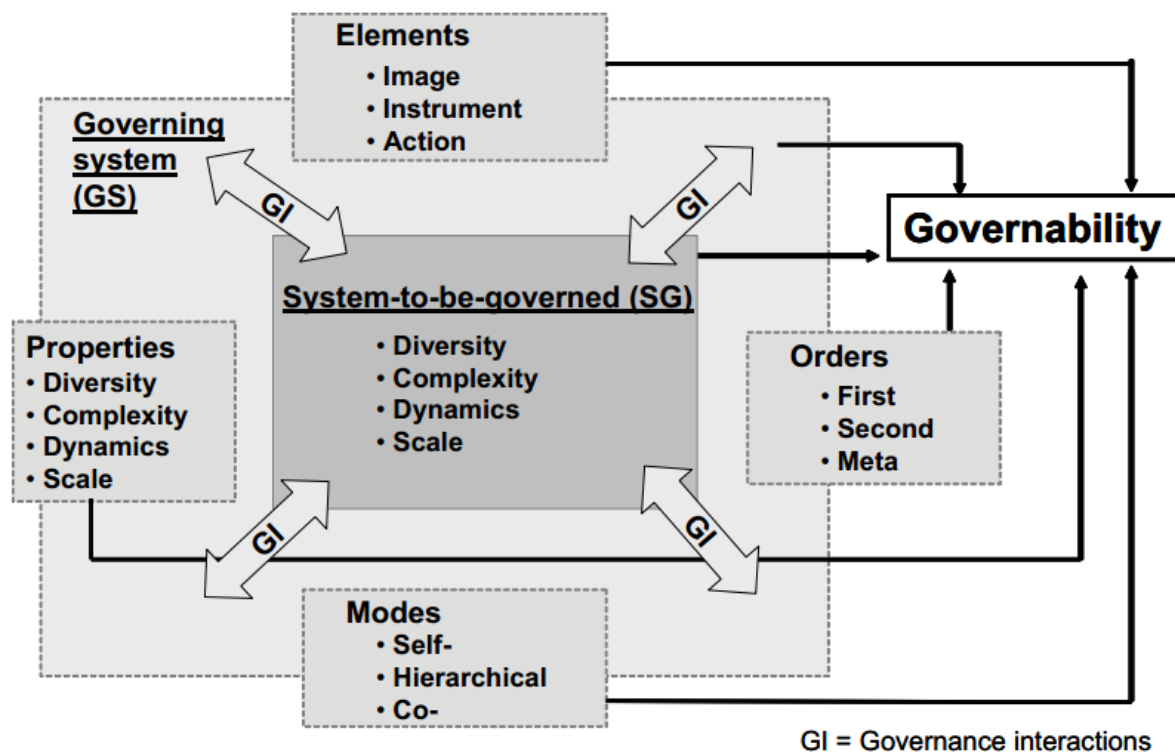
### Box 2.2 Assumptions underlying interactive governance theory

- Governance is the quality of the totality of the interactions between those governing and those governed (Kooiman *et al.* 2005: 19).
- Governing as governance is principle, interactive and multi-stakeholder driven, contrary to traditional views that regard governance as unitary single-minded, top-down and instrumental, therefore reducing governance to governing (Jentoft 2007: 361).
- The goal of governance is to maximise participation and structure it according to democratic principles (Kooiman *et al.* 2005: 19).
- Governability is a property of natural resource systems as a whole, in which natural resource systems are defined as the totality of dynamic interrelations among given entities (Kooiman *et al.* 2005: 342-3).

- *Actors* are social units that possess power of action, including individuals, households, associations, companies, institutions, NGOs, traditional authorities, local communities, leaders, political parties, militant groups, companies, NGOs, and government officials and all national, international and intergovernmental organisations (*Ibid.* : 17).
- *Interaction* is defined as ‘a specific form of action, undertaken by actors in order to remove obstacles and tread new pathways’ (*Ibid.*: 17).

Kooiman & Bavinck (2005: 18) perceive interaction as ‘a mutually influencing relation

Figure 2.3 Components of the interactive governance model and their linkages to governability  
(Source: Chuenpagdee *et al.* 2008: 3)



between two or more actors possessing an intentional and structural dimension'. From a societal perspective Kooiman (1999: 75) distinguishes three kinds of interactions, including (i) '*interferences*' (regarded as uncoordinated, spontaneous interactions) (ii) '*interplays*' (semi-formalised modes of interactions like networks, modes of cooperation, collaboration and group formation), and (iii) '*interventions*' (interactions with a public or semi-public character which are often based on rules and regulations with some juridical imprints). As far as forest management in Ghana is concerned, a blend of these interactions occurs in the governing system, with interplays and interventions being the dominant interaction modes in the formal forest sector (see Chapter 5). As will be seen in Chapter 7, interventions can also occur under the traditional governing structure out of view of state actors when traditional authorities intervene in conflict management.

From the interactive governance perspective, three components of the societal system stand out: the governing system (GS), the system-to-be-governed (SG) and a mediating component, which govern interactions (GI). Together these ensure the so-called governability of the system (Figure 2.3).

According to this theory, the governing system and system-to-be-governed share similar structural attributes: they are diverse, complex, dynamic, and encompass multiple scales (Box 2.3). Using fisheries as an example, the four system characteristics defined by Kooiman & Bavinck (2005: 13-14) and Kooiman (2008: 76) are presented in Box 2.3. In addition to the structural attributes defined in Box 2.3, Jentoft (2007) adds

#### Box 2.3: *System characteristics of interactive governance*

*Diversity*: is a characteristic of the entities that form fisheries systems and points to the nature and degree in which they vary.

*Complexity*: is a function of the architecture of the relations among the parts of a system, and between a system and its environment. This depends on the interactions among the actors and their interdependency. Interactions become lengthening when more actors become involved in a system and/or when the geographical distance between them becomes larger.

*Dynamics*: apply to the tensions within a system and between systems. They create the potential for change, but can have disruptive consequences.

*Scale*: refers to time and space dimensions of systems-to-be-governed as well as to governing systems.

*Sources*: Kooiman & Bavinck (2005: 13-14) and Kooiman (2008: 176)

'vulnerability' to the list, which refers to the fact that the systems-to-be-governed are very vulnerable. He argues in favour of corresponding qualities (or 'demands') for the governing system to overcome these structural attributes while ensuring governability.

Diversity demands that the governing system is sensitive, complexity calls for inclusiveness, dynamics calls for flexibility and vulnerability means the precautionary principle has to be applied.

– The governing system (GS)

Jentoft (2007: 360) describes the governing system as a ‘social and therefore man-made system which is made up of institutions and steering instruments and mechanisms’. Interactive governance theory analyses the governing system in terms of orders, modes and elements of governance (Kooiman *et al.* 2008: 5).

*Orders of governance* are three interrelated levels of governance, with the first order encompassing interactions in day-to-day management ‘to solve societal problems and create societal opportunities’ while the second order refers to ‘the creation and care for institutions that enable the interactions’. The second order takes account of the maintenance and design of institutions (structures, human resources, etc.) necessary to solve problems and create opportunities (i.e. the first order process). The third order refers to the ‘principles guiding those interactions’. This is also known as ‘meta-governance’, which refers to the main normative principles and values that guide first and second orders processes.

The interactive governance framework presented in Figure 2.3 includes what Kooiman & Bavinck (2005) call ‘elements’, which consist of:

- *Images* – which constitute the ‘guiding lights’ as to the how and why of governance and can take many forms such as visions, knowledge and goals.
- *Instruments* – which link images to action and can be ‘soft’ in nature (e.g. information, bribe or peer pressure) or ‘hard’ (e.g. physical force).
- *Actions* – which put the instruments into effect.

According to the authors, all these components are closely connected and not easily distinguishable. Based on research on fisheries, Kooiman & Bavinck (*Ibid.*: 21-22) identify three styles or modes of governance with some styles of governance being more relevant to particular governing systems than others:

- *Self-governance* is a situation in which ‘actors take care of themselves’, largely outside the scope of government;
- *Hierarchical governance* is a style of governing in which the state intervenes and interacts with its citizens in a top-down style. Steering, planning and control are key concepts in this governance mode, which is embedded in instruments such as laws and policies;
- *Co-governance* is a collaborative way of governing in which responsibilities are shared between the State and societal parties with a common purpose in mind. This mode of governance is characterised by horizontal relationships, with no actor being solely in control.

According to Jentoft (2007), the characteristics of the system-to-be-governed determine which mode is most adequate. Some general principles include contextualisation (the more diverse the system-to-be-governed, the more appropriate self-governance), coordination (the more complex, the more appropriate the co-governing mode), learning (the more dynamic, the more effective the co-governing mode) and safeguarding (the more vulnerable, the more adequate the hierarchical mode). In practice, several modes of governance co-exist (Kooiman & Bavinck 2005: 22).

Despite being specific about properties, orders, elements and modes of governance, interactive governance theory is less specific about the actors in the governing system. This study regards the actors involved in forest governance as being all those that have roles, responsibilities and interests in forest resources. They include all individuals and organisations involved in (a) decision making regarding the allocation and regulation of forest and tree resources, (b) the implementation and enforcement of rules and regula-

tions regarding forest and tree resource use, (c) forest and tree resource use and/or management, (d) forest and tree resource conflicts and/or (e) forest and tree conflict management. To arrange actors and their interactions, a common distinction is made between the state, market and communities (Lemos & Agrawal 2006, Kooiman & Bavink 2005). Lemos & Agrawal (2006: 310) refer to these as social mechanisms or systems, and highlight the partnerships between them. Ros-Tonen *et al.* (2008) add civil society coalitions and NGO-community partnerships to the picture, taking account of civil society actors at levels of scale higher than the community level. Considering the transitional nature of the Ghanaian governance process, a number of actors do not fit neatly into one specific category. Most previous studies on actors in the Ghanaian forest sector have placed actors under either the state, civil society or the private sector or categorised them at different stakeholder levels such as primary, secondary and tertiary depending on their roles and dependency on the forest resources (Mayers & Kotey 1996, Kotey *et al.* 1998). This study proposes filling the gap in interactive governance theory by arranging actors in six main governing structures: (i) actors in the formal/statutory governing structure, (ii) actors in the traditional or customary governing structure, (iii) actors in the market governing structure, (iv) actors in the civil society governing structure, (v) actors in the hybrid governing structure, and (vi) actors in the transnational governing structure. This categorisation, presented in Figure 2.4, guides the actor analysis presented in the rest of the chapters. This is elaborated in more detail for Ghana as a whole in Chapter 5 and for the local level at which the four case studies are situated in Chapters 7-10.

– The system-to-be-governed (SG)

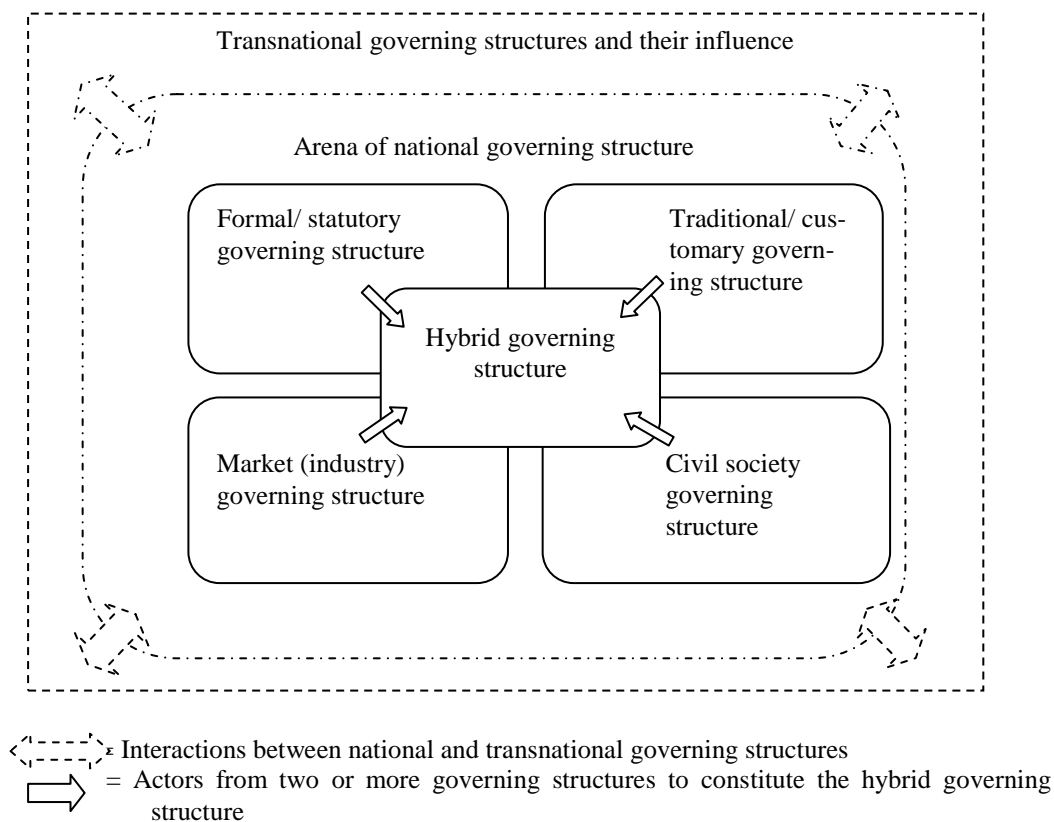
Chuenpagdee & Jentoft (2009) distinguish between two sub-systems within the SG, namely the natural and socioeconomic systems. The natural system refers to an ecosystem and the resources it contains, whereas the socioeconomic system encompasses resource users and stakeholders that form political alliances and institutions (Jentoft 2007). Like the governing system, the system-to-be-governed is characterised by diversity, complexity and dynamics because of the linkages and interdependencies among its components (Kooiman *et al.* 2008). These system characteristics can manifest themselves at different levels of geographical and temporal

scale (Kooiman 2008). Chapter 4 of this thesis analyses Ghana's high forest zone as the key natural system that is the subject of this study. As regards diversity it examines different ecological zones and biological diversity, while complexity is assessed in terms of different management regimes. As far as scale is concerned, Chapter 4 considers the different ecological subsystems. Dynamics are analysed in terms of deforestation and reforestation. Similarly, the socioeconomic system, which is made up of resource users and stakeholders, is analysed in terms of diversity (in terms of actor composition, diverging interests and different roles in the forest governance system), complexity (in terms of resource rights, use and power constellations), dynamics (in terms of interactions) and scale (in terms of the geographical scales at which actors are operating). Actors in the various governing structures (Figure 2.4) are discussed in Chapter 5 under the governing system.

– Governance interactions (GI)

In interactive governance theory, the governance interactions encompass the relationships between the governing system and the system-to-be-governed. They constitute the

Figure 2.4 The governing structure framework for Ghana's forest sector (adapted from Ros-Tonen *et al.* 2010)



basic element of governance. The outcomes of these interactions determine the degree of governability of the system. Kooiman (2008: 173) argues that the governors, the governed and the interactions between them all contribute to the governability of the system, as do all kinds of external influences. Kooiman *et al.* (2008) perceive governance interactions from the actor perspective and examine concepts like participatory, collaborative and policy or management interactions. The authors also observe governance interactions from a structural perspective as self-governance, co-governance and hierarchical governance. The governance interactions take place in two directions: actors in the system-to-be-governed try to influence the governing system, whereas actors in the governing system impact on the system-to-be-governed. Considering the properties of the system-to-be-governed and the governing system, the governance interactions need to address diversity, complexity and dynamics.

#### – Governability and the system components

The core of the interactive governance approach is an understanding of governability. Kooiman (2008: 173) defines the concept of governability as ‘the overall capacity for governance of any societal entity or system’. The inherent characteristics of the system-to-be-governed and the governing system as well as the governance interactions challenge their governability. Chuenpagdee & Jentoft (2009) explain that systems which are more diverse, dynamic and complex and which involve multiple spatial and temporal scales are more difficult to govern. This gives a clear indication of the limitations of governance, which can be overcome by paying specific attention to each of the three components of governance, namely the system-to-be-governed, the governing system

and the governance interaction. Jentoft (2007: 367) asserts that ‘interactive governance theory provides three opportunities to make a system more governable or increase its governability’. First, the governing system can be empowered if governors are given additional mandates accompanied by legal instruments, financial and intellectual resources (*Ibid.*). Second, within the system-to-be-governed the governability could be enhanced if efforts are made to make them less diverse, complex, dynamic and vulnerable for easy management and control (*Ibid.*). Third, the interaction between the two systems must become more interactive, more constructive and cost-effective (*Ibid.*). Furthermore, Bavinck *et al.* (2005: 49) also propose three ‘ways forward’ to enhance governability in fisheries. These include (i) widely understood values and principles, formulated in a vision, (ii) inclusion of all actor groups and shared responsibilities to enhance governance legitimacy and effectiveness, and (iii) a learning and adaptive approach to cope with uncertainty and change.

Analytically, a governability assessment framework or matrix provides a tool to evaluate governance ‘by posing questions dissecting the key variables that help understand how and why governance implementation falls short of achieving desirable outcomes’ (Chuenpagdee & Jentoft 2009: 113). Governance interactions are analysed with a view to assessing governability, which is understood as being ‘the overall capacity for governance’ (Kooiman 2003 cited in Chuenpagdee & Jentoft 2009: 112). Chuenpagdee & Jentoft (2009: 114) and Chuenpagdee *et al.* (2008: 4) present a governability assessment framework that considers the three governance components and their governability criteria. It is replicated in an adapted form in Table 2.3.

*Table 2.3* A governability assessment framework

Governance component	Governability criteria
System-to-be-governed (SG)	- Prevalence of properties ( <i>i.e.</i> diversity, complexity, dynamics and scale)
Governing system (GS)	- Goodness of fit of elements ( <i>i.e.</i> images, instruments and actions) - Responsiveness of modes ( <i>i.e.</i> self, co- and hierarchical ) - Performance of orders ( <i>i.e.</i> first, second and meta)
Governance interactions (GI)	- Presence of interactions

*Source:* Chuenpagdee *et al.* (2008: 4).

The next section shows how this approach has been integrated in the conceptual framework of this study.

#### *Linkages of governance with other collaborative concepts*

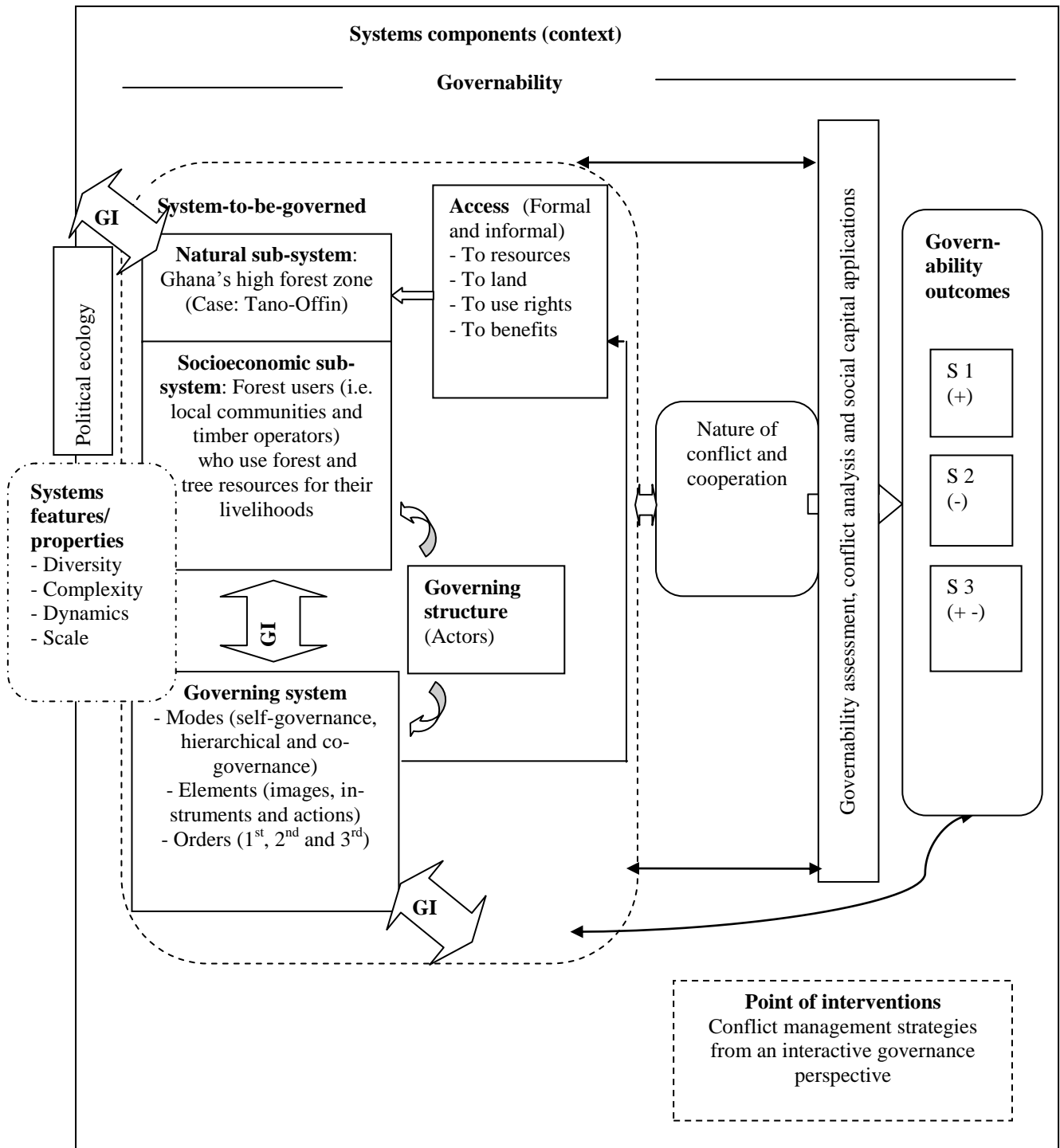
Several concepts considered in this thesis are linked and relevant to (interactive) governance. These are co-management, adaptive management and social capital (see Chapter 8). Borrini-Feyerabend *et al.* (2000: 7) describes co-management as ‘a situation in which two or more social actors negotiate, define, and guarantee amongst themselves an equitable sharing of the management functions, entitlements and responsibilities for a given territory or set of natural resources but does not only depend on power sharing’. This definition has similarities with co-governance as defined by Kooiman & Bavinck (2005: 22) who perceive co-management as one of the manifestations of co-governance. This is one of many other definitions, which have in common that they consider co-management as (i) natural resource management (ii) a partnership between public and private actors, and (iii) a continuous problem-solving process rather than a fixed state (Carlsson & Berkes 2005: 67). These authors (*Ibid.*: 68) distinguish five images of co-management, including co-management as an exchange system of goods, services and

information, as a joint organisation or formalised arena for cooperation, as a state-nested system in which resource users manage natural resources on state-owned land, as a community-nested system in which the State operates in a non-public sphere (*e.g.* monitoring the operations of private logging companies), and as a network. The latter image recognises that both resource users and the state are fragmented and have many faces and that it is the total of the relationships that make up the co-management system (Carlsson 2000, Carlsson & Berkes 2005). In later work (Berkes 2009), these multiple faces of co-management are described as (i) power sharing, (ii) institution building, (iii) trust and social capital, (iv) process, (v) problem solving, and (vi) governance. This brings the co-management concept close to the governance concept, as in Singleton's (1998: 7) definition of co-management as 'the term given to governance systems that combine state control with local, decentralized decision making and accountability and which, ideally, combine the strengths and mitigate the weaknesses of each'. Like governance, co-management looks beyond government, towards public-private-civil society partnerships, and as a way of dealing with the shortcomings of single agency and top-down management (Kooiman 2003, Borrini-Feyerabend *et al.* 2000).

Adaptive management or 'learning-by-doing' is a management approach that acknowledges the lack of unequivocal and definitive knowledge of the ways in which ecosystems work, and the uncertainty that dominates our interaction with them (Borrini-Feyerabend *et al.* 2000: 11). It fits in with current resilience thinking about the co-evolution of humans and ecosystems in social-ecological systems that unpredictably oscillate between multiple 'stability domains' (Holling 1973, Gunderson 1999). Adaptive management and co-management have been evolving towards a common ground because 'maturing co-management arrangements become adaptive co-management in time, through successive rounds of learning-by-doing' (Berkes 2009: 1699).

The concept of social capital has also been used in literature on natural resource and environmental governance (see Pretty & Ward 2001, Trimble & Berkes, 2010). Various definitions exist for social capital. However, the central tenet of the concept is that 'interaction' between or among individuals or institutions is bonded by trust, reciprocity, common rules, norms and networks among other features developed in an iterative process (Woolcock & Narayan 2002, Pretty & Ward 2001). This general principle of social capital aligns with interactive governance theory through the concept of 'interaction' (between stakeholders in the system-to-be-governed, between governing actors and between the governing system and the system-to-be-governed (Kooiman *et al.* 2005). In interactive governance theory, these interactions are analysed with a view to assessing governability, which is the overall capacity for governance aimed at finding solutions for societal problems and creating opportunities. If the 'societal goal' is the sustainable management of natural resources, this comes close to the focus in studies that relate social capital to environmental governance. Analysing the interactions between stakeholders in the system-to-be-governed in terms of social capital reveals a synergy between interactive governance theory and the social capital framework (Trimble & Berkes 2010). The details can be found in Chapter 10 which examines a case of social capital construction between a timber operator and local community in the

Figure 2.5 Conceptual framework to understand forest and tree resource conflicts and conflict management strategies from an interactive governance perspective



Keys: GI = Governance interactions; S1 (+) = Scenario 1 where the system is governable; S2 (-) = Scenario 2 where the system is not governable, and S3 (+-) = where the system is governable but with limitations.



Tano-Offin off-reserve forest. The indication is that conflicts can be minimised by cooperation based on the construction of social capital, such as networking, shared responsibility, and provision of incentives, social ties and trust by the timber contractor reciprocated by local people.

### Conceptual framework: Linking forest-based livelihoods, conflicts and interactive governance

The above review of literature made it clear that, first and foremost, forest and tree resources play an essential role in people's livelihoods. However, forest resources are subject to excessive exploitation, resulting from a combination of increasing population pressure and competing claims from stakeholders with different interests, needs, goals and power. Such competing and conflicting interactions often result in conflicts. Conflicts have been shown to have two sides. On the one hand they can be destructive, and have disrupting effects on people's livelihoods and the resource base. On the other hand they can be constructive, in which case a conflict brings a solution to injustices or inequities in the distribution of resource access and benefits. The challenge to resource users is how to balance these two facets.

Secondly, as conflicts are inherent in interactions related to natural resources, and hence natural resource governance, different conflict analysis tools have been designed to help minimise these conflicts. Several conflict analysis tools, such as the conflict wheel, have been developed to analyse conflict as a first step towards their solution. However, considering the multifarious driving factors underlying natural resource conflicts, a tool like this alone will not be effective when it comes to managing conflicts. A conceptual scheme is therefore presented (Figure 2.5) that integrates interactive governance theory and conflict analysis as a basis for understanding forest conflicts and conflict management strategies, for assessing the governability of these systems, and for formulating possible interventions. In a case study in which cooperation rather than conflicts occurred, interactive governance theory is blended with aspects of theories on social capital to understand the factors that facilitated the cooperation. Interactive governance theory was selected for three reasons which are (i) its wide analytical application in fisheries, (ii) its compatibility with political ecology that focuses on the politics of the interaction between humans and nature, and (iii) because it enables one to analyse problems and opportunities from a system perspective, in which each part of the system and the interactions between the parts are thoroughly explored before prescribing interventions.

Figure 2.5 shows the interactive governance framework and its three components (the system-to-be-governed, the governing system and the governance interactions) and their inherent system features. In this figure, the system-to-be-governed is Ghana's high forest zone, encompassing the natural sub-system and the socio-economic sub-system. The latter represents local communities and timber operators as the main resource users of interest. The other actors are analysed as part of the governing system and are those who have policy, management and law enforcement roles. The governing system in the conceptual scheme is characterised by system properties (diversity, complexity, dynamics, scale), elements, orders and modes of governance) that influence actor's access (formal and informal) to forest resources, land, benefits and use and entry rights. The outcomes of interactions between the system-to-be-governed and the governing system, as well as among resource users, can result in cooperation/collaboration, con-

flict/competition or a mixture of these depending on the prevailing governing system, the state of the natural system and the interactions within the socioeconomic sub-system. For an in-depth understanding of the nature of conflicts and conflict management strategies under various governance arrangements, conflict analysis is mixed with the governability framework and elements of social capital theories to explore cooperation and its implications on the governance system as a whole.

Based on this conceptual framework, it is hypothesised that there are three possible governability outcomes as shown in Figure 2.5. Scenario 1 gives a positive outcome, which implies that the system is governable and that one can sense an atmosphere of cooperation or collaboration or even competition, but without conflicts. This also implies that the interaction between the system-to-be-governed and the governing system is mutually responsive. Such a scenario does not often occur in reality, especially in the natural resource arena where different kinds of actors operating at different spatial scales compete for limited resources and where policies restrict access rights for some actors and other limitations occur, as will be shown in the empirical chapters.

However, it is regarded as the ideal situation that interactive governance theory is looking for and one in which mechanisms and instruments are well formulated, policy becomes a learning process and actors are actively involved in the governance process.

Under Scenario 2 the system is not governable, as might be indicated by social unrest or complete resource degradation and lawlessness. Such a scenario could happen in practice and may call for a complete reform or a new innovation, but did not apply to any of the cases analysed in this study. The last scenario occurs where the system is governable, but with limitations. Governability is challenged in that the interactions between components of these systems may not be mutually responsive. This confirms the statement by Jentoft (2007: 362) that 'conflict is a permanent feature of the governing system which makes it inherently instable and dynamic and thus a challenge to handle from a governability perspective'. Nonetheless, conflict theorists who see conflict as a tool for positive social change believe that such a limitation can be overcome. The components of the systems (either the system-to-be-governed, governing system or governance interactions) may face limitations, in which case improving the system by the amendment of legislations or by improving actor participation or the natural system to meet the demands of users may improve the system. This is indicated by positive and negative signs.

This conceptual scheme provided a basis for data collection and analysis of the governing system, the system-to-be-governed, as well as the governing interactions in the subsequent chapters. In addition, the elements – images, instruments and actions (Kooiman *et al.* 2005) – are blended with the conflict wheel developed by Mason & Rychard (2005) for a more in-depth understanding of the nature of prevailing conflicts and conflict management strategies (see Chapters 6-9 and 11) and the case of cooperation analysed in Chapter 10. The natural sub-system, the socio-economic sub-system and the governing system of Ghana's high forest zone and their inherent characteristics are analysed in Chapters 4 and 5 of this thesis. This forms the context for the analysis of the cases in subsequent chapters. In Chapter 6, interactive governance theory is combined with the conflict wheel to understand conflict issues, actors, causes, dynamics and prevailing conflict management strategies in Ghana's high forest zone from the perspectives of forest governors and experts.

For the three case studies in the Tano-Offin forest reserve (Chapters 7-9) the governability framework is combined with the conflict wheel to understand (i) the governance

arrangements and their challenges and opportunities in each of the forest management regimes (i.e. protection, plantation and production) and (ii) the nature of conflicts and conflict management from the perspective of the local people. The latter is analysed in terms of images, instruments and actions. Chapter 10 presents a case of cooperation in the off-reserve area, in which the governability framework is integrated with elements of theories on social capital to understand factors that promoted such cooperation. The last case in Chapter 11 employs only the governability framework to analyse documented forest offences, judiciary judgements on forest offences and the perceptions of staff of forest law enforcement agencies (i.e. the FC, Police and Judiciary) on law enforcement based on images, instruments and actions.

## Conclusion

This chapter presented the theoretical and conceptual framework that guides the analysis in this study. From an overall political ecology and forest-based livelihoods perspective, a combination of interactive governance theory and conflict analysis tools is used, in particular, to unearth forest conflict and conflict management in order to identify gaps for interventions. Conflicts are ubiquitous in natural resource management and the absence of adequate mechanisms to minimise them poses many challenges to the ongoing forest governance process as well as to sustainable livelihoods. This can be explained by the fact that the system-to-be-governed is generally characterised by diversity, complexity and dynamics and that multiple actors are operating at different levels of scale. An effective governance system would therefore mean that all key actors (those pertaining to the statutory, customary, market, civil society and hybrid governing structures) must be able to cooperate through consensus or compromise in a way that common needs and conflicting issues can be effectively addressed. The proposed combination of conflict analysis and interactive governance approaches is a first step in identifying the problems that hinder collective action and sustainable forest management.

## Research design and methodology

### Introduction

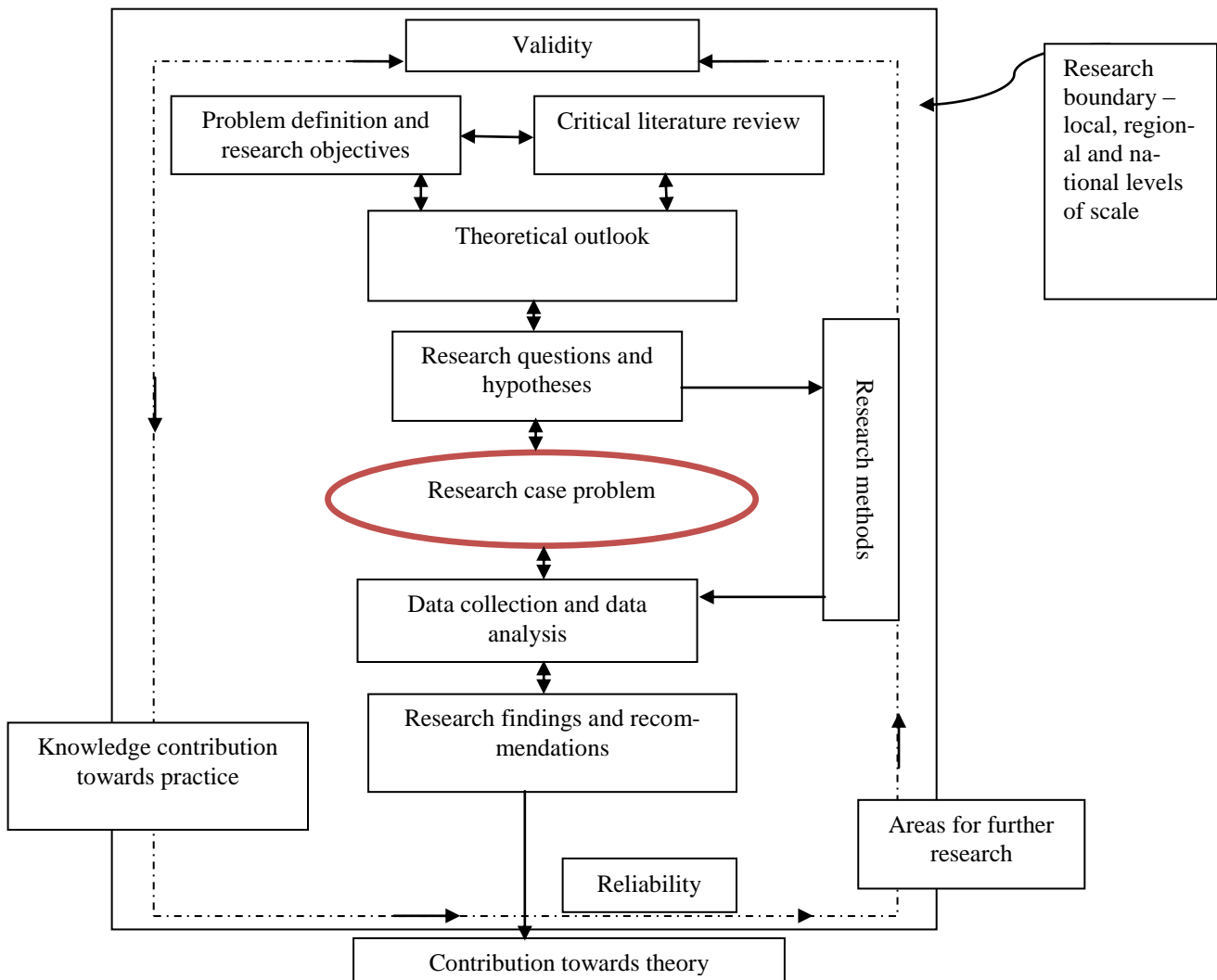
This chapter provides an overview of the research design and methods that guided data collection and analysis. The next section describes the research design, highlighting the rationale for selecting a case study approach and justifying the selection of the study areas, units of analysis and sampling methods. After that, the data collection methods and sources are examined, issues of validity and reliability addressed and limitations and ethical considerations of the research presented. Finally, the chapter deals with the techniques used for data analysis.

### Research design

‘Research design’ refers to the underlying plan or protocol for carrying out the research (Maxwell 2005: 2). It encompasses (i) the justification of research objectives and questions (discussed in Chapter 1), (ii) the conceptual framework and underlying theories (addressed in Chapter 2), (iii) the rationale that underpins the study design, (iv) the rationale that underpins the choices as regards participants, time and places of data collection, and (v) concerns related to validity and reliability (Maxwell 2005).

According to Trochim (2006) the research design joins the various parts of the research in order to address the central research question (see Figure 3.1). In order to enable a holistic and in-depth investigation (Orum *et al.* 1991) of representative conflict situations regarding forest and tree resources and of conflict management strategies in Ghana’s high forest zone, this study combined a case study approach with a mixed methods approach (i.e. a combination of quantitative and qualitative methods). These instruments guided the analyses of (i) the challenges and opportunities in forest governance processes, (ii) the nature of conflict and conflict management strategies (i.e. issues, actors, causes, dynamics and prevailing strategies), and (iii) the options of identifying constructive conflict management strategies and governance mechanisms to minimise forest conflicts and improve forest governance process in the sector.

Figure 3.1 The research design process for a case study approach in applied research



#### *The rationale for selecting a case study approach*

A case study approach is capable of providing in-depth knowledge and insights for informed decision making. It facilitates an understanding of a complex, interdependent and dynamic social phenomenon like natural resource conflicts, in which multiple actors compete for scarce resources. Yin (1984: 23) defines a case study as ‘... an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.’

Several authors outline qualities of a case study approach that are particularly relevant to this study. First, in terms of the research objective, it satisfies the exploratory, descriptive and explanatory interpretation of data (Yin 1994: 4, Tellis 1997: 6).

Second, as a methodology, it is responsive to research questions of ‘why’ and ‘how’ (Tellis 1997: 4), and also covers both process and outcomes because of the use of both quantitative and qualitative data (*Ibid.*: 4).

Third, case studies provide the platform for multi-perspective analyses during which researchers consider not only the views of actors but also the interactions between them (*Ibid.*: 5).

Finally, its ability to accommodate a variety of research designs, data collection techniques, epistemological orientations and disciplinary perspectives makes it particularly relevant to any analysis of such a complex subject as forest and tree resource conflicts.

Forest conflicts are complex and related to issues like institutional failures, inadequate and inefficient punitive conflict management mechanisms, lapses in governance processes, the multiple interests of parties in the sector, declining forest resources, inequitable benefit sharing, poverty in rural areas, land scarcity etc. as in the context of agriculture, mining and herding (Buckler & Rusnak 1999, Tyler 1999, Warner 2000, Ohene-Gyan 2004, Yasmi 2010, Ros-Tonen *et al.* 2010, see also Chapter 2). Understanding and analysing such complexities, diversity and interdependencies in space and time requires the study of several specific cases and various sources of evidence and perspectives of the situation.

Despite the limitations of a case study approach in terms of generalising research findings, there is a counter-argument that generalisation of case study findings is legitimate based on the researcher's understanding of the issue. Tellis (1997: 5) believes that the generalisation problem can be overcome by triangulating the study with other methods in order to confirm the validity of the process. Yin (2003) also indicated that results from case studies could be generalised through theory and by employing multiple case studies in order to strengthen or broaden analytical generalisations.

A mixed method approach was used in order to triangulate quantitative data obtained from structured and semi-structured survey questionnaires with actors' perceptions of conflict issues and dynamics. Qualitative data was obtained by employing research methods like focus group discussions, community meetings and stakeholder workshops, structured and semi-structured interviews, field observations and document analysis.

#### *Justification of the selection of study sites*

Though small in terms of size compared to the savannah zone, the cases were selected from Ghana's high forest zone as it is the area where most of Ghana's forests can be found and where most conflicts and illegalities occur with regard to the utilisation and management of forest and tree resources.

Among the 204 forest reserves in Ghana's high forest zone, cases were selected from the Tano-Offin forest reserve because, first, it is a reserve area designated simultaneously for the protection, production and plantation regimes, whereas off-reserve areas can be found in its surroundings where timber utilization contracts have been issued. Second, it is a reserve area where most forest and tree-based livelihoods can be found, including the modified taungya system, non-timber forest product (NTFP) and fuelwood extraction based on communal rights and on permits for commercial collection, logging based on timber utilisation contracts and illegal chainsaw lumbering and farming. Third, the inventory stage of the research revealed a considerable number of forest conflicts in this area, whereas little or no research had been done on the subject matter. Secondary considerations that influenced the selection of this forest reserve included distance and accessibility with regard to undertaking fieldwork within the limited timeframe for the completion of the research, and the possibility of linking up with other Tropenbos International Ghana researchers (notably Thomas Insaadoo) in order to enable the exchange

of relevant information. A detailed description of the study area as a whole (i.e. the high forest zone and its environs, see Figure 1.1) is given in Chapter 4, where the area is analysed as ‘the system-to-be-governed’. In addition, each subsequent chapter briefly describes the specific study site that is subject to analysis in that chapter.

The Tano-Offin forest reserve falls under two administrative districts, namely Atwima Mponua and Ahafo-Ano South, which represent the southern and northern portions of the reserve respectively. Forty-two communities border the reserve, including the ‘admitted’ village<sup>1</sup> of Kyekyewere, which is located inside the reserve. Three communities from Atwima Mponua administrative district and one from Ahafo Ano South administrative district were selected as case study sites for an in-depth analysis of conflicts over forest resources and conflict management strategies at local forest governance level. Their selection was primarily based on the prevailing management regime to ensure that it was representative of each of the four management regimes – protection, plantations, production and off-reserve area (see Table 3.1 and Figure 3.2). Secondary selection criteria related to location and accessibility. Kyekyewere was the only village located in a strictly protected area and was selected for that reason. Chirayaso and Nyamebekyere No. 3 were selected because of their active involvement in the modified taungya system (plantation regime) and ongoing timber harvesting (production regime) in which the inhabitants had to encounter timber contractors in negotiating social responsibility agreements and compensation for crop destruction in off-reserve areas. Awisasu was selected because a timber contractor was active in the off-reserve area at the time of data collection (2009). All these selections were made with assistance from the FSD range supervisors.

*Table 3.1* Study communities selected in accordance with the management regimes

Forest reserve	Study community	Administrative district	Forest management regime
Tano-Offin	Kyekyewere	AtwimaMponua	Protected management regime – GSBA <sup>a</sup>
	Chirayaso and Nyamebekyere No. 3	AtwimaMponua and AhafoAno South	Plantation management regime – the modified taungya system
	Chirayaso and Nyamebekyere No. 3	AtwimaMponua and AhafoAno South	Production management regime
	Awisasu	AtwimaMponua	Tano-Offin off-reserve area

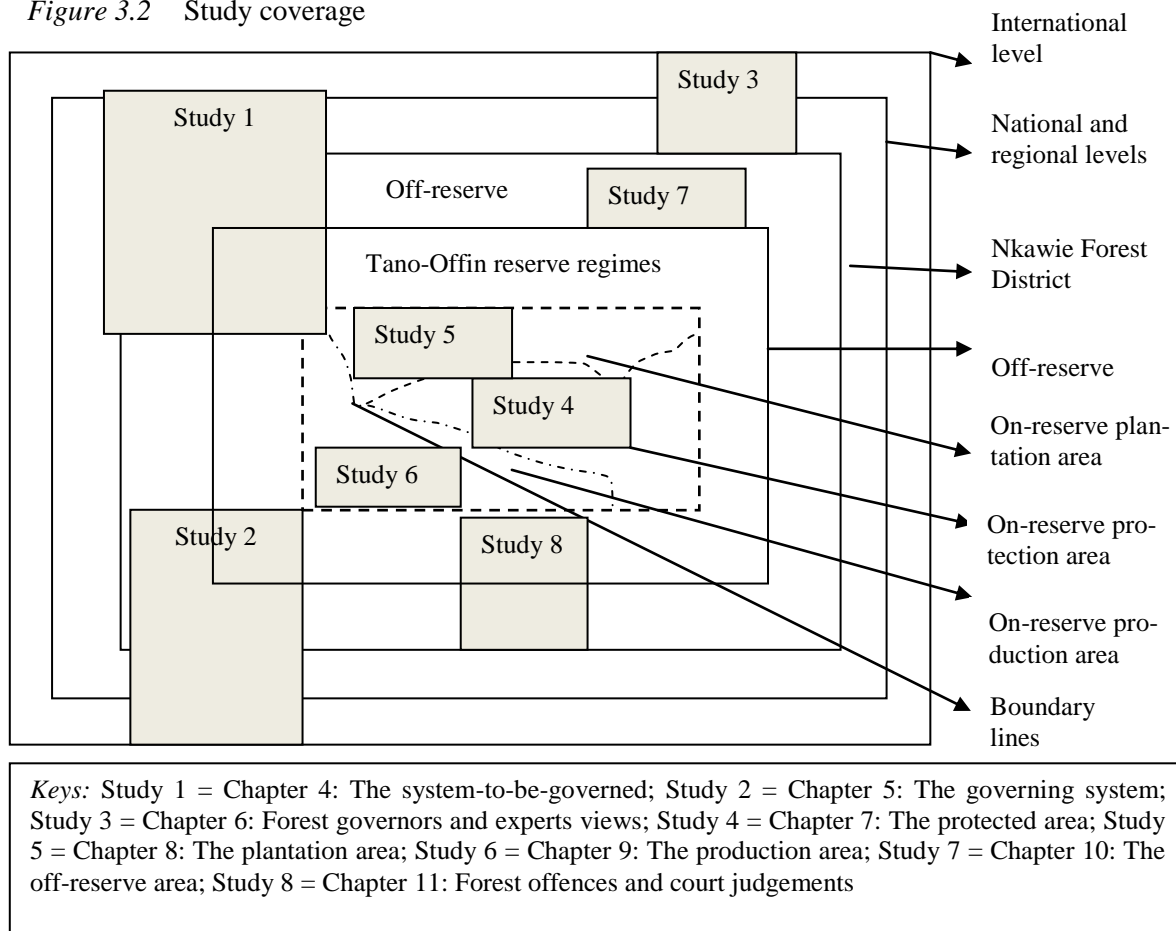
<sup>a</sup>GSBA = Globally Significant Biodiversity Area.

### *Units of analysis*

The unit of analysis is the major entity analysed in a study. Trochim (2006) outlines five key units that may be analysed, including individuals, groups, artefacts (books, photos, and newspapers), geographical units (town, census tract, state) and social interactions (e.g. divorces and arrests). This study employed three main units of analysis:

<sup>1</sup> Admitted villages refer to the rights of people who had their village in the reserve area before its designation as a reserve to continue inhabiting the designated areas. Similarly, the law recognises admitted farms in forest reserves to preserve the right to farm.

Figure 3.2 Study coverage



1. In terms of geographical unit, data was collected and analysed at (a) the sub-national level of Ghana's high forest zone and (b) district and village levels in both on and off-reserve forest areas.
2. In terms of actors, data was collected at individual level with analysis being based on actors' perspectives.
3. In terms of social interactions, the units of analysis were conflicts over forests and tree resources, conflict management strategies and forest governance arrangements.

#### *Sampling methods*

Eisenhardt (1989) states that the issue of population is extremely crucial when selecting cases because the population defines the set of entities from which the research sample is to be drawn. The selection of appropriate population controls and extraneous variation helps to define the limits for generalising findings. The population of interest for this study were actors involved in forest and tree use and management in Ghana's high forest zone, more specifically actors that engage in conflicts and manage conflict incidences related to forest and tree resources at community, district, regional and national levels.

The selection of respondents for the study was based on the actor analysis discussed in Chapter 2.



– Respondents representing the traditional or customary governing structure

The communities around the Tano-Offin forest reserve were first arranged into groups from the northern and the southern zone in accordance with their location in the two administrative districts. Community consultations began in November 2008 and involved two representatives each from the 42 communities across the Ahafo Ano South and Atwima Mponua districts which are in the northern and southern parts of Tano-Offin reserve respectively. With assistance from the Forest Services Division range supervisors in charge of the reserve, respondents were purposively selected from the following stakeholder groupings: farmers engaged in the modified taungya system (MTS), NTFP collectors, chainsaw operators, traditional authorities, farmers with planted/nurtured trees on farmlands, members of community forest committees (CFCs), community biodiversity advisory groups (CBAGs), and community members who have had experienced forest conflicts with internal or external actors. In order to minimise biases, the selection was made by the community elders in the presence of the research assistants who were familiar with all the villages. Furthermore, care was taken to ensure that the selected respondents actually represented the aforementioned stakeholder categories. Gender equity was also ensured.

The respondents in each of the three case study communities in the forest reserve were selected randomly for the survey interviews using a simple random technique without replacement and a sample size ranging from 19-26% of the total adult population in the villages (see specifications for each study earlier in this chapter). During community meetings held prior to the survey, the inhabitants were briefed on the issues to be discussed during the survey. The survey in each community was conducted with the support of four research assistants: three male students from the Kwame Nkrumah University of Science and Technology and a female with an MSc in Water Management. The researcher discussed the survey questionnaire with the research assistants in order to have a common understanding of the issues at stake prior to testing. During the testing, the researcher seized the opportunity to introduce the assistants to the community members. In each of the communities, a maximum of two weeks was spent on administering the questionnaires.

The sampling procedure was different for the population in the off-reserve area, where data was collected through community meetings and focus groups and respondents were purposively selected from farmers with trees on their farm or fallow lands (see Chapter 10). In this location, the researcher led the discussions with the support of two field assistants and an FSD range supervisor who took notes of the discussions and helped to conduct interviews with the farmers. In each of the communities, fieldwork was carried out during a maximum of three months, but the time spent in each study location was not continuous since data collection at community level involved a series of approaches including familiarisation visits, consultations with communities' representatives, the survey, interviews and a validation meeting. This enabled continuous reflection on the data gathered before the next step was taken in the data collection process.

Purposive sampling was also used to select the respondents belonging to the categories below. According to Trochim (2006), most sampling methods are purposive in nature because researchers usually approach the sampling problem with a specific plan in mind.

– Respondents representing the market governing structure

Within this framework focus group meetings were held and telephone interviews conducted with four timber contractors operating in Tano-Offin and its environs. An interview was also held with an official of the Ghana Timber Association (GTA) based in Kumasi.

– Respondents representing the statutory governing structure

Forest governors and experts were purposively selected for the studies presented in Chapters 5 and 6. Forest governors are defined in this study as actors in the formal forest sector mandated to formulate policies and implementation of policy strategies in Ghana. Those considered as experts were representatives of governmental, non-governmental institutions and individuals who have a role or stake in forest and tree management in Ghana. Among the key actors involved in this study were representatives of the mandated institutions such as (i) the Ministry of Lands and Natural Resources (MLNR), (ii) the Forestry Commission (national level), (iii) the Forest Services Division (FSD), (iv) the Wildlife Division and (v) the Resource Management Support Centre (see Chapter 5, Figure 5.1 for an organogram explaining how these organisations relate to each other). Other institutions involved in this study are those at local government level that are engaged in law enforcement and prosecution, land use and research, such as the Judiciary, the Ghana Police Service, the Ministry of Food and Agriculture (MOFA), the Lands Valuation Division and the Faculty of Renewable Natural Resources at Kwame Nkrumah University of Science and Technology (KNUST) (see Chapter 5 for a more detailed analysis of the statutory governing structure).

– The civil society governing structure

Some staff of non-governmental organisations (local and international) based in Ghana were involved in the study through interviews, survey and a consultative workshop. Among them are Tropenbos International Ghana, the International Network of Bamboo and Rattan (INBAR), the International Union for the Conservation of Nature (IUCN) and the Rural Development Youth Association (RUDEYA).

– The hybrid governing structure

Under this structure, representatives of two institutions at national level – the Community Resource Management Area (CREMA) and the National Forest Forum – were purposively selected for this study. The same was done for two hybrid organisations at community level – the Community Biodiversity Advisory Groups (CBAGs) and Community Forestry Committees (CFCs).

– The transnational governing structure

Interviews were held with officials from organisations such as the Royal Netherlands Embassy, the Agriculture Development Bank, German Technical Cooperation (GTZ) and the World Bank, especially with regard to their contributions to Ghana's forest governance process and conflict management.

## Data collection methods and sources

This study employed mixed methods (i.e. quantitative and qualitative methods) with different research techniques in the data collection process, including community meetings, a survey, a self-completion questionnaire, interviews, validation meetings and workshops (see Appendix 1 for the questions guiding the various cases). As stated above, the main rationale for the use of mixed methods research in this study was to obtain a complete and comprehensive picture of forest resource conflicts and conflict management strategies from diverging actor perspectives and to enable triangulation of quantitative data with qualitative data.

Primary data was obtained from the actors discussed in the section on sampling methods. Secondary data came from published and unpublished data sources from local, national and international levels. Most of these sources concern policies, laws and regulations (statutory and customary), conflicts and conflict management, governance arrangements at national levels and actors in the forest sector. Other relevant data sources at the district level included:

- Unreported court judgements related to forest resources offence cases.
- Official documents at Nkawie Forest District relating to documented offence cases in the forest reserves and off-reserve areas.

At community level the MTS sites in the villages of Chirayaso and Kunsu Nyamebkyere No. 3 were visited to observe the state of the plantation developments in order to appreciate some of the conflict issues reported by the respondents.

### *Data collection techniques and respondents for each study*

Chapters 4 to 11 are the empirical chapters of this research. Each chapter is a study in its own right with its specific research population, mode of data collection and data analysis. This section presents an overview of the empirical studies in Figure 3.2 and a further elaboration of the thematic issues dealt with in each chapter and the data collection methods on which they are based.

#### – Study 1: The system-to-be-governed (Chapter 4)

Chapter 4 is based on a review of literature, policy documents and internet sources which focused on Ghana's high forest zone and the Tano-Offin forest reserve as the natural sub-system under the system-to-be-governed. Inception meetings with representatives of 42 communities living within and bordering Tano-Offin forest reserve were held in November 2008, for which letters and information were sent to the various communities to invite two representatives each to attend this meeting. In the same month, a meeting with representatives of government institutions (i.e. the FSD, MOFA, Judiciary, District Assemblies and Police) at the Nkawie Forest District was held that, together with the inception meeting with community representatives, contributed to the data on the socio-economic sub-system. This sub-system describes the local communities under the traditional governing structure and actors pertaining to the market governing structure (i.e. Timber Utilisation Contract (TUC) holders, illegal loggers and millers, hunters and traders in plant NTFPs etc.).

#### – Study 2: The governing system (Chapter 5)

The information in this chapter is based on a review of literature and a survey based on interviews and a workshop with forest governors and experts and transnational organisations aimed at obtaining data on their knowledge, views and perceptions of forest

governance and conflict management. This study was carried out in five steps.

First, it drew from secondary data sources which focused on the changing paradigms of forest governance process over the past decades. Second, informal interviews were held with key persons in the Ghanaian forest sector to identify relevant governance issues and, based on these, self-completion semi-structured questionnaires were administered between March and June 2009 to 30 forest governors randomly selected across the formal forest sector in the high forest zone. These involved representatives of the forest managers at district, regional and national level institutions, such as the Ministry of Lands and Natural Resources, the Forest Services Division (FSD) across the five regions and five forest districts in the high forest zone, officials from the Resource Management Support Centre (RMSC) and the Forestry Commission headquarters. Eleven of the 30 respondents returned the questionnaires. These included forest guards, technical officers, district managers and regional managers within the formal sector. The core enquiry was on the nature of conflicts associated with forest and tree-based livelihoods in Ghana's high forest zone, prevailing conflict management strategies and their challenges and potential for improving existing conflict management strategies.

In order to compensate for the low response rate and to ensure triangulation, the third step was the organisation of a dissemination and consensus workshop for forest governors and experts at the Wood Industry Training Centre (WITC) in Kumasi, Ghana, in February 2010 with the support of staff of Tropenbos International Ghana. During this workshop, the results of the survey were presented for discussion and validation. The workshop was attended by 25 experts in professional forestry practices and academia, including representatives of the FSD, RMSC, Kwame Nkrumah University of Science and Technology (KNUST), Tropenbos International (TBI)-Ghana and the International Network for Bamboo and Rattan (INBAR). In August 2010 additional face-to-face interviews were conducted with representatives of the MLNR, FC headquarters, Ghana Timber Association (GTA), Dutch Embassy, GTZ and IUCN, using the same semi-structured questionnaire with a view to increasing the number of respondents and stakeholder representation. Finally, the Forest Investment Project Joint Mission meeting that was held from 30 May to 6 June 2011 was used to expand the number of survey respondents using the self-completion questionnaire. This involved five respondents from the World Bank, African Development Bank, Environmental Protection Agency, the National Forestry Forum and the Community Resource Management Area (CREMA). This increased the number of respondents for the survey and interviews to a total of  $n = 22$ .

– Study 3: Forest governors and experts' views of conflicts and conflict management (Chapter 6)

The study was carried out in four stages which partly overlap with those in Study 2. First, a desk study was carried out and informal interviews were held with key persons in the Ghanaian forest sector to identify relevant issues in conflicts in Ghana's high forest zone. The second and third stages encompass the self-completion semi-structured questionnaires and the dissemination and consensus workshop described above. The participants in the workshop used the opportunity to develop action plans on two key challenging issues identified in the survey findings that hinder constructive conflict management as well as the forest governance process. For this process, the results of which are presented in Chapter 6, the participants were divided into two groups. The first group assessed the potential of re-introducing the forest prosecution system (a system that enables resource managers to be trained in a judicial prosecution course) for

which a SWOT (strength, weakness, opportunity and threat) analysis was carried out and confrontation matrix tools were employed. The second group formulated an integrated conflict management model that could be piloted in the forestry sector. The SWOT analysis technique is credited to Albert Humphrey who led a research project at Stanford University in the 1960s and 1970s using data from leading companies involved in long-range planning processes. It generates information that is helpful in matching the goals, programmes and capacities of an organisation or group to the social environment in which it operates.<sup>2</sup> The confrontation matrix is a tool which can be used to combine the internal factors (strengths and weaknesses) and the external factors (opportunities and threats) to identify the main points for attention (Kuiper 2006). The fourth step in this study comprised additional face-to-face interviews conducted in August 2010, using the same questionnaire that was previously used as a self-completion form. These additional interviews were held with a view to increasing the number and representation of the study respondents, especially those from the MLNR and the FC headquarters. This increased the number of respondents for the survey and interviews to a total of  $n = 15$ .

– Study 4: The protected forest area (GSBA) (Chapter 7)

Data for this study was collected from September 2008 to February 2010. Secondary data from official documents provided information about the institutional and legislative instruments and strategies used to govern the resources (i.e. the governing system). Community meetings provided an insight into local inhabitants' perceptions of the governing systems operating within the reserve and enabled us to list the number of people to be sampled for the survey. The survey, which was conducted in June-July 2009, involved 119 individuals made up of 70% males and 30% females were selected using a simple random technique without replacement to respond to the semi-structured questionnaire from an adult population of 450. The skewed gender distribution in the study was due to the probability nature of the technique employed and to fewer women being present during the sampling process. The survey issues centred on the socio-economic characteristics of the respondents, types of forest resources that contribute to livelihoods, the nature of conflicts and the prevailing management strategies. In February 2010 a validation meeting was organised with representatives of the admitted village of Kyekyewere to fine-tune the findings.

– Study 5: The plantation area: the modified taungya system (MTS) (Chapter 8)

The study employed mixed data collection methods involving three steps carried out between 2008 and 2011. Step one was a literature review and assessment of legal documents on the MTS. This provided the study context. The second step was a visit to the study villages where meetings were held with the inhabitants to introduce the research concepts and objectives and to visit the MTS sites in the reserve. Based on the familiarisation meetings, the baseline data gathered contributed to the design of the semi-structured questionnaire. Using a survey approach, the semi-structured questionnaires were administered to 212 respondents randomly selected in the two villages in 2010 as shown in Table 3.2.

The survey focused on the socio-economic characteristics of the respondents, the contribution of the MTS to their livelihoods and the prevailing challenges. The respondents were asked about the nature of conflicts in the MTS and conflict management

<sup>2</sup> URL: <http://www.cipd.co.uk/subjects/corprstrtg/general/swot-analysis.htm> (accessed on March 2010).

strategies employed during conflict incidences. The third step involved meetings with 36 and 45 community members respectively in the two villages to validate the survey findings and discuss additional issues related to anticipated conflicts and strategies to overcome them. In view of the anticipated conflicts mentioned, it was considered necessary to hold informal interviews in January 2011 with four officials from the Resource Management Support Centre (RMSC) and the FSD about strategies (planned or already put in place) to minimise some of the conflicts anticipated by the MTS farmers.

*Table 3.2* Estimated adult population, number of respondents in the semi-structured survey and participants in community validation meetings in the study villages in study of MTS

Village	Estimated adult population* (>18 years)	Number of respondents in the survey (N = 212)		Estimated number of people present for validation meeting (n=81)
		Institutional conflict category** (n = 192)	Competing claims conflict category** (n = 20)	Anticipated conflict category**
Kunsu-Nyamebekyere No. 3	240	98	11	45

\* Source: Districts Electoral Commission data, 2010.

\*\* In this study, the respondents identified eleven conflict issues which the researcher grouped into three main categories for easy analysis (see Chapter 8 for more details). Institutional conflicts refer to conflicts within MTS groups and between taungya leaders and farmers (e.g. about disproportional allocation of MTS plots). Competing claims refer to conflicts between MTS farmers and other actors (e.g. hunters and chainsaw operators). Anticipated conflicts are related to uncertainty about the future, notably in relation to the sharing of future timber benefits.

#### – Study 6: The production area (Chapter 9)

Data for this study was collected from September 2008 to February 2010. Secondary data from official documents provided information about the institutional and legislative instruments and strategies used to govern the resources (i.e. the governing system). Community meetings provided insight into local inhabitants' perceptions of the governing systems operating within the reserve area and enabled us to list the number of people to be sampled for the survey. Of the 212 respondents who responded to the questions on the plantation (MTS) area in Study 5, 137 individuals representing 56% males and 44% females also responded to questions regarding production regime conflicts and conflict management (Table 3.3).

The survey issues centred on the socio-economic characteristics of the respondents, types of forest resources that contribute to their livelihoods, the nature of conflicts and prevailing management strategies. In February 2010, a validation meeting was organised with representatives of the two villages to fine-tune the findings.

#### – Study 7: The off-reserve area (Akyikon off-reserverange) (Chapter 10)

Chapter 10 is based on document analysis, a meeting with 45 inhabitants of Awisasu community, a semi-structured questionnaire with 17 farmers and a telephone interview with the timber contractor in 2009. Prior to this, a focus group meeting was held with three off-reserve timber operators in the environs of the Tano-Offin forest reserve in November 2008. The views of the off-reserve issues that emerged from this meeting are also presented in Chapter 10. Another community meeting was conducted in 2010 to validate the findings. Even though there were no conflicts between the timber operator and the farmers, the apparent issue was how much compensation should be paid and

who should mediate during compensation payment negotiations. Informal interviews were therefore organised with officials of the District Forest Services Division, the District Ministry of Food and Agriculture (MOFA) and the Land Valuation Division of the Land Commission of Ghana. The interviews focused on their perceptions of their role in the compensation negotiation process in off-reserve tree management.

*Table 3.3* Estimated adult population, number of respondents in the semi-structured survey and participants in community validation meetings in the study villages in the production area

Village	Estimated adult population* (>18 years)	Number of respondents in the survey (N = 137)		
		Resource-based conflict category (n = 158)**	Operational conflicts within TUC and permit holding areas (n = 37)**	Land-based conflict category (n = 20)**
Chirayaso	770	98	9	6
Kunsu-Nyamebekyere No. 3	240	60	28	14

\* Source: AtwimaMponua and AhafoAno South Districts Electoral Commission data, 2010.

\*\* N=137; respondents were able to answer questions related to more than one issue.

In this study, the respondents identified nine conflict issues which the researcher grouped into three main categories for easy analysis (see Chapter 9 for details). Resource-based conflicts are conflicts on issues such as chainsaw milling, hunting and the gathering of non-timber forest products. Operational conflicts within timber utilisation contract (TUC) and permit holding areas involve log theft and conflicts over the fulfilment of the social responsibility agreement. The land-based conflict category encompasses issues such as illegal farming and boundary disputes.

– Study 8: Forest offences and court judgements (Chapter 11)

Chapter 11 is based on document analyses of forest laws, a compilation of offences from offence records at the Nkawie Forest District from 2005-2010 and a compilation of court judgements on 12 forest cases in the Nkawie, Nyinahin, Mankranso Districts Courts and Kumasi Circuit Court in 2010. Furthermore, data for Chapter 11 is based on semi-structured interviews with 19 officials of the Forestry Commission, Ghana Police Service and the Judiciary mostly at Nkawie Forest District. The questions of enquiry centred on their perceptions of factors that facilitate and hinder effective forest law enforcement and sanctions in the law court.

### *Validity*

According to Trochim (2006), validity is the “best available approximation to the truth of a given proposition, inference, or conclusion”. Hosker (2001) defines it as the ability of the research instruments to gather information on the “concepts it claims to be measuring”. In this study, several steps were taken to ensure construct, external, internal and conclusion validity, which are cumulative. The most important of these were:

Methodological, theoretical and data triangulation by using mixed methods, adapting concepts taken from different disciplines such as interactive governance theory applied to fisheries (Kooiman *et al.* 2005) and conflict theories, and by collecting data from different actors and other relevant sources.

1. Gathering data beyond the direct environs of the Tano-Offin forest reserve and the Nkawie Forest District, in order to ensure that the results of this research could be generalised for the high forest zone as a whole. This was done by interviewing several actors across the high forest zone and actors operating at national level such as policymakers, representatives of international organisations, non-governmental organisations, the judiciary, the police and forest managers.
2. Checking the outcomes of this research against existing data and literature on present forest governance issues such as law enforcement, co-management and social capital.

#### *Reliability*

In its everyday sense, reliability is the ‘consistency’ or ‘repeatability’ of the measures used in the research (Trochim 2006, Hosker 2001). In order to ensure the reliability of this study, the following measures were considered:

1. The respondents for the surveys were randomly selected from the different stakeholder groupings within the communities;
2. The survey questionnaires were piloted in order to ensure that both the researcher, the field assistants and the respondents understood the questions at issue;
3. A transparent description of the research process, primary and secondary data sources, research instruments and institutions involved in the study, so that these are available for future reference or replication of the research in the same or a different area.

#### *Limitations of the research and ethical considerations*

Although this study offers comprehensive analyses of governance arrangements, forest livelihood conflicts and conflict management strategies in Ghana’s high forest zone and its different management regimes from different actor’s perspectives, a few limitations were encountered.

1. Involving an adequate number of respondents from the market governing structure in interviews and participation in the workshop was a challenge because of their busy schedules. Nevertheless, the few who participated contributed immensely to the research issues.
2. Interactive governance theory calls for an in-depth field analysis of the natural subsystem within the system-to-be-governed in order to determine confidently the governability of the system. However, conducting an ecological inventory was beyond the scope of this study, which focuses on forest livelihoods and the conflicts arising from it. Data on the natural system was gathered mostly from ecology literature, policy documents and focus group discussions.
3. Literature indicates that conflict dynamics involves a sequence of stages categorised as ‘violent’ and ‘non-violent’ with various intensity levels (Axtet *al.* 2006, Moore 2003). This study categorised conflict stages as non-violent and violent only, without distinguishing different levels of intensity between them. This is in line with how local people gave meanings to the term ‘conflict’. In the local language, Twi, conflict has two meanings. It is either (i) *ntawatawa*, which indicates a difference in opinion



or misunderstanding, or (ii) *ntokwa*, which is a violent clash or indicates a more severe conflict.

In social research, ethical issues contribute directly to the integrity of the research (Bryman 2008). In this study, four ethical concerns were observed. First, the design of the survey questionnaire clearly spelt out that respondents' consent was needed to participate the research. They were therefore made aware of the purpose of the study and that their participation was completely voluntary. Without raising expectations about potential benefits, respondents were also informed that the study aimed to contribute to minimising forest livelihood conflicts. Second, even though respondents' names were taken for data cross-checking where necessary, these were withheld from the thesis. The names of the forest offenders involved in cases taken from official records and presented in Chapter 11 were replaced with numbers in order to protect the privacy of the accused persons. Third, all the people in the photos presented in this thesis granted consent for the use of their pictures in this book and were informed about the intention to use the pictures for this thesis in advance. Finally, the respondents were informed about the fact that the information provided was strictly confidential, unless otherwise agreed. The findings from this study are therefore presented as aggregate data.

## Data analysis

The data gathered during the survey was analysed in three steps, including data preparation and descriptive statistics. The data preparation involved cleaning, coding and entering answers to closed, open-ended questions and interviews for analysis. The descriptive statistics provided simple frequencies and percentages, and cross-tabulations were also used to investigate the research questions and draw conclusions from them, thereby satisfying conclusion validity. The Statistical Package for Social Sciences (SPSS) and MS Excel was used in this study and there was, undoubtedly, some subjectivity in the grouping of the answers from the open-ended questions. However, the different methods used in this research did provide a high internal consistency.

Workshop and focus group meetings outputs were content analysed to extract respondents' views. A documentary analysis was used to analyse the secondary data gathered and the grey and academic literature. The data analysed has been presented in each of the above-mentioned cases, analysed from interactive governance and conflict theoretical perspectives. These results can be found in Chapters 4 to 11 of this thesis.

## The system-to-be-governed: Ghana's high forest zone

### Introduction

Located centrally on the West African coast, Ghana is a country with a land area of about 23.9 million hectares (ha) and a population of about 24.2 million with an annual growth rate of 2.1% (GSS 2010). The climate is tropical, warm and comparatively dry along the southeast coast with high mean annual precipitation in the south west and with a hot and dry climate in the north of the country.

The forests in Ghana, which are part of the Guinea-Congolean phytogeographical region, cover about 24.2% of the country's total land area. Ecologically the country is divided into a high forest zone to the southwest, accounting for about a third of the land area (about 7.5 million hectares), a savannah zone (14.7 million hectares) mostly in the north, and a transition zone (1.1 million hectares) (ITTO 2006).

Ghana's forest resources are subject to a state property regime, but most of the forestlands are owned by the stool (see Chapter 5), reflecting a dual property regime with respect to the ownership of land<sup>1</sup> and forest resources (Ghana Constitution 1992). The formal timber industry contributes about 6% of Gross Domestic Products and it is the fourth contributor to Ghana's foreign exchange (Marfo 2010). The forest is also the livelihood source of communities living within and around the forest and other resource

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<sup>1</sup> Traditionally land is owned either by an individual or by a group of people (Ollenu 1992). Five land ownership types are described in Ghana: (a) State land refers to land that the government has compulsorily acquired under the State Lands Act 1962, Act 125. Such land is acquired in the interest of the public; (b) Vested land is vested in the state under the Administration of State Lands Act 1962, Act 123, with the state acting as the trustee for the relevant stool; (c) Stool land is vested in the relevant stool on behalf of the community, as represented by the Chief or the Traditional or any other ruler in a fiduciary capacity for his people. Members of the land holding group have usufruct rights equivalent to a freehold. In a practical sense, such land belongs to members of the land-holding group and their interests are secure, inheritable and generally alienable. The alienation of such land by the stool or family requires the consent of the holder of this interest; (d) Family land is vested in a family whose head represents the family; (e) Privately owned land has a freehold interest and can be purchased outright by an individual or group of persons. This type of land invariably reverts to become family land should the owner die intestate (Ollenu 1992).

users. However, access to forest resources, benefits and rights are characterised by conflicts which influence the governance system. In order to explore and assess the governability of the forest system, this and the following chapter explore the context of this study. This is done by using the analytical components of the societal system distinguished in the interactive governance framework (Kooiman *et al.* 2005, 2008, see Chapter 2): the system-to-be-governed (SG) (this chapter) and the governing system (GS) (Chapter 5).

The analysis in this chapter follows the distinction by Chuenpagdee & Jentoft (2009) between two sub-systems within the SG, namely the natural and socioeconomic sub-systems. Both are characterised by diversity, complexity and dynamics, which may manifest themselves at different levels of geographical and temporal scale (Kooiman 2008). These notions guide the analysis of the SG in this chapter.

The overall question this chapter seeks to address is: what are the natural and socio-economic characteristics of Ghana's high forest zone and how do they interact? This central question has been divided into two sub-questions:

1. What is the nature of Ghana's high forest zone in terms of diversity, complexity and dynamics?
2. Which forest users prevail and how do they interact with the natural system?

The chapter is based on a review of literature, policy documents, internet sources, and focus group discussions with representatives of the communities living within and bordering Tano-Offin forest reserve. It also includes the views of representatives of government institutions at the Nkawie Forest District level in the Ghana forest sector (see Chapter 3 for a more extensive explanation of the methodologies used). The chapter provides a wider overview of the study context.

The next section presents the natural system (i.e. Ghana's high forest zone) and the section after that the socio-economic system with a respective focus on the diversity, complexity and dynamics of the system and the interactions between them. Next the governability of the SG is discussed based on a synthesis of the two preceding sections. The conclusions of the chapter are presented at the end.

## The natural system

Ghana's natural landscape comprises two major ecological zones. The southwestern part of the country is the high forest zone, which represents about a third of its land area (approx. 7.5 million ha), while the savannah dominates the north and the east. There are 266 gazetted forest reserves, of which 204<sup>2</sup>, corresponding with 1.6 million ha, are found in the high forest zone and sixty-two covering 0.6 million ha are located in the savannah zone (Abebrese 2002, Agyeman 2010). Forests are categorised into reserved and unreserved forests.

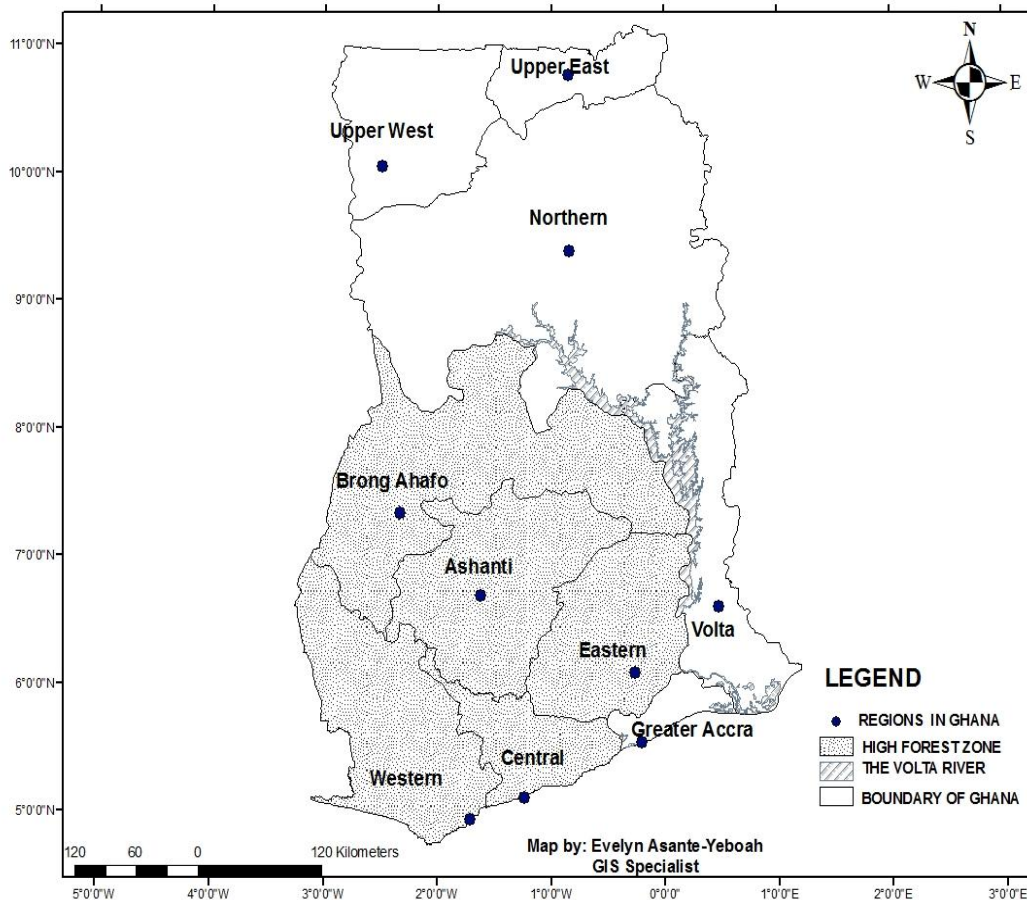
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<sup>2</sup> Information on the number of forest reserves and total area of Ghana's high forest zone differs among various sources. Abebrese (2002) mentions a number of 266 gazetted forest reserves with a total area of 1.22 million ha, 200 of which are located in the high forest zone (1.6 million ha), while Kotey *et al.* (1998) count 214 reserves with a total of 1.634 million ha under the Forest Services Division and 136,000 under the Wildlife Division, totalling 1.77 ha. This thesis follows Agyeman *et al.* (2010) who count 204 reserves in the high forest zone. ITTO (2006) mentions a total area of the high forest zone of 8 million hectares. However, based on the total in Table 4.1 and the estimated off-reserve area this thesis takes the total area of the high forest zone to be about 7.5 million ha.

*The natural system under study: The high forest zone*

Just like any natural system, the high forest zone of Ghana is structurally characterised by diversity, complexity and dynamics. Kooiman & Chuenpagdee (2005: 326) define diversity as ‘qualitative differences within and between interacting social and natural entities, complexity as the multiple relations within and between these entities or actors, and dynamics as tensions within and between their interactions’. In this section, the focus is on diversity and dynamics. Complexity is addressed in the discussion section. Located in the southwest of Ghana (Figure 4.1), the high forest zone covers an area of approximately 7.5 million hectares. It covers five regions which include the Ashanti, Western, Eastern, Brong Ahafo regions and a portion of the Central region.

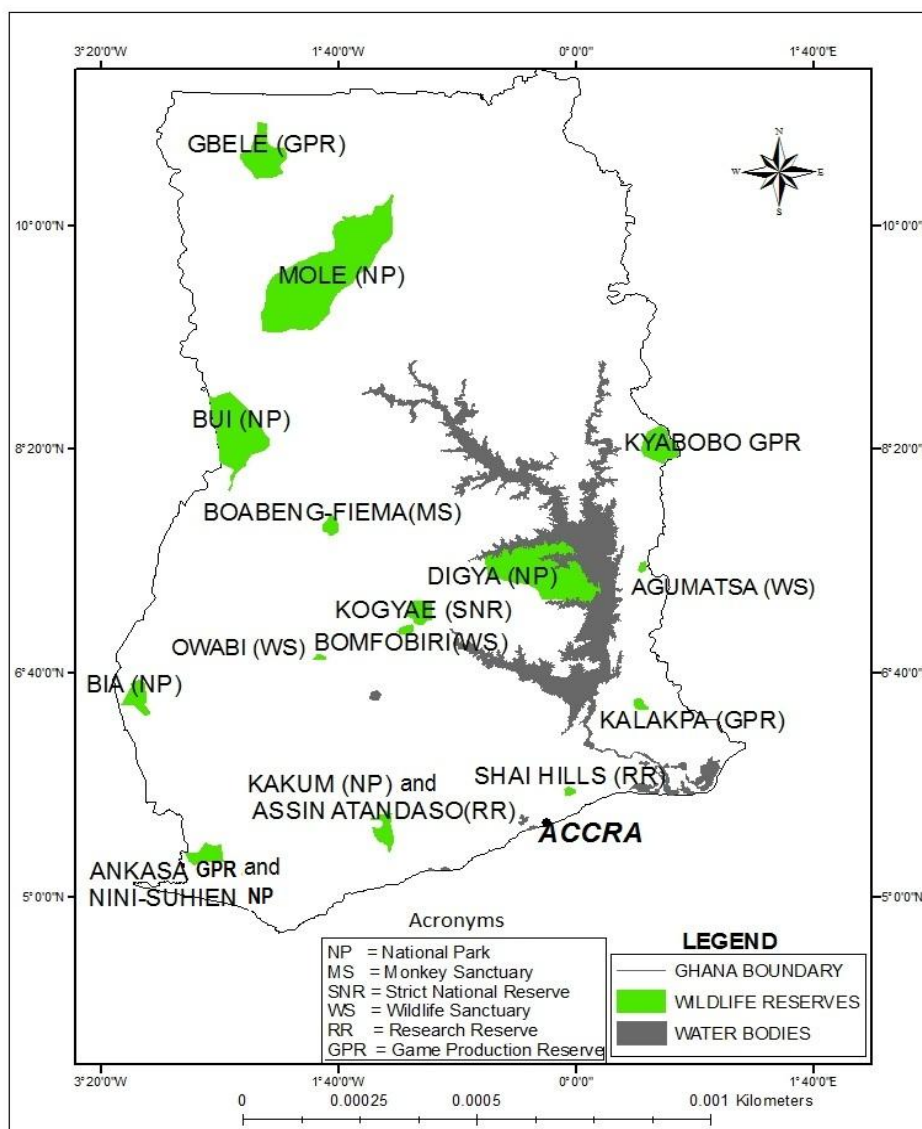
Figure 4.1 Ghana’s high forest zone (shaded portion of the map)



Within the high forest zone, 1.77 million hectares are permanently protected and managed by both the Forest Services Division (1.634 mln ha) and the Wildlife Division (0.136 mln ha) of the Forestry Commission (Kotey *et al.* 1998) (Figure 4.2). The rest of the high forest zone, corresponding to about 5.482 million hectares, constitutes the off-reserve area (Affum-Baffoe 2009).

Under the jurisdiction of the Wildlife Division of the Forestry Commission there are another eighteen protected areas, including national parks, resource reserves, wildlife sanctuaries and coastal Ramsar sites / wetlands (see Figure 4.2). These are not discussed in any greater detail here because wildlife management falls outside the scope of this study.

Figure 4.2 Protected wildlife areas in Ghana



Source: Adapted from the Ghana Wildlife Division Website  
<http://www.wildlifeghana.com/wildlifeMain/map.html>, accessed 12 September 2011

The Forest Services Division (FSD) of the Forestry Commission (FC) categorised the forest reserves under their jurisdiction into different management areas. The system is based on the forest protection strategy designed in 1993 to replace the old system based on production, protection and conversion 'working cycles', which had been ignored in practice for years (Kotey *et al.* 1998). These are the timber production areas [742,600 ha (47%)], where the forest area is designated primarily for the production of wood, fibre, bio-energy and/or non-wood forest products. The permanent protection areas [352,500 ha (21%)] consist largely of hill sanctuaries, but also include swamp sanctuaries, shelterbelts, special biological protection areas, intact forest sanctuaries, provenance and fire protection areas. Of this area, 69% is inaccessible for logging (except at very high cost) and 16% is degraded. Only 15% (which is protected on grounds of genetic diversity) is well stocked and accessible. The convalescence areas [122,000 ha (7%)] are

those with reduced stocking through overexploitation, fire and poor management, but which are considered capable of rehabilitation within one felling cycle (40 years). This category includes the conversion areas [127,200ha (8%)] that require planting and the areas that were not inventoried [270,000ha (17%)] (FD/FIMP 1995 cited in Kotey *et al.* 1998).

The high forest zone comprises seven forest types based on their ecological zones (Hall & Swaine 1981) (see Table 4.1 and Figure 4.3). The wet evergreen (WE) rainforest experiences the highest amount of rainfall throughout the year. While the dry semi-deciduous (DSD) type experiences lower amounts of rainfall distributed only at certain times of the year in a well-defined dry season. In the south-western part of the country is the wet evergreen (WE) forest type. Annual rainfall ranges between 1,700 to 2,030 mm. Some usual tree species include *Cynometra ananta*, *Heretiera utilis*, and *Tieghemelia heekelii*. In terms of precipitation, the upland evergreen (UE) forest is similar to the WE but the two differ in their floristic composition and structure. The UE forests are on hills and mountainous areas and therefore referred to as mount forests. They receive up to 1,700 mm of rainfall and are wet throughout the year. One example is the Tano-Offin globally significant biodiversity area (GSBA). The moist evergreen (ME) forests experience a lower amount of rainfall of between 1,500 to 1,700 mm per annum. They do not differ in structure from the WE forest except in floristic composition. The moist semi-deciduous (MSD) forests receive lower amounts of rainfall between 1,200 to 1,500 mm annually compared to the evergreen sub-types. The MSD forest type has upper and middle strata in terms of species composition and exhibits the deciduous habit during the dry season. This forest type can be conveniently divided into the northwestern (NW) and southeastern (SE) sub-types (see Table 4.1). Ghana's valuable timber species are included in these two forests sub-types (i.e. MSD-NW and MSD-SE (MES 2002).

The dry semi-deciduous (DSD) forest type bordering the Guinea savannah has a low level of rainfall (1,100 mm to 1,200 mm annually) and pronounced dry season often associated with high temperatures. This forest type is also known as transitional zone. According to the MES (2002), the DSD forest sub-type is also recognised as 'forest containing clearings of savannah' or 'savannah with clumps of forest trees'. Just like the MSD, this forest type has an inner zone (IZ) sub-type and a fire zone (FZ) sub-type. For instance, Odum (*Milicia excelsa*) which is a highly important timber species reaches its maximum abundance in the DSD/IZ sub-type but is currently endangered. The DSD/FZ sub-type is associated with the occurrence of periodic fires, especially during the dry season. The Southeast outliers (SO) on the other hand represent the driest of forest types, with an annual rainfall of about 750-1,275 mm. It is the least extensive forest area, occupying an area of approximately 20 km<sup>2</sup> in small scattered patches. An example is the Shai Hills Game Production Reserve on the Accra Plains. This forest type also has a low floral diversity coupled with sparse tree canopies. Within this forest type there are several rare tree species such as *Talbotiella gentii* and few commercial timber species (c.f. MES 2002: 6-7). The characteristics of these zones greatly influence the type of tree species and agricultural crops growing across the forest area (Table 4.1).

The biological diversity of the high forest zone is high and of global significance and rich in endemic species (Hall & Swaine 1976, 1981, Hawthorne & Abu Juam 1995,

*Table 4.1* Ecological zones in Ghana's high forest zone and their characteristics

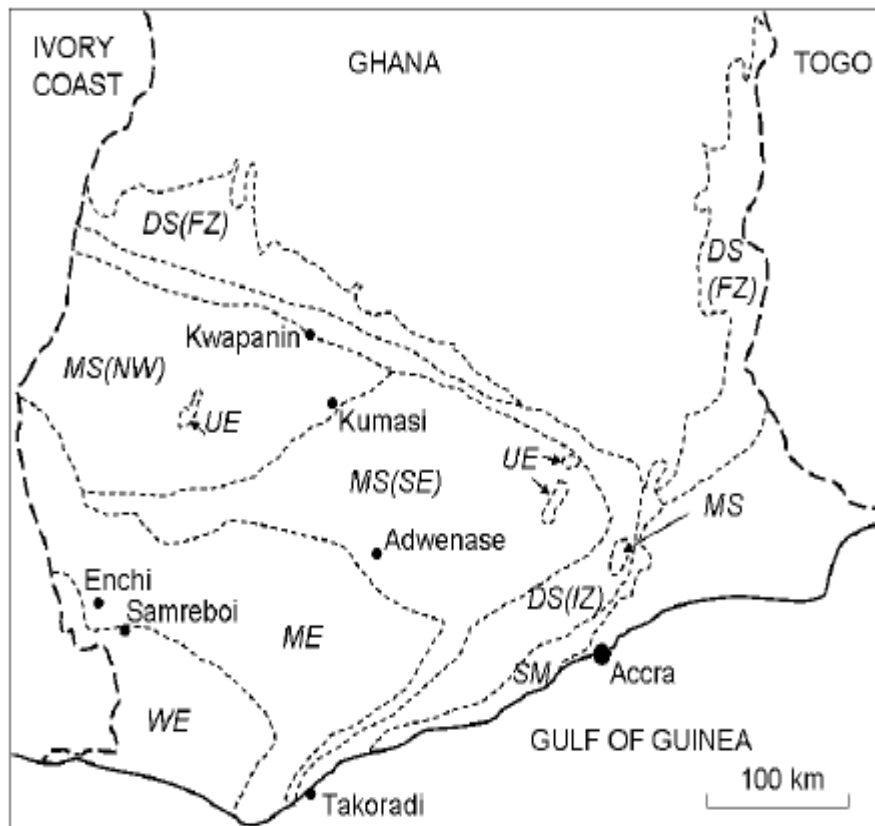
Forest type/Abbreviations	Estimated area (ha)*	Characteristic tree species	Characteristic crops	Mean no. of species (per 625-m <sup>2</sup> plots)**	Mean height of tallest tree in or near plots (m)**	Mean annual rainfall (mm)**
Wet evergreen (WE)	759,639	<i>Cynometra ananta</i> , <i>Heritiera utilis</i> , and <i>Tieghemelia heekelii</i>	Cocoa, oil palm, rice	138	32	≥ 1750
Moist evergreen (ME)	1,835,382	<i>Percopsis elata</i> , <i>Chrysophllum</i> spp., <i>Aningeria</i> spp.	Cocoa, oil palm, rice	120	43	1,500-1,700
Upland evergreen (UE)	948,709	<i>Guibotia dinklagei</i> , <i>Pterocarpus mildbraedii</i> and <i>Mansonia altissima</i>	Plantain, oil palm, cocoa	113	40	1,500-2,000
Moist semi-deciduous (MSD)		<i>Mansonia altissima</i> , <i>Entandophragma angolense</i> and <i>Entandophragma utile</i>	Cocoa, citrus, oil palm, cassava, plantain, cocoyam		47	1,500-1,750
- South-east type (MSSE)	1,726,122			108	50	1,250-1,500
- North-west type (MSNW)	1,560,352			103		
Dry semi-deciduous (DSD)	1,694,859	<i>Milicia excelsa</i> , <i>Khaya ivorensis</i> and <i>Triplochiton scleroxylon</i>	Maize, cashew, vegetables, legumes	69	38	1,250-1,500
- Inner sub-type				81	33	1,250-1,500
- Fire-zone subtype						
Southern marginal (SM)	-	<i>Eucalyptus</i> spp., <i>Terminalia superba</i> , <i>Cedrella odorata</i>	Cereals (maize, rice), mango, cassava	47	28	1,000-1,250
Southeast outliers (SO)	-	<i>Talbotiella gentii</i> , <i>Millettia thonningii</i>		25	15	≤1,000

Notes: 'wet' and 'dry' refer to annual rainfall; upland forest lies above 500 m; in forest types classified as 'evergreen' the proportion of deciduous species is lower than 20%. 'Southern marginal' and 'Southeast outliers' are named after their location because they seemed to be unknown outside Ghana.

\* Both on and off-reserves in the high forest zone; \*\* Based on Hall & Swaine (1976)

Sources: Adapted from Hall & Swaine (1976), MES (2002), FAO (2002), Kyereh *et al.* (2006), Affum-Baffoe (undated), Ministry of Environment and Science (2005, cited in Nunoo, 2010)

Figure 4.3 Ghana's vegetation zones



Forest zones demarcated by broken line, simplified as follows:

- WE = wet evergreen
- ME = moist evergreen
- UE = upland evergreen
- MS (NW) = moist semi deciduous (Northwest subtype)
- MS (SE) = moist semi deciduous (Southeast subtype)
- DS (Z) = dry semi deciduous (Inner Zone)
- DS (FZ) = dry semi deciduous (Fire Zone)
- SM = Southern marginal
- SO = Southeast outlier

Source: Adapted from Hall & Swaine (1981) by Waliszewski *et al.* (2005).

MES 2002). Both indigenous and introduced species are considered in the assessments of the country's floral diversity. Some 3,600 endemic plant species exist, most of which are from the angiosperms represented by well over 2,974 indigenous and 253 introduced species (MES 2002). The wet evergreen zone/type exhibits the highest level of floral endemism and species richness compared to the other forest types (*Ibid.* 2002). According to MES (2002), terrestrial ecosystem fauna is relatively impoverished and comprises a diverse array of species including several of conservation concern. There are as many as 221 species of amphibians and reptiles, 724 species of birds, 225 mammalian species (with ninety-three recorded as inhabiting the savannah ecological zone). Some rare or endangered mammals include the bongo (*Tragelaphus euryceros*), Ogilby's duiker



**Box 4.1: Background information on GSBAs in Ghana**

In the 1970s, Ghana boasted about 18,000 km<sup>2</sup> of pristine rainforest in what appeared to be well-secured forest reserves. However, over the years the forest has reduced in both size and quality. A combination of over-harvesting of timber, forest fires, encroachment and failed taungya schemes have resulted in vast areas of completely degraded forest areas. At present over 25% of the forest reserve area is completely degraded whilst about 8% is under convalescence. In the remaining closed forest, recurrent inventories have revealed a sharp decline in forest quality (structure and biological diversity), suggesting that successive logging has led to diminishing forest productivity. This situation demands that the country should review its forest management strategies and establish systems that can ensure that at least as many forest blocks as possible are preserved in their natural condition for posterity. This thinking has been reinforced by scientific findings (Hawthorne & Abu-Juam 1995, BirdLife 2001) that show that some forest reserves in the country are of special global biological conservation interest due to their unique flora and fauna, especially birds. Consequently, 30 of these *Important Bird Areas* (IBAs) have been designated as Globally Significant Biodiversity Areas (GSBAs). The GSBAs are set aside within a forest reserve to ensure that some forest blocks or entire forests are preserved in a condition that is as close to natural as possible in order to preserve unique flora and fauna. The GSBA concept is an innovation in Ghana's conservation system that advocates the protection and conservation of all kinds and sizes of living organisms as well as the ecosystem (Kyereh *et al.* 2006: 6).

(*Cephalophus ogilbyi*), Golden cat (*Felis aurata*), chimpanzee (*Pan troglodytes*), forest elephant (*Loxodonta africana cyclotis*) and the pygmy hippopotamus (*Choeropsis liberiensis*) (Mensah-Ntiamoah 1989 cited in Kotey *et al.* 1998).

Three species of frogs (*Hyperolius aumanni*, *H. fusciventris* and *H. sylvaticus*) and the lizard (*Agama sylvanus*) were found in the Bia Forest Reserve and the Atewa Range Forest Reserve (MES 2002). The same data source indicated that there are high numbers of butterflies in Ghana, where about twenty-three species have been classified as endemic or near endemic.

Rivers and streams crisscross nearly all the forest reserves and feed the country's major rivers such as the Birim, Pra, Ankobra, Bonsa Offin, Densu and Tano rivers, which are sources of water supply to many communities including the urban ones (Environment News Service 2003). For example, the Tano-Offin forest reserve is home to many water bodies such as the Disiri, Offin, Tano, Nyasi, Tale and Supon Rivers that provide drinking water for the local communities and many towns in the Ashanti and Brong Ahafo regions.

Species diversity and uniqueness in some of these reserves led to the creation of the globally significant biodiversity areas (GSBAs) in the late 1990s under the jurisdiction of the Forest Services Division (see Box 4.1 for background information on GSBA, Table 4.2 for an overview of GSBAs and Appendix 2 for a list of forest districts and reserves characteristics in the high forest zone). Ten of the thirty forest reserves in Ghana designated as GSBA are fully protected and twenty are under partial coverage protection. The protection of each of the thirty designated GSBAs is based primarily on the merit of endangered plant and animal species found within the reserves and their environs.

Table 4.2: Globally Significant Biodiversity areas in Ghana's high forest zone

Forest reserve	Total area (ha)	GSBA area (ha)
<b>Total Coverage - Moist Forest</b>		
Ebi River Shelterbelt	2,600	2,600
Atewa Range	23,200	23,200
Apedwa	400	400
Dadiaso	17,100	17,100
Yogaga	100	100
<b>TOTAL</b>	<b>43,400</b>	<b>43,400</b>
<b>Partial Coverage - Moist Forest</b>		
Tano-Offin	40,200	10,752
Cape 3 points	2,000	1,000
Neung North	4,500	2,688
Ndumfiri	7,300	3,768
Boi Tano	12,900	3,328
Boin River	27,800	7,552
Jema Assemkrom	6,600	2,048
Fure River	15,800	4,736
Fure Headwaters	17,000	2,304
Subiri River	58,800	5,120
Bonsa River	16,100	2,304
Tano Nimiri	20,600	3,456
Disue River	2,400	384
Draw River	23,500	12,800
Neung South	11,300	7,304
<b>TOTAL</b>	<b>266,800</b>	<b>69,544</b>
<b>Southern Dry Forest</b>		
Abasuma	100	100
Abonben	700	700
Ahirasu I & II	100	100
Obotomfo	200	200
Akrobong	300	300
Bandai Hills*	16,100	1,403
Southern Scarp *	27,800	10
Yongwa*	800	640
Sapawsu & others in E/R*	1500	925
<b>TOTAL</b>	<b>47,600</b>	<b>4,378</b>
<b>GRAND TOTAL</b>	<b>357,800</b>	<b>117,322</b>

\* Partial coverage under dry forest types.

Source: Forestry Commission Website. Accessed on 6 May 2009.

The high forest zone contains several commercial timber species in both on and off-reserve areas. In the latter case, these resources vary from scattered individual trees in farms and fallow areas to patches of intact forest. A group of species of great relevance to rural livelihoods are fuelwood and non-timber forest products (NTFPs). The latter range from edible and medicinal plants and their parts to species used for making tools, for thatching and bushmeat. More information on timber and non-timber forest products will be given in the next section.

The case study site selected is Tano-Offin forest reserve. There are three management regimes in this reserve, namely protection (GSBA), production, and plantation development under the jurisdiction of Forest Services Division (see Figure 4.4). In terms of forest types, the Tano-Offin forest reserve is a blend of upland evergreen<sup>1</sup> and moist semi-deciduous forest types that occur in Ghana. The reserve contains unique and rare tree species such as *Guibortia dinklagei* and *Pterocarpus mildbraedii*, which are rare and have a special conservation status in Ghana. In addition, there is a rare tree fern *Cyathea manniana*, used for medicinal purposes (JSTOR Plant Science).<sup>2</sup> Important fauna include birds like the yellow-throated green bulbul (*Criniger olivaceus*) and green-tailed bristle-bill (*Bleda eximia*) and (*Illaposis rufescens*) (Kyereh *et al.* 2006). A variety of mammals (including chimpanzees) and reptiles have also been reported in the reserve (see Chapter 7).

Interactive governance theory is concerned with dynamics of the natural system, i.e. the fluctuations and change that occur because of the tension within a system and/or between systems (Kooiman & Bavincx 2005: 13). Within the forest context of Ghana, these dynamics are particularly reflected in deforestation and reforestation, with the slow development in plantations establishment being incapable of matching the rapid rate of destruction of the natural forests. Some of these changes occur because of conflicting interactions with other land-use systems like agriculture, mining and human settlements. Some direct and indirect causes of deforestation cited in literature include conversion of forestland to agriculture, mining, wildfires, population increase, all coupled with weak institutional governance (see Kotey *et al.* 1998, Teye 2005, ITTO 2006, Appiah *et al.* 2009 ). As Jentoft (2007) remarked in relation to marine protected areas, there is often no direct cause-and-effect relationship to explain dynamics. Changes tend to be the result of many indirect causes and follow a non-linear and sometimes cyclical pattern. In view of the rapid changes in the natural system,<sup>3</sup> both the state and individual investors have identified forest plantations as supplementary or alternative sources of timber. Even though the pace of reforestation cannot match the rate of deforestation, the government of Ghana initiated different plantation development schemes in 2001. A further elaboration of this can be found in the next section. The current area of productive plantations belonging to the FSD of the Forestry Commission is about 40,000 ha and that of the private sector is estimated to be approximately 29,200 ha (Agyeman *et al.* 2010).

#### *Forest and tree resources within the natural system*

As discussed in the previous section, the high forest zone is home to many plant and animal species that are essential for the wellbeing of the local people, as a source of raw material to the timber industry and as a source of revenue for the country. Three groups of forest and tree resources are discussed below based on literature review and focus group meetings with local communities in and around Tano-Offin Forest reserve. These

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<sup>1</sup> The upland evergreen forest type in Ghana is considered botanically unique in terms of flora and fauna richness and diversity (Hawthorne & Abu-Juam 1995) and covers the Tano-Offin, Atewa Range and Apedwa forest reserves in the Nkawie and Begoro Forest Districts respectively. Both Atewa Range and Apedwa forest reserves are completely under GSBA protection, while in the Tano-Offin only a portion is designed as a GSBA (see Table 4.2).

<sup>2</sup> URL: <http://plants.jstor.org>, accessed 17 January 2012.

<sup>3</sup> According to the FAO (2011) the annual deforestation rate for Ghana is estimated at 0.5% or 115,000 ha per year during the period 2000-2010.

are timber resources from on and off-reserve areas, non-timber forest products and plantations.

– Timber resources from on and off-reserve areas

Ghana's timber resources contribute significantly to the national economy. The formal timber industry contributes about 6% to the Gross Domestic Product (GDP) (Marfo 2010). Ghana earned an amount of US\$ 384,680,952 (GHC 256,453,968)<sup>4</sup> from the export of 426,221 m<sup>3</sup> of wood products in 2009, which was a decrease of 31.29 % in value and 21.93 % in volume compared to 2008 (TIDD 2010). Total production of legal timber amounted to about 1.4 million m<sup>3</sup> of industrial roundwood and 513,000 m<sup>3</sup> of sawnwood in 2008 (FAO 2011). Nevertheless, the total amount of illegal timber is more than legal timber (Marfo 2010). The formal forest sector generates employment for an estimated 100,000 people (Adam & Dua-Gyamfi 2009 cited in Marfo 2010). In addition, an estimated 2.5 mln m<sup>3</sup> is harvested illegally, employing an estimated 138,000 people (Marfo 2010) directly and indirectly. Illegal harvesting is an issue of great concern, as it deprives the government of revenues from stumpage, permit and conveyance fees, is a loss of revenue from compensation fees for farmers and social responsibility agreement benefits for local communities. It leads to forest degradation in protected areas and is an important source of conflict with forest fringe communities (Marfo 2010, see also Chapter 7). Furthermore, as asserted by Oduro (2005), illegal logging hampers any strategy which seeks to reduce overexploitation, forest degradation, and deforestation and ensuring sustainable forest management.

In Ghana, commercial timber is exploited both on and off-reserve in production management areas. In the on-reserve areas, the management strategy is to partition production areas into compartments. Each of these management units are about 128 ha in size. A group of such compartments constitutes a concession or timber utilisation contract (TUC) area. Each concession or TUC area has a harvesting schedule, which is a timeline for logging in individual compartments for a forty year management cycle. Access to the timber resources from the on-reserve areas is given to timber contractors through competitive bidding and based on annual allowable cut (AAC). The AAC represents the volume of legal timber that can be sustainably harvested from a defined area of forest under a specific silvicultural regime.

The management system of timber resources practised on-reserve is not applicable to off-reserve areas. Affum-Baffoe (2009) mentions two reasons for that. First, there is absence of an identifiable unit of management compartment, and timber operations may extend over a vast area. This results in poor monitoring. The second reason is the absence of understorey vegetation in off-reserve areas that supports natural regeneration in mixed tropical forests and thus presents a challenge to sustainable management of the tree resources in the off-reserve areas. In the off-reserve areas, timber is allocated to timber contractors using a quota system<sup>5</sup> under which the TUC holder is entitled to operate for a period of five years subject to renewal. The legislation governing the formal

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<sup>4</sup> In its 2010 report on the wood exports from Ghana, the Timber Industry Development Division (TIDD) of the FC stated the amount in Euros (128,226,984), which are converted here to US dollar and Ghana cedi. As at the time of writing (January 2012), 1US\$ = 1.5 GHC (Ghana cedi).

<sup>5</sup> The quota system used for off-reserve areas is equivalent to the annual allowable cut (AAC) for reserve areas. However, unlike the forest reserves, where the overall guide is maintenance of the timber yield through sustainable harvesting practices, no such claim can be made for the off-reserve situation (GFS 1988).

allocation of timber to TUC holders is discussed in Chapter 5 and elaborated on in Chapter 9.

In both management areas, the allocation of timber resources is subject to a star rating system which has been designed to assign each species to a category denoting its conservation priority (Hawthorne & Abu-Juam 1993 cited in Agyarko 2007).<sup>6</sup> Scarlet species are under imminent threat of economic extinction, red species are those for which current rates of exploitation present a significant danger of economic extinction and pink species are significantly exploited but not yet to such an extent that there is concern about their economic future (Agyarko 2007). The number of commercial timber species stands at eighty-two, fourteen are classified as scarlet star which means that they are subject to serious pressure from heavy exploitation and logging and that their exploitation is allowed only with a permit from the FC. There are also fourteen species classified as Red star which are relatively common within the high forest zone but which are under pressure from exploitation because of a good market. The pink star species, of which there are twenty-eight, are those that are common and moderately exploited (Affum-Baffoe 2009). This categorisation of star rating becomes important in the analysis of forest offences in Chapter 11.

#### – Non-timber forest products (NTFPs)

Non-timber forest products (NTFPs) comprise plant and animal products for subsistence and trade from forested landscapes, including human-modified ones (Ros-Tonen 2000, Ros-Tonen & Wiersum 2005). In Ghana, these products are found in both forest reserves and off-reserve areas (fallows and farmlands). They have been reported to play important socio-economic roles in the livelihoods of most local communities (Dadebo & Shinohara 1999, Blay *et al.* 2008, Appiah *et al.* 2009). They are essential for both domestic and commercial uses. Many NTFPs such as snails, mushrooms, chewing sponge, pestles, canes, palm, spices and chewing fruits, cola nuts, food wrapping leaves and wooden trays are very significant in the livelihoods of many urban and rural dwellers (Falconer 1992, Kotey *et al.* 1998, Bell 2009).

Many rural families derive a major proportion of their cash income from the sale of NTFPs collected from forest reserves and farmlands (Falconer 1992, Bell 2009). There is also a clear indication that the NTFP trade of both plants and animals is a very important economic activity with a complex web of marketing involving gatherers, producers, wholesalers, and retailers (Kotey *et al.* 1998, Bokhorst 2011, see also Pfund *et al.* (2009) and Ingram (forthcoming) for value chain analyses of NTFPs in the Congo Basin). Bushmeat, which is a culturally very important delicacy (Van Vliet *et al.* 2011), is consumed by about 75% of the population of Ghana and is considered as the main source of meat for about 80% of rural populations in southern Ghana (Kotey *et al.* 1998). This sector includes about 300,000 hunters who produce between 220,000 to 380,000 tonnes of bushmeat annually. This bushmeat comes mainly from the forest and is valued at US \$ 210 million to US \$ 350 million (ITTO 2006).

Recent insights make it clear that NTFPs are important to forest-dwelling people as a source of cash and non-cash income (Bell 2009), but that they function more as a safety net than as a potential avenue out of poverty (Belcher *et al.* 2005, Kusters *et al.* 2006, Vedeld *et al.* 2007). In support of this discourse, Agyeman *et al.* (2010) argue that, in

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<sup>6</sup> FDB/EU/FAO (2003). URL: <ftp://ftp.fao.org/docrep/fao/003/AB567E/AB567E00.pdf>. Accessed on 17 January 2012.

spite of the importance of forest resources to rural livelihoods, the majority of the people in Ghana who are dependent on forest products and farming are poor.

Fuelwood is generally not classified as an NTFP (Schure 2012) but is by far the most important forest product worldwide, contributing an average of 20% of household forest income<sup>7</sup>. Globally, wood removals account for 0.7% of growing stock and nearly half of this wood is used as woodfuel. However, significant differences exist between regions, with more than two thirds of wood used as woodfuel in Africa and Asia and less than 20% in Europe, North America and Oceania (FAO 2010). In Ghana, woodfuel removal in 1990, 2000 and 2005 amounted to 14,833 m<sup>3</sup>, 23,780 m<sup>3</sup> and 23,780 m<sup>3</sup> respectively. Unfortunately, there is no monetary value attached to these amounts (FAO 2010). The absence of a monetary value for woodfuel in the country indicates that fuelwood has not received as much attention as timber from a forest management perspective. Despite its importance for rural livelihoods, its value has not been formally recorded and remains inadequately represented in policy analysis (World Bank 2006).

However, more than three decades ago, Assibey (1977) reported that fuelwood accounted for more than 75% of all of Ghana's energy needs and was used as a source of domestic energy by over 70% of Ghanaian households in both rural and urban areas in the form of firewood and charcoal.

#### – Plantation development

History indicates that timber plantation development in Ghana dates back to the late 1800s as a localised project in the Trans-Volta Togoland, which was then a German colony (now Volta region) (Agyeman *et al.* 2010). However, plantation development has occurred on a national scale since the British introduced the taungya system in the 1920s (*Ibid.*) as a system that combines plantation stands of woody species with agricultural crops during the early years of plantation development (Nair 1985, 1991). The taungya system was suspended for several reasons in 1984, including financial problems. About 75,000 ha of plantations were established with the support of local people. However poor maintenance meant that only 15,000 ha can be considered commercially viable (Agyeman *et al.* 2010).

Forest inventories<sup>8</sup> revealed a rapid decline in the nation's natural forest resources, both in on and off-reserve areas (Agyeman *et al.* 2010). This stimulated the government and decision makers in the forestry sector to find a strategy to address the deforestation problem and to curb the associated effects on the national economy and the local people (Zhang & Owiredu 2007, Foli *et al.* 2009, Agyeman *et al.* 2010). Consequently, in September 2001, the government launched the National Forest Plantation Development Programme (NFPDP) which aimed to establish 20,000 ha of forest plantations per annum across the country. The overall objectives of the NFPDP are (i) to restore forest cover of degraded forest reserves; (ii) to address the wood deficit situation in the country, especially timber; (iii) to create employment opportunities at rural community level and generate income for plantation owners, timber processors and the national economy, and (iv) to contribute to food production in the country. This programme included

<sup>7</sup> Preliminary data from a CIFOR study covering 8,000 households from 60 sites in 24 countries. See <http://www.cifor.org/fileadmin/fileupload/media-release/PEN-New-global-study-shows-high-reliance-on-forests-among-rural-poor.pdf> (accessed on 6 September 2011).

<sup>8</sup> Two forest inventory programmes conducted between the periods 1985-1989 and 2001-2002 indicated that there has been a rapid loss of forest resources from both reserve and off-reserve areas (*c.f.* Agyeman *et al.* 2010: 27).

#### Box 4.2 *Special features of the modified taungya system*

- Farmers are essentially the owners of the products with the Forestry Commission, landowners, and forest fringe communities acting as shareholders. The rights of the farmers are guaranteed under the Timber Resource Management Amendment Act, 2002 (Act 617), which states in Section 4, Subsection 3 that 'no timber rights shall be granted in respect of land with private plantations; or land with any timber grown or owned by any individual or group of individuals.' This means that timber grown by farmers even within reserves shall belong to them and not be subject to any timber rights held by the FC. This contrasts with the situation under the old taungya system, where the FC was the owner, with the landowners being the only beneficiary. Farmers benefited from their food crops but did not receive any benefits from the timber trees.
- Farmers carry out most of the activities, including tree planting, pruning, maintenance and tending, whereas the FC is responsible for training the farmers to carry out these activities efficiently. The FC is also responsible for the supply of equipment, tools, stock inventory, and auctioning or marketing of the timber products.

Source: Agyeman *et al.* (2010) based on studies conducted across the country in 2002.

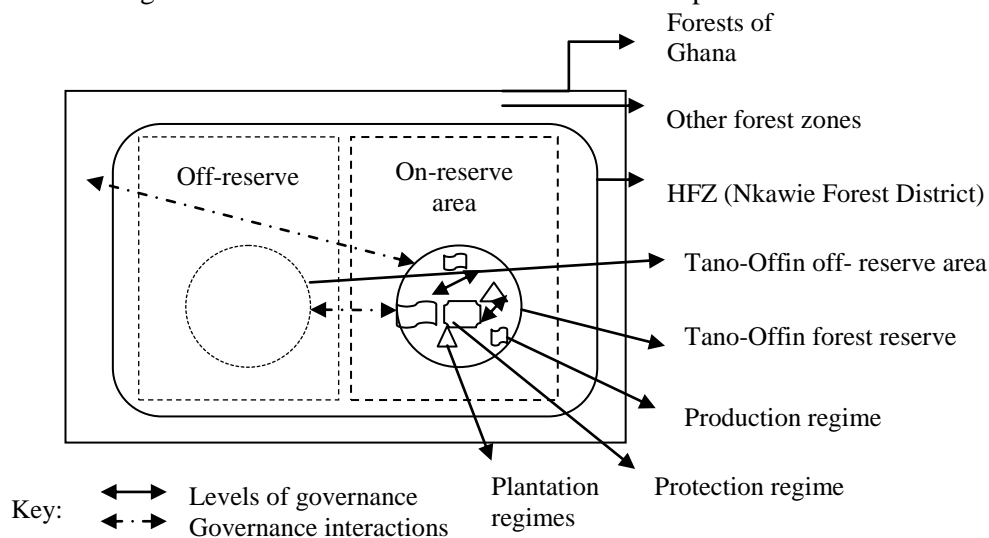
three different schemes, namely the modified taungya system (MTS) (see Zhang & Owiredu 2007, Agyeman *et al.* 2010), commercial plantations<sup>9</sup> (see the NFPDP annual reports of the FC, Agyeman *et al.* 2010, Hoogenbosch & Ros-Tonen 2011) and the Highly Indebted Poor Countries (HIPC) funded plantations<sup>10</sup> (see FC, NFPDP reports). In addition to these three schemes in degraded forest reserves, there are also a number of schemes in off-reserve areas, including the small farmer agroforestry scheme, private reforestation initiatives undertaken by individuals, groups and companies (Wagner *et al.* 2008, Foli *et al.* 2009). Here the focus is on the MTS, which is one of the conflict cases that are part of this study (see Chapter 8).

The MTS is an agroforestry system that was introduced in Ghana in 2002 in a bid to support both rural livelihoods and address Ghana's deforestation problem. It is an adapted version of the old taungya system, which was suspended in 1984 partly due to a lack of farmers' support (Marfo 2009, Agyeman *et al.* 2010). Under the MTS, farmers receive degraded forestland to grow food crops alongside the planted timber trees during the early years of plantation development. Agyeman *et al.* (2010: 30) outlined two

<sup>9</sup> The commercial plantation scheme comprises the establishment of industrial plantations by local and foreign investors in degraded forest reserves in collaboration with the government, stool landowners and local communities, under a benefit-sharing arrangement that provides investors with a 90% share of the tree benefits, dividing the rest among the landowners (6%), FC (2%) and adjacent communities (2%) (Derkyi *et al.* 2010).

<sup>10</sup> The HIPC-funded plantation scheme in degraded forest reserves was initiated by the then Ministry of Lands and Forestry in 2003, implemented by the Plantation Unit of the Forestry Services Division (FSD) of the FC, and financed by the US\$ 5.5 million Highly Indebted Poor Countries (HIPC) fund (Derkyi *et al.* 2010, Hoogenbosch & Ros-Tonen 2011). It aims to improve the living conditions of deprived citizens of Ghana by serving as a source of short-term employment opportunities. Workers, who are mostly community members, receive monthly wages for tree planting and maintenance. Under this programme, contracts are given to plantation supervisors (non-staff of FSD) who supervise the workers, who are sometimes allowed to cultivate food crops under the same conditions as those that govern the MTS.

Figure 4.4 Schematic representation of the nested nature of the natural system-to-be-governed and the interactions between the components



key features of the MTS based on the studies conducted prior to the launching of the MTS (see Box 4.2). In 2005, the legally binding Land Lease and Benefit Sharing agreement became a reality and farmers became co-owners of the plantations together with the Forestry Commission (see Chapter 5 for details about the benefit-sharing arrangement among the stakeholders). Figure 4.4 depicts the complexity of the natural system under study and indicates the layers of different systems.

### The socioeconomic system

The diversity of the socioeconomic system is primarily related to the composition of stakeholder groups and their interests and access rights (Chuenpagdee & Jentoft 2009). They are referred to as forest actors and are also defined in this chapter as all those who have roles, responsibilities and interests in (a) decision making regarding the allocation and regulation of forest and tree resources, (b) implementation and enforcement of rules and regulations regarding forest and tree resource use, (c) forest and tree resource use and/or management, (d) forest and tree resource conflicts and/or (e) forest and tree conflict management (adapted from Ros-Tonen *et al.* 2010). Forest actors are diverse in terms of composition, the levels of geographical scales at which they are operating, their interests, and their roles in the forest governance system. This section discusses two key actors who are direct users of forest resources: the local communities, which are based in the customary governing structure and the timber operators (both formal and informal), belonging to the market governing structure (see Chapter 5). Actors with a role in the governing system are discussed in Chapter 5. This section presents the interests and roles of forest users in terms of access to and use of forest resources. It also presents the local communities' perceptions of the natural system and the way in which they position each forest actor under the five forest and tree-based livelihoods that the natural system offers, as an illustration of the diversity of interests among these actors. Similarly, the different perceptions held by the representatives of government institutions with respect to the interests, positions and power of key actors are analysed using a stakeholder analysis. The dynamics in the interactions between the various actors are also addressed.



### *Local communities*

Local communities are defined in this study as being groups of people that share a particular geographical space (usually a village) and its natural resources, but they are not necessarily homogenous in terms of interests and socioeconomic positions. Following Asare (2000), who defines ‘community’ as a conglomeration of people with identifiable characteristics and common or differing interests, five categories of forest-related communities can be identified:

1. People with ownership rights over the forest;
2. People living within or close (1-5 km) to the forest estate;
3. People who use forest products such as timber, NTFPs or bushmeat;
4. People who are affected by changes in the forest environment or negatively affect the forest environment; and
5. People who provide services towards forest management.

As is outlined in Chapter 5, ownership over land in Ghana is vested in chiefs, but the management of forest resources is vested in the State (see Chapter 5 for more details). In the southern part of Ghana mostly among the Akan’s where this study was undertaken, queen mothers play a key role in the traditional system. Chiefs are installed by the queen mothers<sup>11</sup>. Defining a community in terms of ownership rights over the forest is therefore tricky, as these rights are not the same for all in the community. According to Amanor (2005), the legacy of colonial forestry policy disempowered rural farmers and empowered the state to expropriate forest resources through the chiefs, who benefit from this system through their rights to royalties and rent. Community members have the right to harvest forest resources, and especially NTFPs, for their own use but with permission from a forestry official especially in gazetted forest reserves. With respect to timber, a community is given the right to harvest trees granted by the FC in the form of a timber utilisation permit for non-commercial and development purposes. Within the country there are a number of sacred groves and two dedicated forests<sup>12</sup> that are managed by local communities, but which have no legal status. In the Ghanaian context, it is therefore impossible to define a community in terms of ownership rights over the forest resources.

As regards the location *vis-à-vis* the forest estate under study, there are 41 communities (i.e. villages) surrounding the Tano-Offin forest reserve and one village (Kye-kyewere) located in the middle of it (Figure 4.5).

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<sup>11</sup> For more details on the process of installed of the current Asantehene see URL: <http://ghanaweb.com/GhanaHomePage/NewsArchive/artikel.php?ID=6239> (accessed on 17 January 2012).

<sup>12</sup> In Ghana dedicated forests are designed to enable communities to manage their own forest ‘reserves’ based on approved management plans. They take the form of patches of forests, sacred groves and secondary forests in off-reserve areas. This was initiated in 1994 when two communities in Fosu District served as a pilot. Legislation was drafted in 1997, but no further action has been taken since (World Bank 2006).

**Box 4.3** *Perceptions of representatives of communities within and bordering the Tano-Offin Forest reserve*

**Intangible benefits**

- Good breathing air
- Access to water through the rivers and streams

**Tangible benefits**

- NTFPs: snails, canes, raffia, mushrooms, local sponge, bark of trees for herbal products, seeds, plants or plant parts for medicines, honey
- Minerals like gold and bauxite
- Through the GSBA, the Community Biodiversity Advisory Group (CBAG) members, especially young people, are employed to clean the forest boundary
- Forest trees for timber contractors
- Communities, except Kyekyewere where no harvesting of commercial timber occurs because it is located in a GSBA, benefit from social responsibility agreements (SRAs)
- Good fertile lands for farming under the MTS (except Kyekyewere village)

*Source:* Community consultation meetings, November 2008.

As far as forest use is concerned, the interests of the chiefs (who have an interest in the state issuing timber concessions since they will then share in the royalties) and the farmers are different (Amanor 2005). The results of the consultation workshop held in November 2008 (see Chapter 3) therefore represent a ‘collective voice’ or a shared image of how community representatives see the importance of the forest. The tangible and intangible benefits mentioned at the consultation workshop are summarised in Box 4.3. However, each stakeholder group within the community has different interests and needs, and a different position and amount of power with regard to forest resource use. The twenty-two representatives from two case study local communities bordering the Tano-Offin reserve and the admitted village made a stakeholder analysis for five forest-based livelihood components (see Figure 4.5 and Chapter 3 for details on the methodology). These include access to NTFPs for domestic and commercial uses, admitted farming, chainsaw operations, MTS farming, and illegal farming. Their stakeholder analysis focused not only on local community groups, but also on other stakeholders, thereby highlighting whether the nature of interactions was compatible/complementing or conflicting. This stakeholder analysis also portrays the level of scale at which the different actors operate. This chapter presents only the stakeholder analysis for access to NTFPs, as similar analyses for the other forest-based livelihood components are discussed in the various case studies in subsequent chapters (Chapters 7-9).

Figure 4.5 The Tano-Offin forest reserve indicating most of the forest fringe communitites

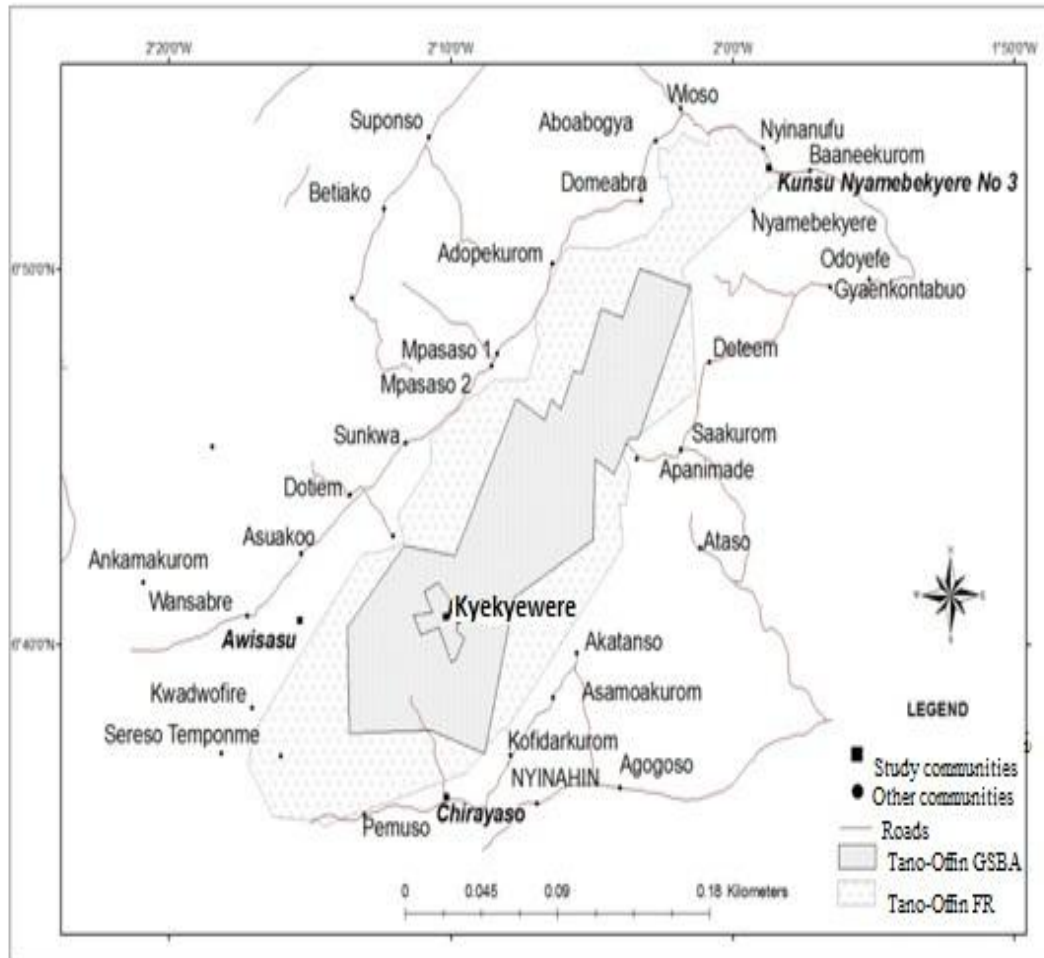


Table 4.3 shows that access to NTFPs involves more actors than those at community level, especially if the means of access are no longer informal (i.e. requires a permit) and the FSD is involved. The shaded portions indicate the actors at community level and illustrate the diversity of stakeholder groups. The other actors mostly come from district level, except in cases in which the FSD official (i.e. forest guard) lives in the community. Each of these actors wields their power differently. The respondents believe that the community members, farmers and chiefs have less power compared to the FSD, District Assemblies and NTFP traders. In the absence of a permit to harvest NTFPs on a commercial basis, there are conflicting interactions between the NTFP traders on the hand and the chiefs and elders, FSD officials and/or District Assembly on the other. However, the interactions are compatible and complementary if the collector holds a permit. Generally, the relationships among actors were reported to be accommodating through the level of the ties (i.e. strong, weak, and neutral), depending on the actor group. For example, the NTFPs traders are usually people from outside the community who really need the assistance of the inhabitants to collect the forest products. Proper homage paid to the chief and elders of the town enables the establishment of a strong relationship with the local people. On the other hand, the absence of such a pro-

tol often results in weak ties between the trader and the local people. Such weakness of ties could lead to the collector being reported to FSD officials if s/he has no permit.

Another dimension to define a community is on the basis of their effects on, or the extent to which they are affected by, the forest environment. This largely coincides with the definition of a community as a locational unit in the proximity of the forest estate. As the following chapters demonstrate, this locational aspect is important when determining the nature of conflicts affecting the community. In terms of supporting forest resource management, communities contribute to wildfire prevention and control, and natural and plantation forest protection in return for 5% of the stumpage fee as social responsibility agreement (SRA) in timber utilisation contracts (TUCs). As outlined in the previous section, communities living close to degraded forest reserve areas are collaborating with the FC in plantation development under the MTS for a shared benefit of 40% of harvestable timber products and 100% of food crops produce. Within the GSBAs, the FC has, for a fee, engaged some community members in forest boundary cleaning.

In spite of their roles in forest management, the participation of community members in decision making and resource allocation has been largely ignored and is an issue addressed in the next chapter.

#### *Market actors*

The market actors consist of the timber utilisation contract (TUC) holders (both on and off-reserve), the illegal loggers and chainsaw millers, the commercial plantations developers, and the NTFPs traders. The timber industry is the most important actor within the market governing structure with its different categories and sub-categories of actors.

The actors active in logging with legal recognition are TUC or concession holders and salvage permit (SP) holders who extract wood from areas to be transformed for development purposes such as road construction, the expansion of human settlements or farm cultivation (Marfo 2010). Each of these holders may belong to one or both of two main professional organisations, namely the Ghana Timber Association (GTA) and the Ghana Timber Miller Organisation (GTMO). Mayers & Kotey (1996) argue that the main interest of this group of actors is to access logs from marketable species at the lowest possible prices with a view to converting them to high-value processed lumber for sale at high prices. The means available to these actors to achieve their interests are the strong influence they have at policy level as well as the *de facto* control over large forest areas.

The second group in this category are the chainsaw millers and illegal loggers who operate at multiple levels of scale, ranging from micro (the local) to macro (the national) levels in Ghana's geopolitical settings. These actors may come from a blend of formal, market and traditional governing structures. Even though their activities are illegal because it leads to a loss of revenue to the country and destruction of forest resources, these actors paradoxically provide lumber for the domestic market (Marfo 2010).

The interest of investors in commercial timber plantations is to have access to degraded portions of forest reserves to plant trees using different arrangements with respect to their engagement with local communities (Hoogenbosch 2011). There are also individuals or groups of people who engage in timber tree planting in off-reserve areas known as tree growers. This has become feasible because of Act 617 which gives the

ownership right of planted timber to individuals who plant trees on their own land or in agreements with other landowners.

Traders engaged in NTFP – both plants products and bush meat – need a permit from the Forest Services Division and Ghana Wildlife Division respectively to access these resources. As shown in the stakeholders' analysis in Table 4.3, the absence of such a permit results in conflicting interactions between them and other stakeholders, notably the FC, as well as actors at community level (see also Chapter 7).

Table 4.3 Actor analysis by community representatives relating to non-timber forest product (NTFP) use for domestic and commercial purposes

NTFP use for domestic and commercial purposes							
Actors	FSD officials	Community members	Farmers	NTFP collectors (traders)	Chief & elders	District Assembly	Judiciary
<b>Main concern</b>	Issue permits and request one when monitoring forest use	Protect the forest to safeguard daily use of NTFPs	Protect the forest for daily use and to preserve NTFPs	Free collection	Are to be consulted before entry	Register collectors	Implement the law and prosecute if needed
<b>Interest</b>	Prevent unlawful entry	NTFPs for daily use And sustain the NTFPs for the children	NTFPs for daily use and sustain the NTFPs for the children	Daily collection	To protect the NTFPs for the future	To generate revenue from way-bills during transport of products	To ensure justice
<b>Needs</b>	Revenue from permits	-NTFPs for food and revenue - Nutrients and energy	NTFP for food, medicine and fodder, to improve energy and herds and generate money	NTFP extraction for money	To prevent unlawful activities that destroy resources and revenue	Revenue from NTFPs traders	To maintain peace and order
<b>Power position</b> *	1	3	3	1	2	1	2

\* Key: most powerful = 1; powerful = 2; less powerful = 3.

Source: Validation meeting with the three case study communities February 2010.

Another stakeholder analysis was carried out in a focus group discussion with representatives of the Police, District Assemblies, Judiciary, FSD (managerial and field officers) and the Ministry of Food and Agriculture. The participants' images of the interests, position and power wielded by the various stakeholders in the forestry sector are presented in Table 4.4. The participants analysed stakeholders based on their interest in forest management or access to resources. With respect to their position, the stakeholders were classified as primary, secondary and tertiary actors, indicating a direct,

intermediate or indirect stake in the forest. The concept of power and influence were used interchangeably during the discussions, and participants set four criteria to assess number and power/influence of the different actors. The criteria used were the following:

- A-stakeholders relatively small in number of people but powerful/influential
- B-stakeholders relatively large in number and powerful/influential
- C-stakeholders relatively small in number and not so powerful/influential
- D-stakeholders relatively large in number but not so powerful/influential

*Table 4.4* Government institutions representatives' images of stakeholders in the forest sector

<b>Forest actors</b>	<b>Interests</b>	<b>Position</b>	<b>Power/ influence</b>
FSD	Ensures management and sustainability of the forest	Primary	A
Police	Protect the forest products	Secondary	B
Government	Political interest, national security, revenue and conservation	Primary	A
District Assembly	Royalties, trees and food crops	Primary	A
Chiefs (landowners / <i>odikro</i> )	Royalties and trees (especially those involved in the timber business)	Primary	A
NGOs	Advocates for marginalised groups, protection of the environment, social development	Secondary	C
Academic institutions	Research	Tertiary	C
Timber contractors	Trees	Primary	A
Chainsaw operators /illegal loggers	Trees	Primary	B
Sawn lumber sellers	Sawn trees mostly from illegal sources	Primary	B
Carpenters	Lumber	Secondary	C
Community members	Access for resources for their livelihoods	Primary	D
Hunters	Bush meat	Primary	C
Herbalists	Plants parts from the forest	Primary	C

*Key:* A = stakeholders relatively small in terms of number of people but powerful/influential; B = stakeholders relatively large in number and powerful/influential; C = stakeholders relatively small in number and not so powerful/influential; D = stakeholders relatively large in number but not so powerful/influential

*Source:* Focus group discussion with representatives of government institutions, November, 2008.

## Discussion

This section starts with a discussion of the system to-be-governed as the interaction between the natural and the socio-economic systems from two perspectives. It first discusses the diversity, complexity, scale and dynamics of the high forest zone as the natural system. Secondly, it examines forest users and their interactions with the natural system. In both sub-sections an attempt is made to assess the governability levels based on the study findings

### *The natural system: Ghana's high forest zone and its attributes*

Chuenpagdee & Jentoft (2009) distinguish four attributes of the natural system, i.e. diversity, complexity, scale and dynamics. These are the key dimensions to be assessed

from a governability perspective as the responsiveness to these attributes determines the governability of the natural system and its limits (*Ibid.* 2009). The natural system under study is the high forest zone, which is a key contributor to the nation's GDP, a source of raw material to the timber industry and a source of livelihoods to both rural and urban people. In terms of scale, it is a nested continuum of subsystems existing across five regions in Ghana at different levels of the geopolitical scale (Figures 4.1 and 4.4).

The study revealed that the high forest zone is diverse as it holds a mixture of ecological vegetation types ranging from evergreen rainforest to dry semi-deciduous forest (Hall & Swaine 1976/81). Such diversity is characterised by a wide range of flora and fauna species which influence the type of tree species and agricultural crops that grow across the forest area (Affum-Baffoe 2009). The uniqueness and richness of this system in terms of species composition has been confirmed in literature which refers to the presence of both endemic and extinct globally significant biodiversity (Hawthorne & Abu Juam 1995, Hall & Swaine 1981, MES 2002). From a user's perspective, the species composition can be categorised as timber (from natural forests and plantations) and non-timber forest products (from both plants and animals). Humans inhabit some of the reserves in the high forest zone, such as the Tano-Offin reserve.

The high forest zone is not only home to biotic elements but also to abiotic elements such as water bodies, which serve as drinking water for many rural and urban communities in Ghana. The first forestry policy of Ghana, that guided the reservation policies of the 1920s, confirms the importance of the interaction of the biotic and abiotic factors, although more emphasis was placed on abiotic factors at the time of forest reservation. The policy statement declared:

‘Conserving a sufficient area of forest suitably distributed throughout the country in order to protect water supply, prevent erosion and to ensure the maintenance of the present climatic conditions existing in the high forest zone which are essential factors in the cultivation of cocoa, cola and other crops on which the prosperity of the colony largely depends.’ (Forest Policy of Ghana, unique clause, cited in Agyeman *et al.* 2007: 4)

A system diverse in nature is also complex because of the interdependency and interaction within and among the different parts of the system. Kooiman & Bavinck (2005: 13) define complexity as ‘a function of the architecture of the relations among the parts of the system and between a system and its environment. Interactions are exchanges that take place in a context of interdependency, and also affect the partners involved’. These interactions are inherent in a nested system like the high forest zone and can be observed not only among the fauna and flora species in the food chain, seed dispersal and germination processes, but also in the human system in the competition for resources. Within the high forest zone another area of complexity lies in the different management regimes identified in this chapter and the (overlapping) legislative instruments that govern them (see Chapter 5).

In terms of dynamics, the vision prevailing in the first forest policy shifted from an environmental perspective to a utilitarian perspective with a redefined forest policy in 1948 (Chapter 5). This increased the high forest zone's vulnerability to excessive exploitation. The nation's natural resources declined rapidly as a result of deforestation, negatively affecting the national economy and the citizenry (Zhang & Owiredu 2007, Foli *et al.* 2009, Agyeman *et al.* 2010). The changes that occurred in the high forest zone resulted in the modification of the natural system through the introduction of plantation development. In spite of this plantation development, most of the forest reserves in the high forest zones are generally degraded due to the overexploitation of timber

(illegal and illegal). In addition, plant and animal NTFPs declined because of increasing production and population pressure.

The challenge resulting from the scale issues, diversity, complexity and dynamics outlined above is whether the high forest zone (and its embedded sub-systems) has the resilience to withstand the excessive pressure of over-exploitation of its resources. This determines how governable the system is and has implications for the governance process and opportunities for sustainable forest management. A system's governability is its ability to resist, restore and recover from overexploitation and associated degradation (Chuenpagdee & Jentoft 2009). Assessing the governability of the high forest zone is beyond the scope of this research, but the above analysis of the attributes of the natural system facilitates an understanding of the context in which conflicts occur and is used to assess the governability of these conflicts in the last chapter of this thesis.

*The socio-economic system: forest users and their interaction with the natural system*

Actors within the high forest zone are diverse in terms of composition, levels of geographical scales at which they operate, and their needs and interest as regards accessing forest resources. Within the socio-economic system, two key actor groups were identified, i.e. the communities and market actors, encompassing legal timber operators, chainsaw millers/loggers, commercial plantation developers and NTFP traders.

As indicated by Asare (2000) the community is never homogenous, and neither are the market actors. The communities within the high forest zone are made up of different stakeholder groupings. Those identified in the study are the community members as a collective entity, the NTFP collectors, chiefs and elders. Other studies disaggregated community stakeholders groups in terms of gender, ethnicity, social ties and religious affiliation, as well as other dimensions (Woolcock & Narayan 2000). Each of the three community actor groups identified in this study has a different position, interest, need and power with regard to access to forest resources. As they access these resources, interactions take place between them at community level and with other actors included in Table 4.2. Such interactions bring about two kinds of conflicts. One kind are those over access rights which occur mostly between actors without a legal permit and forestry officials. The other kinds of conflicts are those between competing uses that occur across actor groups with different claims to forest resources. Analyses of such conflicts will be discussed in detail in Chapters 7, 8, and 9. The fact that the local communities as a collective body were able to distinguish between intangible and tangible benefits of the forest gives a clear indication of the richness of their images of the forest.

The forest users operating in the market can be differentiated between those having legal rights to access forest resources (i.e. TUC holders, those holding a permit for NTFP collection or plantation developers) and those without such rights. According to the stakeholder analysis by representatives of local communities and representatives of government institutions, legal and illegal timber operators have a common interest in trees but differ as regards the mode of access. As discussed above, differential access is a source of conflict. The variety of actors within these two groups, their conflicting interests in forest use and access to resources and differential power and needs pose challenges to the governance system and cause it to be less governable. Such governability limitations have manifested themselves in prevalent conflict incidences, which will be presented in the case study chapters.



## Conclusion

This chapter has shown that the high forest zone is diverse as it holds a mixture of ecological vegetation types characterised by a wide range of flora and fauna and abiotic factors that play important roles in the ecosystem in addition to a variety of human actors. However, the demand for these resources to generate foreign exchange for the country and provide raw material for the timber industry and a source of livelihood have put a lot of pressure on the natural system (i.e. the high forest zone), with negative effects on both biotic and abiotic elements. Both the natural and socio-economic systems face challenges. Within the natural system, the challenge is whether the high forest zone (and its embedded sub-systems) has the resilience to withstand the excessive pressure of over-exploitation of its resources, whereas the challenge confronting the socio-economic system is for its diverse actors to derive sustainable social and livelihood needs from the forest resources. Another challenge is how the actors in the system will constructively manage conflicts over forest use and access rights.

## The governing system: Features, orders, modes and elements of Ghana's forest governance

### Introduction

Globally, the evolution of governance processes in the forestry sector poses many challenges to policymakers, forest managers and forest users. These challenges range from overcoming weaknesses in the rule of law and enforcement, the illegal use of forest resources, vague policy directions, institutional failure and competition with other land uses (Ostrom 1999, Tyler 1999, Marfo 2006). The challenges of relevance in the context of this study are usually the absence or ineffectiveness of mechanisms to manage competing claims to forest and tree resources (i.e. to accommodate them and ensure cooperative actions), which often results in conflict.

Current forest governance reforms in Ghana are oriented around stakeholder participation with a view to enhancing sustainable forest management and improving forest governance and forest-based livelihoods. In line with this the government of Ghana, through the Ministry of Land and Natural Resources and the Forestry Commission and in cooperation with civil society (with NGOs acting as 'brokers'), the timber industry and 'development partners',<sup>1</sup> has pursued several governance initiatives and programmes some of which are still ongoing. Nevertheless, forest and tree-related conflicts within the sector are ubiquitous.

This chapter contributes to the governance debate by applying the interactive governance theory developed for the fisheries sector by Kooiman *et al.* (2005) (see also

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<sup>1</sup> In Ghana's ongoing forest governance reforms, the term 'development partners' refers to international donors and development organisations that support the reforms. Examples are the EU with which the Ghana government signed the Voluntary Partnership Agreement (VPA) to combat illegal logging and improve forest governance, the World Bank with which efforts are being undertaken to reduce emissions from deforestation and forest degradations (REDD), and the National Forest Programme Facility (NFPF) of the United Nations Food and Agricultural Organization (FAO) with which the Ghana government established national and regional forums to promote stakeholder consultation and participation for the enhancement of sustainable forest management (FC-FAO, n.d.). In the rest of this chapter the term 'donors' or 'donor community' will be used.

Jentoft 2007, Kooiman 2008, Kooiman *et al.* 2008, Chuenpagdee & Jentoft 2009 and Chapter 2 of this thesis) with a view to assessing the status of Ghana's forest governing system and the governability limitations it is facing with regard to dealing with forest and tree-related conflicts. From a normative perspective it also explores the opportunities that the interactive governance approach holds for the forest sector of Ghana as regards managing forest-related conflicts. The central question guiding this chapter is: what are the characteristics in terms of features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does it deal with forest and tree-related conflicts? This central question has been divided into five sub-questions:

1. What is the historical context of the Ghanaian forest governing system in terms of its policies, legislations and conflicts?
2. What features prevail in the forest governance process (in terms of diversity, scale, complexity and dynamics)?
3. What is the quality of the three governance orders (principles, institutional arrangements and day-to-day management of conflicts) in the forest governing system?
4. How responsive is Ghana forest governance in terms of the governance modes (hierarchical, co-governance and self-governance)?
5. What is the fit of governance elements (in terms of forest actors' images, instruments and actions) with conflict management and how do actors assess the potential to strengthen forest conflict management in the governance process?

The information in this chapter is based on a review of literature and a survey among, and interviews and a workshop with, forest governors and experts and representatives of the donor community with the intention being to generate data on their knowledge, views and perceptions of forest governance and conflict management.

The following sections present the results based on the research questions after which the findings are discussed against the background of scholarly literature on the subject matter, positioning them within the myriad of forest governance initiatives in Ghana. The conclusions are presented at the end of the chapter.

## Ghanaian forest governance in a historical perspective: Colonial legacy

### *Historical background to Ghana's forest policies and its legislative instruments*

Ghana's forestry sector has undergone a massive transformation in policy reforms since scientific forestry was introduced in the first decade of the twentieth century (Table 5.1). The first forest policy of 1908<sup>2</sup> focused on forest preservation to protect water and boost cash crop production (see Chapter 4). In 1910 a Forest Bill was introduced which gave the colonial government the right to appropriate land for the creation of forest re-

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<sup>2</sup> Different versions of the first forest policy of Ghana are given. Kotey *et al.* (1998) recognise the first formal forest policy as being the 1948 policy, whereas Bilijo (2005) distinguishes three phases in the history of forest policy in Ghana, each of which is backed by a specific forest policy: one starting with the 1908 forest policy (colonial government), one with the 1948 forest policy (colonial/post-colonial) and the current phase which starts with the 1994 Forest and Wildlife Policy (post-colonial). The overview here (see Table 5.1) follows Bilijo (2005) who, in turn, strongly builds on Kotey *et al.* (1998).

serves. This was opposed by the Aborigines Rights Protection Society<sup>3</sup>, which interpreted the reservation process as an attempt by the colonial power to expropriate indigenous lands. It also led to the local people opposing and responding to this process by rapidly converting forests into farmlands in order to avoid reservation (Francois 1987). Ultimately the Bill was withdrawn in 1911 (Ageyman *et al.* 2010).

The 1908 colonial forest policy was supported by three complementary pieces of legislation, i.e. the Native Authorities' Ordinance No. 18 of 1927 (Cap. 111), the Forest Ordinance of 1927 (Cap. 157) and the Concessions Ordinance of 1939 (Cap. 136). Colonial forest policy recognized the customary governing system of giving power to traditional authorities. With the consent of the traditional authorities, provisions were made to release stool lands to be constituted as forest reserves. Most of the demarcation and reservation processes took place between 1928 and 1939. According to Amanor (2005: 17), 'the colonial forestry policy disempowered rural farmers to empower the state through the chiefs, by creating customary systems that vested land in paramount chiefs and facilitated expropriation of land for the creation of forest reserves'. Until then, land had been under the control of the town chiefs who consequently disputed these claims (Rathbone 1993, Addo-Fenning 1997). The ordinances of the 1920s and 1930s gave traditional rulers the right to grant timber rights to commercial loggers, albeit with endorsement from the colonial legal system (court). Even though power and rights were given to the traditional authorities, the colonial rulers sought to gain control over natural resources. Colonisation through the native authorities gave them power over local communities in order to help foreign corporate access to land resources (Opoku 2006). These policies discouraged traditional subsistence activities and were intended to force communities into the cash economy away from the forest resources (*Ibid.*). Local communities were then forbidden to farm, fell trees or cause damage to trees in the forest except on the basis of permits endorsed by a Forest Officer (Agyeman *et al.* 2010).

The year 1948 marked the start of an era in which the environmental perspective and its focus on forest protection shifted towards a utilitarian perspective with a focus on maximum productivity and value on the basis of sustained yield (Bilijo 2005.). The 1948 forest policy document consisted of eight clauses but fell short of meeting the desired objectives (Agyeman *et al.* 2010). During that period, timber exploitation was high on the political agenda and the period is therefore referred to as the 'timberisation' era (Kotey *et al.* 1998, Bilijo 2005). The priority given to the timber industry resulted in immense cash income for the timber merchants and revenue for the state, but local people's NTFP livelihood base was destroyed by excessive logging. The new emphasis on timber production strengthened the British economy and met Europe's post-war reconstruction needs (Bilijo 2005). Furthermore, under the Forest Ordinance the royalties given to landowners were reduced from 70% to 40% because the colonial government shifted the burden of increased costs of reserve management to the landowners (Opoku 2005). Nonetheless, when the Gold Coast attained independence and became the Re-

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<sup>3</sup> The Aborigines Rights Protection Society was formed in May 1897 by traditional leaders and the educated elite in Ghana society following the Crown Lands Bill of 1896 and the Lands Bill of 1897 (Nti 2002). Kimble (1963: 330 cited in Nti 2002) attributes the historical roots of this organisation to (i) the chequered history of attempts to form associations among educated Africans, (ii) the growing tradition of protest against colonial government, (iii) the conscious revival of respect for national traditions, and (iv) a deep-rooted reverence for land as the foundation of community life. Colonial Government officials considered the Society as mere land speculators (*Ibid.*).

public of Ghana, the postcolonial government changed little in the structure and functioning of forestry in Ghana and did little to curtail the power and privileges of the industry (Smith 1999 cited in Opoku 2005: 20). Instead it strengthened state control over local governance and natural resources (Sasu 2004).

The Forestry and Wildlife policy of 1994 in Ghana marked a major paradigm shift towards collaboration and decentralisation initiatives in the sector during almost all of the past two decades. The period 1994-2011 is discussed in more detail later in this chapter.

Table 5.1 outlines the timeline of different policies and legislations that have governed the allocation, use and management of forest resources, and the sanctions since scientific forestry was introduced in Ghana in the early 20<sup>th</sup> century.

*Table 5.1* Timeline of Ghana's colonial and post-colonial forest policies and legislations (1908-2011)

1908-1948 (40 Years in existence)	1948-1993 (44 years in existence)	1994-2011 (17 years in existence)
Colonial period: Era of Protection	Colonial and post-colonial period: Era of 'Timberisation'	Post-colonial period: Era of pro-poor forest policy and emergence of governance
<b>Objectives of 1908 Forest policy:</b> <i>'Conserving a sufficient area of forest suitably distributed throughout the country in order to protect water supply, prevent erosion and to ensure the maintenance of the present climatic conditions existing in the high forest zone which are essential factors in the cultivation of cocoa, cola and other crops on which the prosperity of the colony largely depends.'</i>	<b>Objectives of 1948 Forest policy:</b> <i>'Management of forest reserves by methods which will achieve maximum production and value on the basis of sustained yield.'</i>	<b>Objectives of 1994 Forest and Wildlife policy:</b> <i>'Manage and enhance a permanent estate of forest and wildlife resources; promote and develop viable and efficient forest-based industries; promote public awareness and involvement of rural people in forest management and conservation; promote research-based and technology-led resource management and Develop institutional capacity at all levels.'</i>
<b>Legislative instruments</b>		
<b>*Native Authorities Ordinance No. 18 of 1927 (Cap. 111)</b> - Established local government system with power being given to the paramount chief and his traditional council of elders.	<b>*Trees and Timber Ordinance No. 20 of 1949 (Cap. 158)</b> – Responds to the regulatory needs of the fast-growing timber industry.	<b>Timber Resources Management Act, 1997 (Act 547)</b> – Repealed the Concession Act of 1962 (124) and provided for the granting of timber rights in a manner that secures the sustainable management and utilisation of timber resources.
<b>Forest Ordinance 1927 (Cap. 157)</b> – Constitution of forest reserves on (a) state land, (b) stool lands at the request of Native Authority, and (c) private lands at the request of owners.	<b>*Local government ordinance (No. 51)</b> – Repealed Cap. 111.	<b>**LII649 Timber Resource Management regulation, 1998-</b> provided guidelines for the allocation and management of timber resources.
<b>*Concessions Ordinance 1939 (Cap 136)</b> – Regulated the granting of commercial timber rights by stool or 'natives' and endorsement by court through certificates of validity.	<b>*Forest Improvement Fund Act, 1960 (Act 12)</b> – Deprived chiefs of their economic power by centralised collection and management of forest revenues.	<b>The Forestry Commission Act 1999 (Act 571)</b> – Repealed Act 453 and re-established the Forestry Commission as a semi-autonomous corporate body. It also brought the forestry sector agencies under the FC.

<p><b>*Concessions Act, 1962 (124)</b> – Vested all timber or tree rights in the state.</p>	<p><b>Forest Plantation Development Fund Act, 2000(Act 583)</b> – Consolidated the Forest Improvement Fund for the development of private commercial plantations in the country.</p>
<p><b>Forest Protection Decree, (NRCD 243)</b> – Defined forest offences and prescribed sanctions and or penalties for such offences.</p>	<p><b>Forest Plantation Development Fund (Amendment) Act, 2002(Act 623)</b> – Enabled both public and private plantation growers to participate in forest plantation development.</p>
<p><b>Trees and Timber Decree 1974 (NRCD 273)</b> – Extended Forestry Department jurisdiction outside forest reserves. It also prescribed guidelines for participation in the logging/timber industry and provided for the payment of fees and defined sanctions for non-compliance.</p>	<p><b>The Forest protection (Amendment) Act 2002(Act 624)</b> – Repealed the forest protection (amendment) law of 1986 (PNDCL 142) and increased forest offences fines and introduced joint liability in the commitment and prosecution of forest offences.</p>
<p><b>*The Forest Protection (Amendment) law, 1986(PNDCL 142):</b> Increased the penalties/fines for forest offences.</p>	<p><b>Timber Resources Management (Amendment) Act, 2002 (Act 617)</b> – Amended Act 547 to exclude from its application land with private forest plantation to establish a maximum duration and upper limit for the scale of operations for the total area under timber rights, and to provide incentives and benefits for investors in the forestry and wildlife sector.</p>
<p><b>*Ghana Forestry Commission Act, 1980 (Act 405)</b> – Established the Forestry Commission in line with the 1979 constitution.</p>	<p><b>**LI1971-Timber Resources Management (Amendment) Regulations, 2003</b> – Amended LI1649 and established the basis for competitive bidding in timber resource allocation.</p>
<p><b>*Forestry Commission Act, 1993 (Act 453)</b> – Repealed Act 405 and established the Forestry Commission as an advisory body.</p>	<p>The 1994 Forest and Wildlife is under review since 2008.</p>

Note: There are 3 wildlife laws with 9 amendments (mainly gazetted Protected Areas and Resource Reserve governing the wildlife management in the Country (World Bank 2006)

Key: \* = These laws have been repealed; \*\* = These laws are subsidiary.

Sources: Kotey *et al.* (1987), Opoku (2005), Biliyo (2005), Owusu (2005), Bamfo (2005) and Ghana forest policy and legislations documents available online at <http://www.fcghana.org> (accessed on 23 January 2010)

*The governing system as a source of conflicts: A historical perspective*

Conflicts related to forest resources in Ghana took place in forest reserves and off-reserve areas and across the different levels of geo-political scale in the country. These conflicts are multifaceted as they involve several actors such as farmers, timber operators, chainsaw operators, forest officers, and other interest groups. An insight into the historical background to some of these conflicts provides a basis for a better understanding of the present situation. From a historical perspective, forest conflicts began in the era when forested lands were forcibly included in the forest reservation process. The buyout of the Forest Bill in 1911 led to another means of governing instrument termed 'Indirect Rule' being used. The colonial government gave the chiefs the responsibility for native administration and therefore gave them power to control land, natural resources and labour services. Under this new rule, chiefs were entitled to gazette forest reserves within a specific period of six months after prior notice had been given to the landowners (Amanor 2005, Agyeman *et al.* 2010). Whenever a chief failed to create the forest reserves, the colonial government intervened to ensure reservation. However, the regulations had created sufficient incentives for the chiefs to undertake the reservation process, as it enabled them to claim more lands and benefit from royalties. Local people lost out in the process as they were excluded from land that they could otherwise have used for agriculture or to negotiate concessions for the extraction of valuable timber resources (Amanor 2005: 17). Until then farmers in some parts of Ghana were entitled to sell a timber tree on their cleared land if they had permission from the local chief and they would then pay the chief part of the proceeds (Amanor 2005). According to Francois (1987), the colonial government failed to enter into a dialogue with the local communities on how best to implement the reservation process and instead used force to achieve its objectives. As already mentioned, the local communities responded to this by rapidly converting forests into farmlands. As a consequence the reservation process and its governing instruments were fraught with conflicts right from the start. Personal communication with a retired forester revealed that most of the forest reserves constituted after 1952 were accompanied with reported conflicts incidences and offences because the reservation itself started life on the basis of misunderstandings and conflicts. He gave four reasons to support his assertion (Box 5.1).

Another basis for conflict is the loss of negotiation rights on timber trees by the chiefs and landowners. Interestingly, the governing system that brought the traditional leaders into power as resource managers was also used to take away their right to negotiate concessions on stool lands that had hitherto been under their jurisdiction. The 1962 Concession Act assigned that power to the state. However, it could not take away the land rights since this move was fiercely opposed by the traditional leaders (Kotey *et al.* 1998). Nonetheless, the poor demarcation and documentation of land rights became a source of forest conflict in itself. Even though colonial rulers did not contest the land ownership rights of the chiefs and other landowners, the Reserve Settlement Commission, which served as an arbitration platform, denied individual farmers the chance and choice to either dissent or commute their land rights into another form of interest (Ohene-Gyan 2004). Currently, many of the forest conflicts surrounding the expansion of admitted farms, for example, are still the result of this deficient tenure system.

Illegal farming soon became prevalent after Ghana's independence on 6 March 1957 when several claims for admitted farms were made (England 1993, Ohene-Gyan 2004).

### Box 5.1 Reasons underlying forest reservation conflicts

- Since forestry was practised by technocrats and the policies vested the right to all timber trees in the State, the local people were alienated from natural resources. The technocratic policy flow did not allow for participation in forest management. In reality, timber tree tenure was exercised on the basis of strict protection which took land away from the people.
- The cocoa frontier shifted from the Ashanti region to the Western region, turning cocoa into a prominent cash crop. As a consequence, land areas proposed for reservation were made subject to severe restrictions by the stool landowners who had an interest in cocoa cultivation.
- The proposed period of reservation coincided with the nation's struggle for independence and therefore contributed to the conflictive nature of the reservation process.
- When the colonial masters left, forest reservation was politicised among politicians who opposed to the reservation process.

Source: K.K.F. Ghartey, retired forester, pers. comm, May 2009.

There was considerable pressure to release these farms and the government agreed to their exclusion from forest reserves. In a statement in the National Assembly on 10 July 1957, the then Minister for Agriculture announced that all those who had already set up cocoa farms in forest reserves should be allowed to retain such farms after survey and demarcation (Hansard Cols.<sup>4</sup> 1874 and 1875). Thereafter the public was notified in Gazette Notice (GN) 385 Gazette No. 16 of 20 February 1960. The notice set a time limit of three years from the date of the Minister's announcement within which all claims by cocoa farmers were to be received by the Forestry Department of the Ministry of Food and Agriculture (Anonymous<sup>5</sup> 1985).

The notice added that any claims for cocoa farms received after 9 July 1960 would not be admitted. Acting in this way reflected the government's decision to recognise all hitherto illegal, unclaimed, and existing farms in forest reserves (*Ibid.*). Towards the end of the three-year grace period, large-scale clearing and farming took place in forest reserves. These illegal farms had to be recognised because they fell within the period of grace. This recognition of illegal farms on the orders of the government meant that illegal farming de facto became legal in 1960. Farmers considered encroachment on reserves as a right since the illegal farms would eventually be given to them through the courts either after they had been sentenced to a fine or via a petition to the government. Considering the petty fines, illegal farming indeed became a lucrative investment. Attempts by the Forestry Department in 1969 to destroy illegal farms, especially in the Desiri forest reserve, were quickly stopped by order of the government and farmers gained the upper hand when it came to continuing illegal farming with vigour (England 1993, Ohene-Gyan 2004). This indeed encouraged further encroachment into other reserves in the Western regions (England 1993).

<sup>4</sup> Hansards is the name of printed transcripts of parliamentary debates in the Westminster system of government that Ghana inherited from its colonial past. Cols. refers to Hansards reference, which are 1874 and 1875.

<sup>5</sup> The author is a former staff member of the Forestry Department, who preferred to remain anonymous.



Amanor (2005: 20) recorded the genesis of off-reserve conflicts as being the expansion of the concession system into farmlands. He reports on increasing conflicts between timber companies, chainsaw operators, farmers and the Forestry Department during the 1980s and early 1990s, as the export timber companies encroached onto farmlands to fell timber trees, thereby causing extensive damage to farms and plantations without being punished. Chainsaw operators who had been encouraged during the recession years<sup>6</sup> now found their livelihoods threatened and their activities criminalised. Farmers deliberately destroyed timber trees on their land and prevented them from regenerating to prevent concessionaires entering their farms. Those who maintained the trees were sometimes poorly compensated or not compensated at all for crops that were destroyed during the harvesting operations (Inkoom 1999, Marfo 2006). As conflicts and hostility mounted, especially towards the Forestry Department, the Collaborative Forest Management Unit (CFMU) was established in 1992 with the aim being to develop a better relationship with local people. Despite the reform, the central issues of access and rights to timber on farmland were not addressed and are still not being addressed, with farmland conflicts between farmers and timber operators therefore continuing unabated (Marfo 2009, Agyeman *et al.* 2010).

Another kind of forest conflict based on a recent law is linked to the illegal felling of timber as either logs or sawnwood. Illegal chainsaw operations have increased in Ghana despite the ban in 1998 as most people involved in these operations consider it as their main source of livelihood. In addition, chainsaw logging is the primary source of timber for the domestic market (Odoom 2005, Adam *et al.* 2007, Marfo & Acheampong 2011). Missed benefits from royalties, stumpage fees and social responsibility agreements between the timber companies and local communities, competing claims for timber and tree resources and the extraction of NTFP resources are all sources of conflicts associated with illegal logging (Chapter 8).

## Features of the current governing system

This section addresses the question regarding the features that prevail in the forest governance process in terms of diversity, complexity, scale and dynamics.

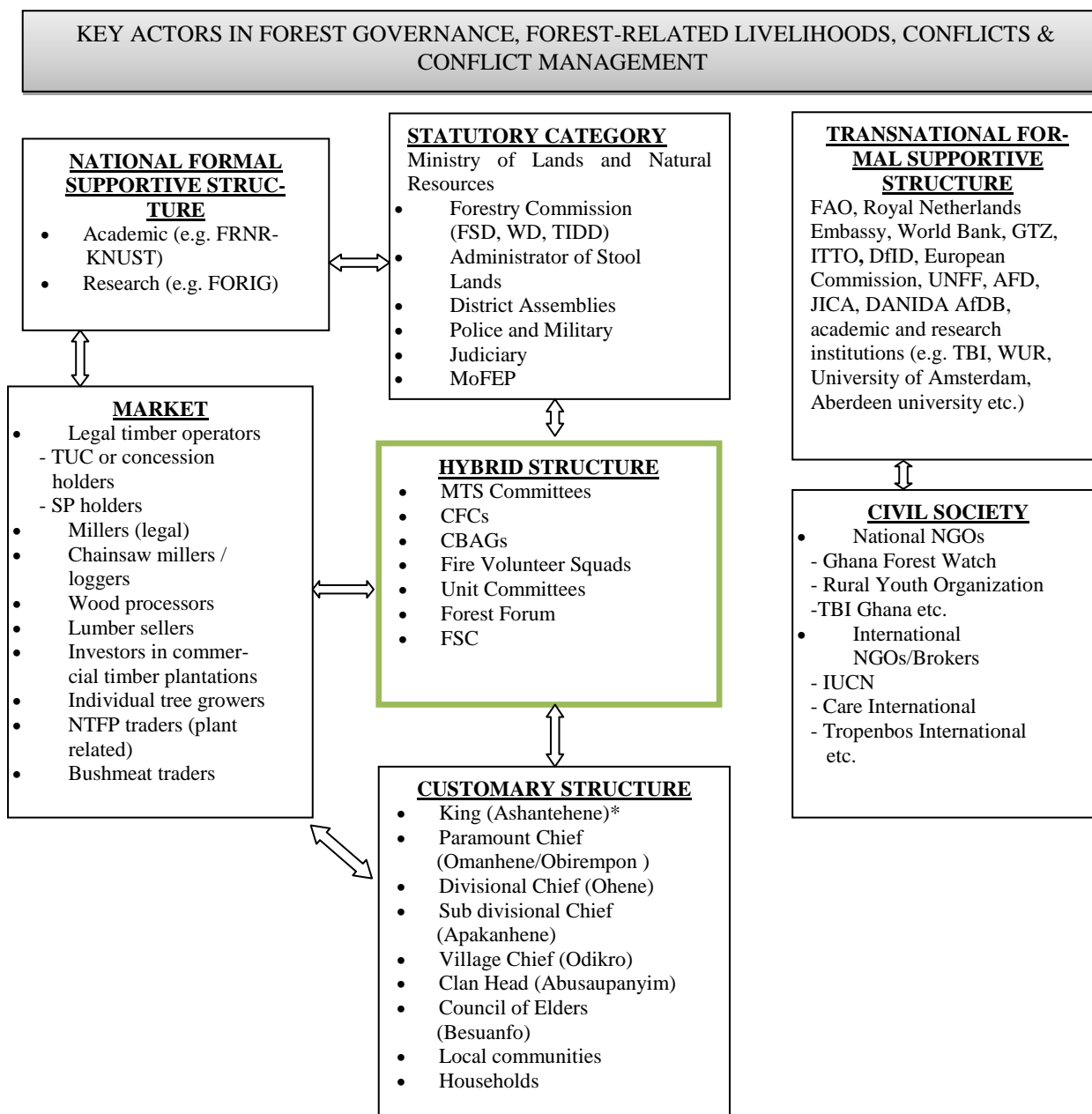
### *Diversity in institutional structures: The governing actors*

Kooiman & Bavinck (2005) place actors into three categories, i.e. the state, market and civil society. Lemos & Agrawal (2006: 310) distinguish three social mechanisms through which interactions between these actors take place, i.e. public-private partnerships, co-management and private-social partnerships. Ros-Tonen *et al.* (2008) add civil society coalitions and NGO community partnerships to take account of civil society actors at levels of scale higher than the community. Considering the transitional nature of the Ghanaian governance process, a number of actors do not fit neatly into one

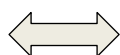
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<sup>6</sup> The timber industry in Ghana collapsed in the early 1980s, mainly due to the global recession in the late 1970s and early 1980s. The IMF intervened through a Structural Adjustment Plan, thereby promoting the expansion of Ghana's exports as a way to generate foreign exchange. The World Bank's Export Rehabilitation Project of 1983-86 focused special attention on Ghana's timber sector by renewing sawmills, modernising logging operations, rebuilding harbours and increasing timber exports (Glastra 1999). Based on this review, Glastra concludes: 'The economy improved, but at the expense of Ghana's forests' (*Ibid.*: 59).

Figure 5.1 The governing structures in forest governance process in Ghana forestry sector



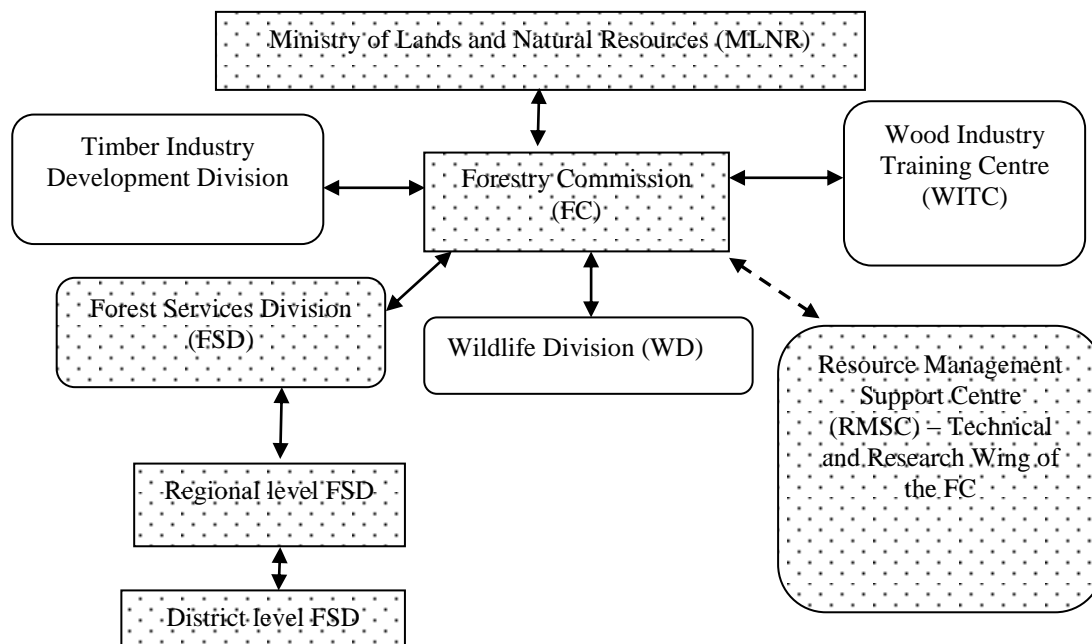
**Acronyms in alphabetical order:** AfDB = African Development Bank; AFD = French Development Agency; CBAGs = Community Biodiversity Advisory Groups, CFCs = Community Forest Committees, DANIDA = Danish International Development Agency; DfID = Department for International Development (UK), FAO = Food and Agriculture Organization of the United Nations, FORIG = Forest Research Institute of Ghana, FRNR-KNUST = Faculty of Renewable Natural Resources of Kwame Nkrumah University of Science and Technology, FSC = Forestry Stewardship Council, FSD = Forest Services Division, GTZ = Deutsche Gesellschaft für Internationale Zusammenarbeit; HIPC = Highly Indebted Poor Countries; ITTO = International Tropical Timber Organization; IUCN = International Union for the Conservation of Nature; JICA = Japan International cooperation Agency; MTS = Modified Taungya System, NGOs = Non-governmental organisations, NTFP = Non-timber forest products, SP = Salvage Permit, TBI = Tropenbos International; TIDD = Timber Industry Development Department, TUC = Timber Utilisation Contract, WD = Wildlife Division; UNFF = United Nations Forum on Forests; WUR = Wageningen University and Research Centre



The arrow indicates a flow of interactions which may complement or conflict within and between governing structures

\* Exists among the Ashanti tribes in Ghana only.

Figure 5.2 Ministry of Lands and Natural Resources and Forestry Commission



specific category. Most previous studies on actors in the Ghanaian forest sector have placed actors under either the state, civil society or the private sector or have categorised them under primary, secondary and tertiary levels (Owusu 2009, Mayers & Kotey 1996, Kotey *et al.* 1998). This study introduces a new governing structure termed the hybrid-governing mode. In this mode, actor constellations are mostly formed through the integration of two or more of the governing structures (see Figure 5.1). It is essential to delineate this mode from the other five categories because actors ‘are often constrained or enabled in their actions by structures’ (Bavinck *et al.* 2005: 29).

The hybrid mode facilitates their continuous changing from one governing mode to another<sup>7</sup> and their ability to operate at different levels of scale while being positioned at one geopolitical level. The proposal is therefore to arrange actors into six main categories: (i) actors in the formal/statutory governing structure (ii) actors in the traditional or customary category, (iii) actors in the market category, (iv) actors in the civil society category, (v) actors in the international community, and (vi) actors in the hybrid category. The local communities under the traditional governing structure and the various actor groups under the market governing structure in Figure 5.1 were discussed in Chapter 4 as they were considered to be direct forest users. The actor categorisation presented in Chapter 2, guided the choices regarding the actor constellations in the various categories based on their roles and interests.

#### – Actors in the statutory governing structure

In this study, actors that are legally mandated to manage the forest and tree resources are termed ‘forest governors’. These include the Ministry of Lands and Natural Re-

<sup>7</sup> In this respect the concept of hybrid governing structure is more dynamic than the notion of neo-African governance proposed by Siloma & Zaal (2005) which refers to hybrid governance forms in which formal governing bodies, traditional leadership structures and non-governmental and community-based organisations amalgamate.

sources (MLNR), which is responsible for designing appropriate governance principles and guidelines enshrined in policy and laws, as well as for monitoring and directing the policies. Under the MLNR the two most important institutions with regard to forest and tree-related resources are the Forestry Commission (FC) and the Administrator of Stool Lands (Figure 5.1). The FC has three key divisions, namely the Forest Services Division (FSD), the Wildlife Division (WD) and the Timber Industry Development Division (TIDD), and a technical and research wing known as the Resource Management Support Centre (RMSC). The FC's responsibilities include ensuring effective implementation of the policies, laws and effecting management goals related to sustainable forest and wildlife management and development of the timber industry (see Figure 5.2 for the structure of the mandated institutions indicating the study respondents in shades).

The Administrator of Stool Lands – established by the 1992 Constitution and 1994 Stool Lands Act (Act 481) – is in charge of the management of stool lands on behalf of the communal landowners<sup>8</sup> as well as the disbursement of royalties to the respective beneficiaries. In addition to the forest governors, other relevant actors in the statutory category are those in charge of forest law enforcement, being the District Assemblies, the Ghana Police Service, Military and the Judiciary. The District Assemblies form the local arm of the government at the district levels. Although not directly law enforcement bodies, they have the mandate to enact byelaws that govern against environmental destruction. As stated in the Ghana Police Service Act of 1970 [Act 350] the functions of the Ghana Police Service are: (i) crime detection and prevention, (ii) apprehension (arrest) and prosecution of offenders, (iii) maintenance of law and order, and (iv) due enforcement of the law. With respect to the prevalence of illegal forest activities, the military have been involved in the monitoring of illegal timber operations in Ghana and therefore in collaborating with the police and the FC to form a task force. The judiciary is the third arm of government (the other two are the executive and the legislature), autonomous and vested with the judicial power of the nation. It has the sole responsibility for interpreting the constitution and laws, administering justice and providing other related services (see Chapter 11 for a more detailed discussion of the three key forest law enforcement agencies – the police, FC and the judiciary).

The Natural Resources and Environmental Governance programme (NREG) has focused attention on the Ministry of Finance and Economic Planning (MoFEP) as an important actor in terms of control and management of finances in the forest sector (World Bank 2006). There are other actors which are closely related to the formal/statutory structure but which are not officially part of it. At national level these include organisations supporting forestry development, research and capacity building, such as academic institutions (e.g. the Faculty of Renewable Natural Resources (FRNR) at Kwame Nkrumah University of Science and Technology – KNUST) and research institutions (e.g. the Forestry Research Institute of Ghana – FORIG).

– Actors in the traditional or customary governing structure

The traditional or customary governing structure consists of communities and customary institutions. The customary governing structure has different levels of hierarchy. The village chief (locally called *Odikro*, which literally means 'caretaker of the village') resides near the forest resources, even though he is not the landowner. The *Odikro* is normally appointed caretaker chief at village level by the divisional chief (*Ohene*) under

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<sup>8</sup> URL: <http://www.ghanalop.gov.gh/index1.php?linkid=88> accessed on 23 January 2010.

whose jurisdiction a number of *Odikros* serve. In turn, the *Ohene* serves under the head of the traditional state (*oman*), the paramount chief (*Omanhene* or *Obirempon*)<sup>9</sup> (Mayers & Kotey 1996, Kasanga 2003, Kendie & Guri 2006). Prevailing only among the Ashanti tribes is a king who rules over a kingdom called the Ashantehene who resides over the Golden stool and is therefore the owner of the stool lands within the Kingdom.

Traditional councils are bodies created around a paramount chief and consist of stools and chiefs. The traditional councils, based on a combination of statutory and customary law, often hold the landholding authority in the High Forest Zone (Mayers & Kotey 1996). In Ghana, 78% of the land is in the hands of customary landholders (Sasu 2004). An important traditional authority in this respect is the stool. The stool (or in Northern Ghana, the skin) is the symbol of chieftaincy at all levels. In statutory law, a stool (or skin) is defined as any person or body of persons having control over community land, including family land, as a representative of a particular community (Kasanga 2003). The stool can only hold land in trust for communal landowners but has no say in the management of forest resources, which fall under the jurisdiction of the FC. The management of stool lands is in the hands of the Administrators of Stool Lands, which body is part of the formal/statutory governing structure.

#### – Actors in the civil society governing structure

The civil society governing structure in the forestry sector consists of national and international environmental organisations as well as NGOs that contribute to capacity building, forest restoration, ensuring legality and advocate for policy reforms. Examples of national organisations engaged in advocacy include Forest Watch Ghana (FWG) and the Rural Youth Development Association (RUDEYA) for grassroots community development. The international NGOs in this arena include Tropenbos International Ghana for research and capacity development, Care International for humanitarian aid and the International Union of Conservation and Nature (IUCN), which often serves as a ‘broker’. Tropenbos International (Ghana) plays a dual role in both academic research and influencing policy reforms in the civil society arena and was therefore placed both under the international supportive structure and under civil society in Figure 5.1.

#### – Actors in the hybrid governing structure

This study identifies three actor groups in the hybrid governing structure. The first one can be found at community level and is a blend of statutory and customary influences. The reason for this is that the formal sector (notably the FC) engages people from the traditional/local governing structure in its own governing structures. Specific examples are (i) the Modified Taungya System (MTS) farmers, (ii) Community Forest Committees (CFCs), (iii) Community Biodiversity Advisory Groups (CBAGs), (iv) Fire Volunteers Squads and (v) Unit Committees. Mayers and Kotey (1996), Kasanga (2003) and the World Bank (2006) clearly spell out the different mandates these local governing structures play. The MTS farmers are engaged in a co-management arrangement with the FC, under which they are allocated rights to plant crops in reforestation schemes in return for tending the tree seedlings and saplings and a share in the proceeds. Communities are empowered to participate in forest resource management by acting as social fences in the protection of Globally Significant Biodiversity Areas within forest re-

<sup>9</sup> The female counterparts of the *Omanhene* and *Ohene* are referred to as *Ohemaa* (queen mother) whereas the female counterpart of the *Odikro* is the *Obaapanyin*. The latter can be the chief’s mother, his mother’s sister, sister, a mother’s sister’s daughter or a sister’s daughter (Kendie & Guri 2006).

serves through their participation in CBAGs. They also engage in preventing and combating wild fires through their participation in Volunteers Squads and by stimulating local development based on communal labour and village fundraising to build schools, clinics, wells and latrines through their participation in Unit Committees.

The second group is the Forestry Forum.<sup>10</sup> Within the context of Ghana, the forestry forums have been established to engage different actors (i.e. state agencies such as the FSD, local government, MOFA, etc.), the private sector (i.e. timber loggers, millers, timber traders, chainsaw operators etc.) and civil society (i.e. communities, traditional leaders, NGOs, CBOs etc.) in dialogue on forestry issues on a common platform. Currently, there are district, regional and national forums with a national secretariat in Kumasi. When together, these actor groups try to find common ground and share a common vision, but each has its own objectives that it wishes to achieve. As a consequence, depending on the platform, they may have different ways of expressing themselves either for their individual group or as a collective body with a common 'voice' to pursue an agenda.

The Forest Stewardship Council (FSC) is the third group and could also be considered part of the hybrid sector in the sense that it consists of representatives of both the market governing structure (representatives of the timber industry) and the civil society governing structure (environmental and social organisations). The literature is not clear about this. Some consider FSC as a form of private governance (e.g. Pattberg 2005), whereas others indeed classify it as hybrid governance (e.g. Gulbrandsen 2004.). However, the blend of market and civil society elements means these are regarded here as being hybrid.

#### – Actors from the transnational arena

Actors that are closely related to almost all the five national governing structures mentioned above – the formal/statutory, customary, civil society, market governing, and the hybrid governing structures – are those from the international arena that sponsor and support forestry development through institutional strengthening and policy planning, research and capacity development (i.e. both human and logistics). As shown under the International formal supportive structure in Figure 5.1, some of these foreign governmental, inter-governmental, development, and multilateral partners include the UK Department for International Development (DFID), the Food and Agriculture Organization of the United Nations (FAO), the Royal Netherlands Embassy, the African Development Bank, and the World Bank. International academic and research organisations (e.g. Wageningen University, the University of Aberdeen, the University of Amsterdam and Tropenbos International etc.) also fall into this category.

#### *Complexity*

The diversity of actors outlined in the previous section and their conflicting roles contribute to forest conflicts. Most of their interactions are discussed in later chapters in which the case studies are presented. This section discusses the forest governors' and experts' views of the complexity of the relations between the actors in the governing system. In order to know whether actors' actions or inactions contribute to forest conflicts, the forest governors and experts involved in the survey and interviews were asked

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<sup>10</sup> The forum concept was initiated by the UK Department for International Development (DFID) under the second Forest Sector Development Project (FSDP II) and expanded by the United Nations Food and Agriculture Organisation (FAO) under the FAO/NFP facility.

about forest actor's roles that undermine the governing system. Their responses are presented in Box 5.2 and clearly illustrate the challenges that forest management and the governance process are facing. Each actor's actions or inactions while performing their roles and duties could be a source of conflicts ranging from policy implementation to inequity in resource access.

### *Scale*

On paper Ghana is one of the most decentralised countries in West Africa. The political and administrative decentralisation came into full operation during the enactment of the nation's constitution in 1992 (Constitution of Ghana 1992, Kpessa 2011). Similarly, the forestry sector has a decentralised structure since it has forty-six (46) forest districts across the ten regions of Ghana. However, re-echoing Sasu (2004) in practice decentralisation may not exist or may be in its 'infant' stage. Although forest decentralisation policies are well developed in Ghana, the decentralisation process has suffered because of the central government's reluctance to decentralise key revenue-generating sectors such as forestry and mining (Sasu 2004).

The weakness of the forestry decentralisation process was that it was driven by the Forestry Commission, which has its own centralisation agenda. According to Amanor (2005), the Forestry Commission's resistance to decentralisation resulted in it establishing its own form of collaborative forest management<sup>11</sup> as a form of 'centralised' decentralisation. However, this only allows rural people to participate in the Forestry Commission's agenda, rather than to set their own agendas (*Ibid.*: 21).

Until the late 1990s, local communities and other stakeholders were barely involved in forest management. Although the decentralisation policies devolved a number of key functions and decision-making processes to the District Forestry Office, implementation of the decentralisation process in terms of involvement of civil society, non-governmental organisations (NGOs) and community-based organisations (CBOs) has been slow (Sasu 2004). There is therefore a clear indication that the implementation of decentralisation as a governance reform is a challenge. The forest sector's 'incapacity to implement' was also identified as a problem by the World Bank (2006).

In spite of the lack of a clear decentralisation pathway in the forest sector and legislative backing for collaborative resource management, some of the community forest management programmes have created avenues for participation and opened up opportunities to consider community grievances in policy formulation. Some of these collaborations and partnerships between local communities and other stakeholders are compiled in Box 5.3. As was noted earlier in this chapter, several of these collaborations belong to the hybrid governing structure, which allows the actors to operate across different levels of scale.

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<sup>11</sup> Here the author referred to the establishment of Community Forestry Committees (CFCs) and Customer Services Centres. The customer services centres were piloted in some forest districts across the country under the second Forest Sector Development Project (FSDP II). The customer services officers are responsible for educating the local communities and implementing community level projects.

**Box 5.2** Actions and inactions of forest actors that hamper the governing system as perceived by forest governors and experts

**Ministry of Lands and Natural Resources**

- Formulates policies that do not take the interests of some of the actors into consideration.
- Interferes with forest implementation activities.
- Formulates policies that enmesh with ambiguous tenure systems.
- Is unclear as regards policy implementation.

**Forestry Commission**

- Circumvents policy on tenure systems.
- Implements policies that are not in balance with stakeholders' interests.
- Implements policies and regulations in a non-transparent way.
- Interferes with operations instead of decentralising authorities to the Divisions with a clear chain of command.

**Forest Services Division**

- Some compromise their integrity by conniving with forest operators on illegal activities.
- Fail to enforce existing laws.
- Engage in poor forest management planning and implementation through ignorance of legislative rights of stakeholders, which results in conflicts.
- Have a more timber-oriented focus

**Judiciary**

- Biased adjudication of justice in forest-related cases (corruption, poor interpretation of the law).
- A lack of interest in forest and tree cases.

**Police /Military**

- Some compromise their integrity.
- Only partially enforce laws.
- Tend to overuse force to implement regulations.
- Are biased against some actors.
- Collect bribes and take sides in forest offence cases

**Forest fringe communities and the various community-based organisations**

- Competing interests in forest/tree resource use and forestlands.
- Connive with some forest offenders with a view to engaging in illegal harvesting and farming.
- Often take the law into their own hands when they disagree with one or more actors.

*(continues)*



*(cont'd)***Formal timber operators** (on and off-reserve TUC holders)

- Destroy farms and disregard local norms and cultures.
- Obtain their source of raw materials from legal sources but do not sell the obligatory 20% on the local market.
- Disregard the terms and conditions of contracts and do not comply to the logging standards.
- Sometimes refuse to comply with social responsibility agreements (SRAs).
- Fell more trees than officially allocated.

**Lumber sellers**

- Finance illegal chainsaw operators and instigate people against FC staff or police.
- Obtain lumber from illegal sources and refuse to disclose sources and suppliers.

**Chainsaw millers**

- Connive with farmers, the FSD and the police to harvest and transport products to clients.
- Destroy trees and farms with crops without compensation.
- Employ some members of the community to carry the lumber and give money to some leaders in the community.

**Traditional leaders**

- Some leaders at community level connive with illegal operators/millers.
- Most stool land chiefs keep royalties or funds from forest resources for themselves.

**NGOs (national and international)**

- Lobby for resource benefits outside prevailing laws.
- Fail to educate stakeholders on forest-related laws.
- Instigate confrontation between resource managers and communities.

**District Assemblies**

- Fail to use some of the royalties for social development at the site where logging takes place.
- Are not transparent in managing funds from forest resources.

**Academic institution (Faculty of Renewable Natural Resources)**

- Do not incorporate conflict management techniques in conventional training of resource managers.

**Transnational community**

- Short-term interventions which do not often results in achieving interventions goals.

**Box 5.3** *Several collaboration initiatives between local communities and other stakeholders*

**The Modified Taungya System (MTS).** The MTS is an agroforestry system that was introduced in Ghana in 2002 in a bid to support both rural livelihoods and address Ghana's deforestation problem. It is an adapted version of the old taungya system, which was suspended in 1984 partly due to a lack of farmers' support for it. Under the MTS, farmers receive land to grow food crops alongside the planted timber trees during the early years of plantation development (Ledger *et al.*, 2010). This form of co-management is a major source of both cash and non-cash income to some forest fringe communities (see Insaadoo *et al.*, submitted). However, there are several challenges such as uncertainty about the continuity of the scheme (see Chapter 8).

**Boundary cleaning.** This is an agreement between the FSD and members of the Community Forestry Committees and Community Biodiversity Advisory Groups) for cleaning forest reserve boundaries in exchange for wages.

**The National Forestry Forum (NFF).** The forestry forums have been established to engage different stakeholders from the actor groups in forest governance (*i.e.* the state (FSD, local government, MOFA, etc.), the private sector (*i.e.* timber loggers, millers, timber traders, chainsaw operators etc.), and civil society (*i.e.* communities, traditional leaders, NGOs, CBOs, etc.) in dialogue on forestry issues on a common platform. Currently, there are district, regional and national forums with a national secretariat based in Kumasi.

**Community Biodiversity Advisory Groups.** The Forestry Commission created the CBAG during the creation of the Globally Significant Biodiversity Areas (GSBAs) with a view to getting community assistance in the management of the protected area. It is composed of representatives of several stakeholder groupings at village level (*i.e.* the Unit Committee, youth, women, traditional leaders, etc.). The CBAGs assist in clearing the GSBA boundaries and serve as a mouthpiece for the community in GSBA matters.

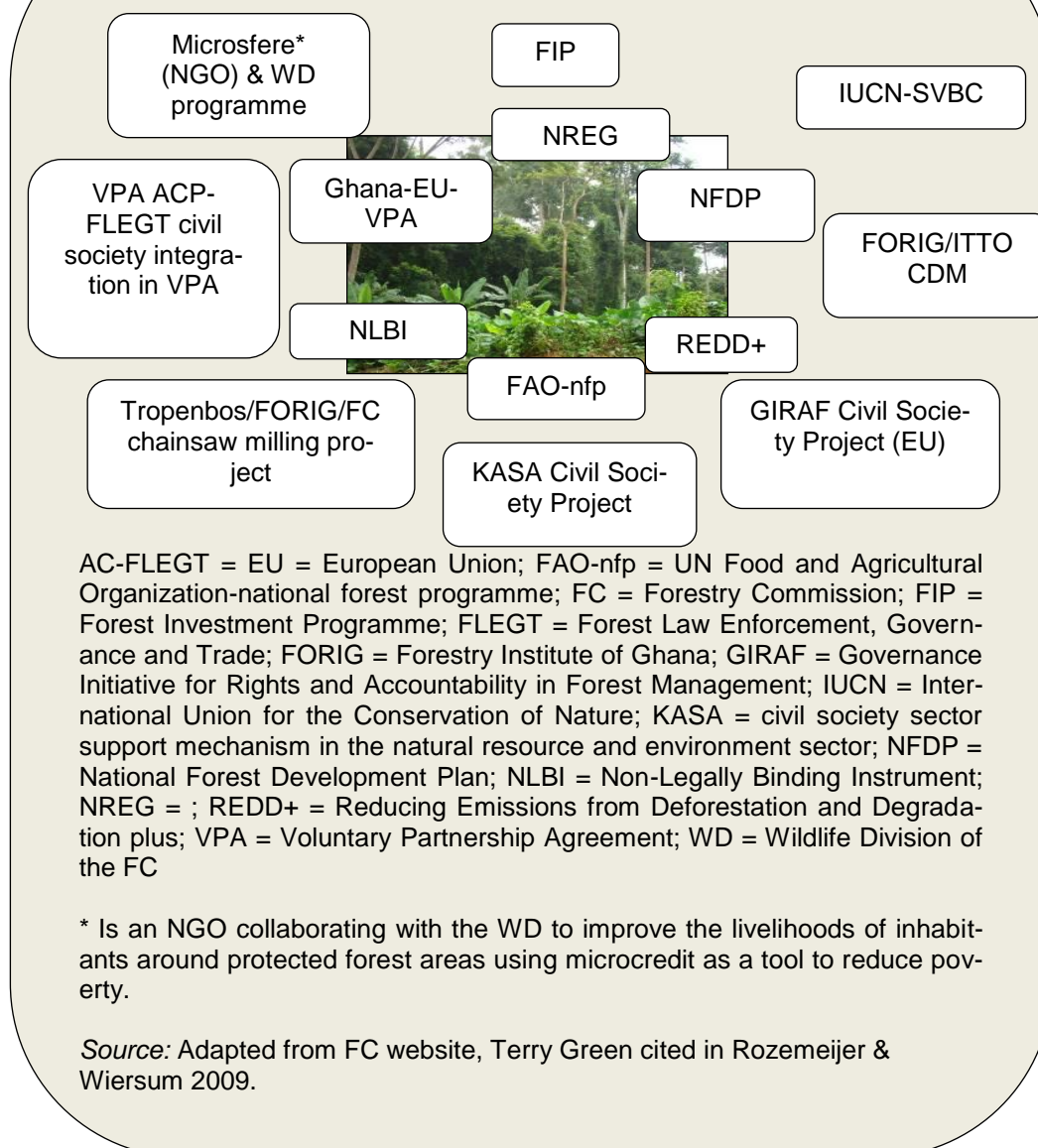
**Community Forestry Committees (CFCs).** Like the CBAGs, the CFCs were established to serve as a channel through which the FSD could implement its collaborative forest management activities.

**Commercial timber plantations:** Large-scale plantation development within degraded forest reserves with a land lease between the FC, a private investor and the stool landowners signed before plantation establishment. Associated with this partnership is the benefit sharing agreement as discussed in Box 5.5.

*Dynamics: new trends in forest governance*

Forest governance has become one of the pivot points in sustainable forest management efforts in developing countries and Ghana is no exception. In the face of overlapping drivers which undermine sustainable forest management, and taking into consideration the benefits of forests to the Ghanaian economy and the world at large, the Ghana government puts forest governance high on its development agenda. International donors, civil society and the private sector have been supportive of this move. Several initiatives have been and are being taken by both state and non-state institutions to mitigate the menace by the turn of the millennium (Box 5.4).

**Box 5.4 The myriad of ongoing forest governance initiatives**



The Voluntary Partnership Agreement (VPA) initiatives initiated as part of the EU's Forest Law Enforcement, Governance and Trade (FLEGT) process aim to tackle the global problem of illegal logging and the associated trade in illegally produced timber products as well as providing social safeguards for affected persons (see Insaïdoo *et al.* forthcoming, for an elaboration on social safeguards in the Ghana-EU VPA process). Ghana signed and ratified the Voluntary Partnership Agreement (VPA) with the European Union in 2009 in a quest to increase the commitment of timber-producing countries to sustainable forest management by supporting forest law enforcement and governance (Bodegom 2009, Beeko & Arts 2010, Owusu *et al.* 2010, Ramcilovic-Suominen *et al.* 2010). Article 17 of the agreement on social safeguards states that '*in order to minimize possible adverse impacts, the parties agree to develop a better understanding of the livelihoods of potentially affected indigenous and local communities as well as the timber industry, including those engaged in illegal logging*'.

The VPA clearly envisages that the implementation process is likely to affect actors who depend on forest resources for their livelihoods through illegal means, but it is not clear about how it interprets social safeguards. An international workshop was therefore held in 2010 as part of the ‘Illegal or incompatible?’ project<sup>12</sup> to address this gap. Six mechanisms were identified during this workshop, namely: (i) legal security for forest users; (ii) soft law enforcement (meaning creating incentives for people to adapt in the long term); (iii) benefit sharing and compensation; (iv) capacity building; (v) alternative livelihoods and employment; and (vi) expansion of the forest resource base (IOI Project team, 2010). These mechanisms are the outcome of two interpretations of the VPA. One prevails among the state and the formal timber industry and can be qualified as ‘command-and-control’ law enforcement. The other prevails among civil society organisations and the small-scale timber industry, which prefer to see the VPA as a multi-stakeholder process based on equitable access and control over forests and benefits (*Ibid.*).

The multi-donor sector budget support through the Natural Resources and Environmental Governance (NREG) programme aims to increase the contribution by the natural resource sectors (particularly forestry, wildlife, and mining) and the environmental sectors (such as the Environmental Protection Agency, EPA) to Ghana’s socio-economic development. The NREG programme ensures that all stakeholders share responsibilities for sustainable natural resource management and environmental protection and enhancement. The NREG programme provides annual budget support to sustain the implementation of the reforms planned by the government in the areas of natural resource and environmental governance (FC 2008).

Another remarkable initiative is the United Nations Forum on Forests’ (UNFF) non-legally binding instrument (NLBI) that Ghana adopted in 2008. The NLBI is intended to promote sustainable forest management and thereby maintain and enhance the economic, social and environmental values of forests. One of the expected outcomes of the Ghana NLBI project is to ensure that ‘progress in the implementation is monitored and lessons learned, documented and shared’ (FORIG 2010). Of the 24 NLBI national policy measures, stakeholders in Ghana prioritised four key issues for the achievement of sustainable forest management in the country. These are (i) to promote cross-sectoral coordination for sustainable forest management, (ii) to strengthen law enforcement, (iii) to develop effective financial strategies for sustainable forest management, and (iv) to develop and implement the National Forest Programme and ensure its integration into the national development programmes (e.g. Ghana Poverty Reduction Strategy – GPRS) (*Ibid.*).

Another initiative includes the partnership between Ghana and the national forest programme (NFP) facility of the United Nations Food and Agriculture Organization (FAO) in Rome, Italy. This partnership is in favour of (i) developing the National Forest Forum and making it operational at national and regional levels, (ii) removing blockages to, and support the effective operation of, Collaborative Forest Management, and (iii) promoting the implementation of the modified taungya system to reforest degraded forest reserves (see <http://www.nfp-facility.org>).

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<sup>12</sup> The ‘Illegal or Incompatible?’ research project was funded by the Netherlands Ministry of Foreign Affairs, Directorate-General for International Cooperation (DGIS) and is a partnership between Wageningen University and Research Centre, Tropenbos International and research organisations in Ghana and Indonesia.

With a view to promoting the sustainable management of Ghana's forests, the FC has engaged itself internationally with the Reducing Emissions from Deforestation and Degradation Plus (REDD+)<sup>13</sup> and the Forest Investment Project (FIP) initiatives designed to use market incentives to encourage forest conservation and mitigate climate change. In addition, there is the National Forest Plantation Development Programme (NFDP).

Some key projects initiated by non-state institutions to improve the forest governance process include 'the strengthening voices for better choices (SVBC) in Ghana initiated by the International Union for conservation of Nature (IUCN) and the Tropenbos/FORIG/FC Chainsaw milling project by Tropenbos International Ghana.<sup>14</sup> From the research arena, the Forestry Research Institute of Ghana (FORIG) is also involved in climate change mitigation projects, which are all oriented around sustainable forest management.

### Third order governance

Third order governance, or meta-governance, encompasses the principles underlying forest governance (Kooiman *et al.* 2005). In the following sub-sections, the principles underlying Ghana's forest governance and conflict management are first analysed, insofar as they are based on international agreements. Next, the analysis shifts to the perceptions of forest governors and experts regarding the underlying principles, which emerged from the survey and validation workshop.

#### *Principles underlying Ghana's forest governance and conflict management*

For the past six decades, global concerns about tropical forests have brought forest management issues to the forefront of many environmental debates, especially after the United Nations Conference on the Environment and Development (UNCED) in Rio in 1992, which led to the concept of sustainability featuring prominently on the international agenda (Adams 2009).

The concept of sustainability in forestry received international attention in the 'Forest Principles'<sup>15</sup> and in Chapter 11 on combating deforestation in Agenda 21, both adopted at UNCED (Ros-Tonen *et al.* 2005). Although the Forest Principles were not a legally binding contract, they reflect a global commitment to forest conservation, reforestation, and sustainable forest management, acknowledging the social, economic, ecological, cultural and spiritual needs of present and future generations (UN 1992). One of the first 'post-Rio' moves was to promote the development and use of criteria and indicators for sustainable forest management, for which the International Tropical Timber Organisation (ITTO) had laid the foundation by developing the first set of criteria and indicators

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<sup>13</sup> REDD-plus is an initiative to create a set of financial mechanisms to reduce carbon gas emissions from deforestation and forest degradation with the plus referring to additional benefits, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks (see <http://www.un-redd.org/AboutREDD/tabid/582/Default.aspx>, accessed on 14 September 2011).

<sup>14</sup> According to the TBI website, 'The chainsaw milling project is using multi-stakeholder dialogue (MSD) as the key mechanism for developing a consensus based action plan to address the problems associated with chainsaw milling. This MSD is fuelled with sound information to facilitate good decision making. Outcomes from this multi-stakeholder process are piloted in ten communities in Ghana.' (<http://www.tropenbos.org/projects/securing+legal+domestic+lumber+supply+through+multi-stakeholder+dialogue+in+ghana>, accessed on 14 September 2011).

<sup>15</sup> The Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Forest Types.

for the sustainable management of natural tropical forest just before the summit. A specific set of criteria and indicators was developed for Africa by the African Timber Organisation in 2003 (ATO/ITTO 2003).

Table 5.2 summarises several international forest management initiatives before and after the Rio Earth Summit which were all intended to improve forest governance at global and national levels in order to ensure sustainable forest management and which have influenced the principles underlying Ghana's forest policies. Some of the principles that come to the fore include sustainable management, biodiversity conservation, the recognition of customary rights, and stakeholder involvement. As Braatz (2003)

*Table 5.2* Timeline of major events in the global forest policy dialogue

<b>Date</b>	<b>Pre-Rio Earth Summit</b>
1948	IUCN is formed to promote international cooperation for nature conservation.
1972	The UN Stockholm Conference highlights threats to the biosphere, including stratospheric ozone depletion, deforestation, desertification, and biodiversity loss.
1982	The Brundtland Commission Report requires sustainable development to meet the needs of current generations without compromising the needs of future generations.
1985	The Tropical Forest Action Plan (TFAP) process was initiated by FAO/UNDP, the World Bank, and the World Resources Institute (WRI) in an effort to establish national programmes for sustainable forest utilisation.
1986	The International Tropical Timber Organisation (ITTO) is established. In 1994 ITTO agrees to ensure that all tropical timber exports would come emanate from sustainably managed forests by 2000.
1991	The World Bank issued the Forest Policy Paper which stresses the need for sustainable conservation-oriented forestry responsive to local communities.
<b>Date</b>	<b>The Earth Summit</b>
1992	The UN Conference on Environment and Development (UNCED) in Rio de Janeiro addresses global environmental problems. The Commission on Sustainable Development (CSD) was created to implement Agenda 21, including the Forest Principles in Chapter 26 which address the role of local communities, indigenous people and other stakeholders.
<b>Date</b>	<b>Post-Rio</b>
1993	The ITTO adopts the Guidelines on the Conservation of Biological Diversity in Tropical Production Forests which call for biodiversity conservation in production forests while acknowledging the need for consultation with local people and the need to respect their tenure rights and rights to benefits from biodiversity.
1993	The Forest Stewardship Council (FSC) is established. FSC Principles and Criteria are adopted in 1994 and recognise the legal and customary rights to indigenous people to own and manage their forests.
1994	Launching of the World Commission on Forests and Sustainable Development (WCFSD) to develop a global vision for forests in the twenty-first century. The WCFSD seeks to achieve policy reforms by reconciling economic and environmental objectives for sustainable management of global forests.
1995	The Intergovernmental Panel on Forests (IPF) is initiated by the CSD to seek a global consensus for action supportive of participation and sustainable forest management.
2003	ATO <sup>16</sup> /ITTO initiates national level principles, criteria and indicators and three forest management unit level principles with criteria and indicators, with all these being intended to ensure sustainable forest utilisation and the maintenance of multiple functions of forests: ecological, economic and social wellbeing of society.
2007	The United Nations Forum on Forests' (UNFF) non legally binding instrument is launched to reduce deforestation and degradation, to enhance sustainable forest management in member countries and to maintain and enhance economic, social and environmental values of all types of forests for the benefit of present and future generations.

*Source:* World Conservation Union (IUCN, 1996), ATO/ITTO (2003), FORIG (2010).

<sup>16</sup> ATO = African Timber Organisation.

noted, the complexities resulting from the proliferation of international agreements, instruments and conventions, as well as the bodies that deal with various aspects of forests pose a challenge, namely how to set coherent policies and coordinate action effectively. Efforts to find synergies among international forest-related instruments are being hindered as it is still unclear (i) what legal, financial, and institutional modalities for forest governance would best facilitate progress toward sustainable forest management and help achieve national and international sustainable development priorities, (ii) where and how the necessary resources (financial, human, and technological) can be secured, and (iii) how governance structures and processes can be strengthened in countries so that they can effectively support sustainable forest management (*Ibid.* 2003).

Since Ghana is a signatory to all of these conventions and a member of several international organisations, the nation is obliged to fulfil the objectives of these bodies. Several international principles have therefore shaped most of the governing instruments that guide Ghana's forest sector, such as the 1994 Forest and Wildlife Policy, operational strategies (*i.e.* the manual of procedures in timber harvesting and guidelines to distribute forest resource benefits) and governance initiatives such as Non-Legally Binding Instrument (NLBI) and Reducing Emissions from Deforestation and Degradation Plus (REDD+) (FC-FAO n.d.). The Forest and Wildlife Policy (FWP) of 1994, which represented an attempt to project the general societal concerns about the country's forests, specifies the principles on rights of local access to basic natural resources, local democracy, participatory management and protection of forest and wildlife resources.

#### *Governors' and experts' perceptions of principles at the national level*

The focus of the survey, interviews and the workshop was on guiding principles such as effectiveness, legitimacy and moral responsibility (*c.f.* Kooiman & Bavinck 2005). In terms of substantial values, the respondents highlighted the following issues as being relevant:<sup>17</sup>

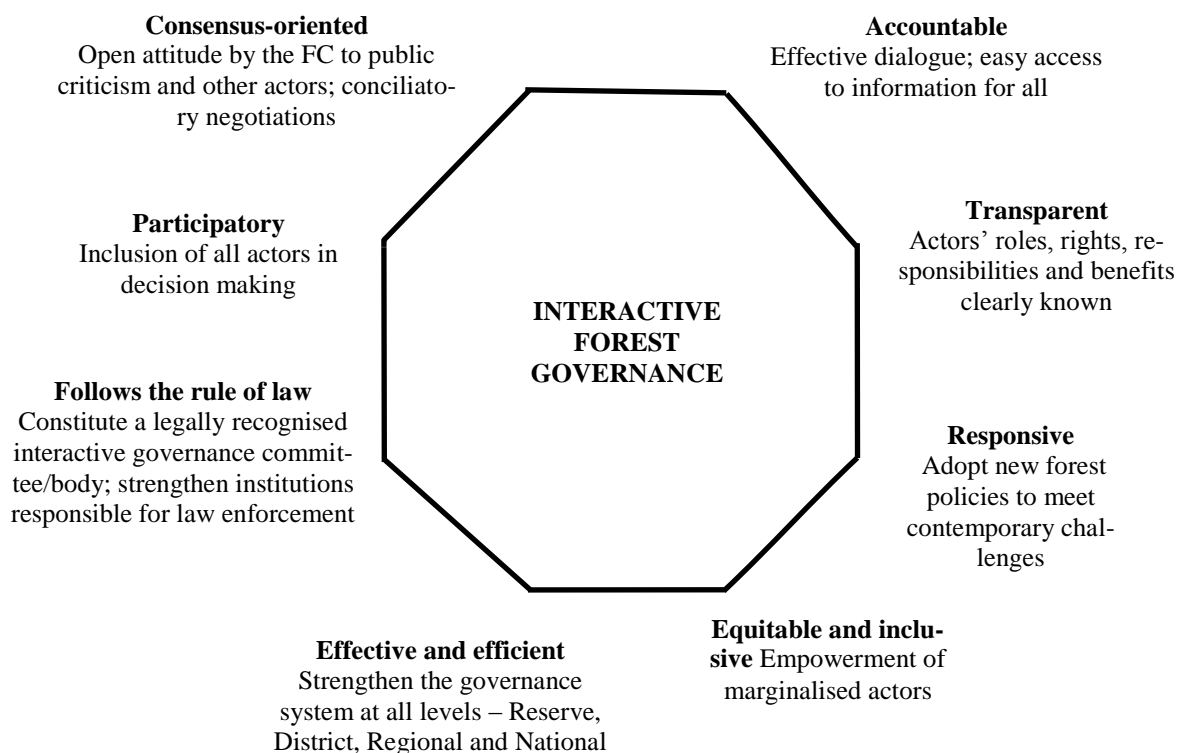
- The protection of community rights and norms;
- Transparency;
- Accountability;
- Effective dialogue;
- The inclusion of actors in decision making;
- Conciliatory negotiations;
- Respect for legal pluralism by institutionalising and strengthening traditional laws as a part of forest management;
- Adherence to the rule of law.

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<sup>17</sup> In addition to the principles listed here, some respondents also referred to adherence to policy documents such as the Ghana FC's logging manual of procedures and the VPA between Ghana and the EU to combat illegal logging. These answers have been summarised under the heading 'adherence to the rule of law'.

Figure 5.3 arranges the principles mentioned by the respondents and workshop participants in accordance with the features of good governance as proposed by UNESCAP.<sup>18</sup>

Figure 5.3 Principles underlying interactive forest governance in Ghana



Source: Survey data and workshop outcomes in 2010, arranged according to the features of good governance (adapted from UNESCAP, retrieved on 14 September 2011 from <http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.asp>).

## Second order governance: Institutional arrangements

This section first reviews the current forest policies and regulations under statutory law that determine existing institutional arrangements and then reviews the institutional arrangements under customary law.

### *Statutory law: current policies and legislations and tree tenure arrangements*

International forest policy processes such as the Rio declaration, Agenda 21 and other conventions had a direct influence on the 1994 Forest and Wildlife Policy of Ghana (FWP 1994) aimed at 'conservation and sustainable development of forest and wildlife resources for the maintenance of environmental quality and the perpetual flow of optimum benefits to all segment of society' (FC website). Based on the general prin-

<sup>18</sup> URL: <http://www.unescap.org/pdd/prs/ProjectActivities/Ongoing/gg/governance.asp>, accessed on April 2010.



**Box 5.5** On and off-reserve rights to ownership, use, revenues and *benefit sharing*

**Admitted farms:** these are the rights of farmers who had farms prior to reservation to continue to farm in designated areas.

**Admitted rights:** customary rights held by individuals or communities to the forest reserve land at the time of reservation, especially when not harmful (i.e. cultural or religious uses), were upheld and documented.

**Domestic use rights/communal rights:** the right of forest fringe communities to access forest resources in forest reserves for domestic purposes.

**Royalties:** The concept of royalties in Ghana forest management could be traced back to the 1927 Forest Ordinance Act, in which stool landowners were given a role in forest management under colonial rule in return for a percentage of the revenue generated. The current benefit-sharing arrangement is enshrined in Article 267 (6) of the constitution of Ghana, complemented by the Timber Resource Management Act (TRMA 547). As stipulated in the constitution, this benefit-sharing scheme still holds for the on-reserve forest areas, whereas the percentage was modified for off-reserve areas through a forest policy reform in 2002. The distribution among beneficiary stakeholders occurs when FC has taken its share of 50% management fees from the royalties. The administrator of stool lands also retains 10% to cover its administrative costs, and then allocates the remaining revenues to 'stakeholders' according to the following constitutional formula.

25 % to the stool 'for the maintenance of the stool in keeping with its status'  
20 % to the traditional authority (generally the paramount chief and his council) and  
55 % to the District Assembly.

**Social Responsibility Agreement:** is a right governed by the Timber Resource Management Act 1997 (Act 547) with a fixed amount of 5 per cent of stumpage values in L.I.1721 between TUC holders and communities, often in the form of public services such as schools etc.

**Crop damage compensation:** A timber utilisation contract (TUC) or concession holder gives compensation to a farmer when food crops on farmlands are damaged in the course of felling and is backed by Act 547. The farmer has the right to negotiate with the TUC holder for 'fair compensation for crop damage'

**Timber utilisation permit (TUP):** The District Assemblies, town committees, rural community groups or NGOs, may apply for the grant of a timber utilisation permit to harvest timber in a land not subject to a TUC, which shall be used solely for social, or community purpose.

**MTS benefit sharing:** The FC receives 40% of all proceeds obtained from the plantation, excluding non-permanent food crop proceeds unless mutually agreed with the farmer. The farmers receive 40% of all the proceeds obtained from the tree plantations and all the non-permanent food crops unless agreed otherwise. The landowner and the local community receive 15% and 5% respectively of all proceeds obtained from the tree plantations excluding non-permanent food crop proceeds.

*(continues)*

*(cont'd)*

**Commercial plantations benefit sharing:** The benefit sharing agreement applicable to the private developers stipulates that 90% of the revenue is for the private investor, while the landowner, FC and community obtain 6%, 2% and 2%, respectively.

*Sources:* 1992 Constitution of Ghana; World Bank, 2006; Agyeman *et al.*, 2010; Hoogenbosch, 2010; FC, 2005 (MTS and Commercial Plantations Development benefit sharing arrangement).

ciples underlying the FWP, the then Ministry of Lands and Forestry launched the Master Plan 1996-2020 to provide a firm foundation for implementing the aims of the 1994 Forest and Wildlife Policy. Several legislative instruments were enacted (see Table 5.1) to support the policy in fulfilling its objectives but, to date, no single clear piece of legislation has been passed to support collaborative ideas or community rights to natural timber resources. Several benefit-sharing strategies, such as ownership rights to planted timber trees on farmland, timber utilisation permits for community development projects, social responsibility agreements and compensation payments are dispersed over several laws such as Act 574 and Act 617.

The enactment of some of the pieces of legislation came with some tree tenure arrangements (e.g. rights, ownership benefits and revenue sharing) as elaborated in Box 5.5. The creation of forest reserves meant that local communities still maintained some

**Box 5.6 *The Forest and Wildlife policy of 1994 is a move in the right direction but.....***

'The policy is a move in the right direction but the major challenge is that, to date, most technocrats do not believe that forest management should be shared'. I suggest that the technocrats take the following into consideration:

- Forestry education must be a 'constant friend' of the technocrat.
- Management prescriptions and legislations must be different for forest reserves and off-reserve areas, with more participatory legislation for the off-reserve areas.'
- The agriculture-forest interface (i.e. reforestation efforts) must be strengthened in order to increase timber supply for both the domestic market and export.
- Timber trees outside forests need to be properly documented with a view to ensuring proper ownership rights and farmers should be well educated to this end.
- Administrative guidelines to manage conflicts should be institutionalised with a focus on constructive instruments such as mediation, dialogue and education that demand a partnership between the Forestry Commission and other actors.

(K.K.F. Gartey, pers. comm., May 2009).

usufructuary rights in the form of admitted farms, admitted rights, and domestic rights of use. In addition, communities were entitled to a revenue sharing arrangement (royalties). The enactment of the Act 547 of 1997 (amended Act 617, 2002) also created some benefit rights such as the social responsibility agreement (SRA), crop damage compensation, timber utilisation permit, and the right to own planted trees on individual farmlands. Similarly, there are the MTS and commercial plantations development benefit sharing schemes which were launched under the National Forest Plantation Development Programme (NFPDP) in 2001. These benefit-sharing arrangements indicate a shift from authoritarian control and state management of natural resources to collaborative stakeholder management of resources (Agyeman *et al.* 2010). However, in practice, the tenure challenges regarding individual access and rights to naturally grown and nurtured timber trees on farmlands hinder a pro-poor policy. Box 5.6 is the view of a retired forest governor of what is needed to ensure that the 1994 FWP does not trigger conflict incidences in Ghana.

The Ghana Forest and Wildlife policy of 1994 has been under review since 2008 in a process of multi-stakeholder consultations. The review of the policy was needed in order to address the negative issues and trends<sup>19</sup> in the sector and to integrate contemporary global governance issues.

#### *Customary laws and practices governing forest management*

The customary laws and practices that are used to govern forest management in Ghana are based on cultural norms, traditions and beliefs that together ensure that trees and animals are protected. An analysis of the system was described by the FC through FORUM<sup>20</sup> experiences (n.d: 15-19). According to FORUM, the landowners were efficiently managing the forests on the basis of the principles that statutory law presently seeks to achieve. In the past, customary norms, taboos and sanctions were used to conserve and preserve endangered species through hunting restrictions and control of felling of economic tree species. Although some of these restrictions are still in use (see, for instance, Bokhorst 2011), other practices had to be rejected due to the importation and adoption of foreign cultures, indiscipline and the lack of respect for customs (FC-Forum experiences undated). Population explosion, land shortage and cultural changes have further reduced the effectiveness of customary systems (Agyeman 1994). Nevertheless, the 1992 Constitution of Ghana clearly recognises customary law and practices (see Box 5.7 for an overview). Kasanga (2002) calls for the ‘rationalisation’ of the plurality of the rules and sources of authority (both customary and statutory) with a view to identifying clear issues and problem areas that need to be addressed to encourage security of tenure among all people and resource conservation.

According to this author, this will help fulfil the legitimate quest for land by local communities and migrant farmers who want to meet their basic needs in the face of limited land supplies brought about by the arbitrary creation of forest reserves, and which

<sup>19</sup> Such negative issues include absence of an institutional and legal framework to support local people’s livelihoods, illegal logging and chainsaw milling, inequitable access and benefit rights, and an over-emphasis on timber production.

<sup>20</sup> The Forest Resources Management Project (FORUM) was funded by the German GTZ and KfW, with an original budget of DM 25.0 million. The project aimed to reduce degradation of forest resources in the Volta Region and it ended in February 2008. However, there are a few activities to be finalised with the DM 0.45 million funds that remained at the end of the project (<http://76.12.220.51/index.php> accessed on 16 September 2011). The project generated useful educational material on their experiences in the forest sector in the Volta region.

**Box 5.7** *Customary laws and practices within the 1992 Constitution of Ghana*

**Article 11:** (2) common law comprises the common law, doctrines of equity and the rules of customary law including those determined by the Superior Court of Judicature; (3) customary law is the rules of law which by custom are applicable to particular communities.

**Article 26:** (1) gives entitlement to enjoy, practice, profess, maintain and promote any culture, language, tradition or religion subject to the Constitution; (2) customary practices which dehumanise or are injurious to the physical and mental well-being of a person are prohibited.

**Article 125:** (2) citizens may exercise participation in administration of justice through public and customary tribunals and the jury and assessor systems.

**Article 267:** all stool lands in Ghana shall vest in the appropriate stool on behalf of, and in trust for the subjects of the stool in accordance with customary law and usage.

Establishment of Office of Administrator of Stool Lands: **Article 270:** (1) guarantee of institution of chieftaincy, together with traditional council as established by customary law and usage; (3) law making provision for (a) determination, in accordance with appropriate customary law and usage, by a traditional council, Regional House of Chiefs, or Chieftaincy Committee, of the validity of the nomination, election etc. of a person as chief.

**Article 272:** states that the National House of Chiefs shall (b) undertake study, interpretation and codification of customary law with a view to evolving a unified system of rules of customary law and to compiling the customary laws and lines of succession applicable to each stool or skin; (c) undertake evaluation of traditional customs and usages with a view to eliminating those that are outmoded and socially harmful.

**Article 274:** (3) Regional House of Chiefs shall ... (f) compile customary law and lines of succession applicable to each stool or skin.

*Source:* 1992 Constitution of Ghana (currently under review).

underlie many current tenurial and land-use conflicts (*Ibid.*). Another issue worth addressing is that of guaranteeing an equitable distribution of customary beneficiary rights to natural resources that are currently held by the chief in trust for the local communities (Agyeman *et al.* 2010).

### First order governance: Day-to-day conflict management

The day-to-day management of conflicts in the forest sector in the past and present regime can be categorised into preventive and mitigation measures. The daily management of forest resources at district level falls under the supervision of the District Forest Manager and the team made up of assistant managers, range supervisors, cartographers, forest guards, customer service officers (not present in all districts), and other administrative staff. Their core role in forest management is to monitor and control harvesting operations, and they are therefore faced with the need to deal with the day-to-day management of conflicts that arise from their activities or those of other forest stakeholders.

The patrolling by forest guards has been one means to prevent illegal encroachment that may result in conflicts. During the 1990s, an institutional reform resulted in major retrenchment of most of the guards. It was also the era in which collaborative forest management was initiated and community institutions such as the CFCs were tasked to play the role of forest guards and to maintain the integrity of forest reserves by policing the boundaries to prevent illegal use of the reserve (Amanor 2005). Nevertheless, in the absence of clearly defined tenure and benefits rights, the collaborative approach was not positively reflected at the district levels at which policy strategies are operationalised.

In terms of mitigation, there are numerous different means and methods for resolving disputes and these include judicial mechanisms (courts, tribunals, arbitral panels), extra-judicial means (such as committees) and administrative means within the sector. An attempt will be made to analyse these conflict or dispute management approaches based on the scanty documentation available in the form of laws reviews and official documents and discuss some challenges identified through the survey and interviews held with forest governors and experts.

From the judicial perspective, legislation is used to govern conflict management in a more procedural orientation. A review of the 1994 Forest and Wildlife Policy shows that some of the guiding principles of the policy promote collaboration among different stakeholders in order to foster good governance, whereas several regulations clearly state how disputes or conflicts must be resolved. Notably among them, are the following:

- a. The **Timber Resource Management Act 617 (Amendment) Act 2002** outlines the following steps in resolving disputes and punishing forest offenders:
  - **Section (6b):** ‘Where a holder of timber rights who seeks to be granted further timber rights has been convicted of, or admits to, two illegal transactions or operation in the industry, in the two years immediately preceding the application, the application shall not be granted.’
  - **Section 14f:** ‘(1) where a dispute arises between an investor and government all efforts shall be made through *mutual discussions* to reach an amicable settlement. If the conflicts cannot be amicably resolved then the option of *arbitration* must be selected.’
- b. The **Benefit Sharing Agreement for Modified Taungya Forest Plantation** includes the following conflict management mechanisms:
  - **Section 13.1:** ‘Any disputes arising out of, or in connection with, this agreement, which cannot be *settled amicably* among the parties shall be settled definitely and conclusively in accordance with the provisions of the Arbitration Act 1961(Act 38) by a panel of 4 arbitrators and the decision of the arbitrators will be final.’
- c. The **Partnership agreement between FC and Investor under commercial plantation investments:**
  - **Section 10:** ‘Any disputes arising out of, or in connection with, this agreement which cannot be *settled amicably* among the parties shall be settled definitely and conclusively in accordance with the provisions of the Arbitration Act 1961(Act 38) by a panel of three arbitrators.’
- d. **LI.1649-Timber Resources Management Regulation, 1998.**
  - **Part 1(8):** ‘Where any public identified as suitable for the grant of timber rights and endorsed by the Chief Conservator of Forests is also identified by any other state institution to be suitable for some other national purpose, the matter shall be

resolved by the Minister and any other Minister concerned.’

- e. The Forest Protection (Amendment) Act, 2002:** oriented towards forest offences
- **Section 1** (for details see Chapter 7). ‘Any person who (...) commits an offence and is on summary conviction liable to a fine not exceeding 500 penalty units or to imprisonment not exceeding 2 years or to both, except that for a second or subsequent offence under this section the offender shall be liable on summary conviction to a fine of not less than 250 penalty units or to imprisonment not exceeding 3 years or to both.’
- f. Social Responsibility Agreement (SRA):** Under this agreement, the modes of resolving disputes are through negotiation between the timber contractor and fringing communities. The presence of a District Chief Executive and the Forest Manager as witnesses may bring the mediation mode into play when the need arises (see Chapter 2 for the different conflict management modes).

This analysis clearly indicates that the current legislation is ‘timber-friendly’ in the sense of promoting negotiation in the case of confrontations between the FC and timber operators, whereas community members who access trees illegally, according to the Forest Protection (Amendment) Act, 2002, are immediately subject to court action (fines or imprisonment).

Another conflict mitigation measure is the establishment of a committee of inquiry which assesses conflict cases such as illegal farming and logging (especially when no offender is arrested) in forest reserves, and presents recommendations for action to the Forestry Commission. This mode was used frequently soon after Ghana’s independency when there were widespread admitted farm conflicts. The challenge of this approach is in the implementation of recommendations and the counter interferences by some elites. One such committee was the Nyinaku Committee set up to examine the circumstances surrounding the illegal alienation of land in forest reserves in the Western Region. The report and its recommendations were incorporated into a government white paper in 1976. However, just as preparations were being made to implement these recommendations, the government (through the then secretary of the Ministry of Lands and Natural Resources, MLNR) issued counter-instructions<sup>21</sup> to the then Chief Conservator of Forest (England 1993).

The FSD sometimes uses an administrative approach to fine offenders when the offender is made to sign affidavits to pledge to desist from committing such offences again and pay for the stolen forest products. This is a common practice in relation to illegal logging by legal timber contractors or sometimes chainsaw millers. The reasons for applying this approach are twofold. First there are the frustrations of the officials involved in the court system due to constant delays as regards pronouncing a judgement, as a result of constant adjournments which lead to extra working hours. The second reason is the lenient penalties imposed on the offender by the judiciary which fail to deter the culprit.

Another mitigation measure is coercion. Assistance from the military or the police help to arrest illegal chainsaw millers or destroy illegal farms in the reserves. Some-

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<sup>21</sup> Letter Reference No. SCR/G 1-SF.2 of May 23 1977 and SCR/G.1-ST.2 of 18 July 1977, issued the following administrative instructions which were said to have superseded the white paper on the Nyinaku Committee report:

These farms should under no circumstances be destroyed;

The farmers should be allowed to continue farming the land in the forest reserves already cultivated.

times this approach culminates in violent or non-violent direct action. Managing conflicts relating to SRAs and crop damage compensation results in mediation by the District Chief Executive or the District Forest officer when negotiation fails.

The mitigation of conflicts related to intruding into a concession area and exploiting timber resources to which someone else has the rights are often mediated or arbitrated by the FSD at district level, or solved by the companies themselves (company-company conflict mitigation). When mediated by the FSD, the claimant (the timber company making a case of trespassing) reports the matter to the FSD district manager, who (often in company of other officers) organises a meeting with the two companies to seek a mutual resolution to the conflicts. The accused timber company is made to pay the stumpage fee and other expenses incurred by the claimant depending on the outcome of the negotiation process. According to a forest manager, such cases are often not resolved in court because the FSD ensures that the matter is amicably resolved as agreed by the parties to the conflict (Boakye Kwabena Akyeampong, pers.comm. January 2012).

## Modes of governance

Ghana's formal forest sector has a blend of hierarchical and co-governance modes of governance (see Chapter 2 for an explanation of the different governance modes). The hierarchical mode of governance is widespread, with the Forestry Commission being the main responsible agency for forest management. This mode of governance is a legacy of British colonial rule and is governed by strict policies and laws with strings of a 'command-and-control-system'. Even though hierarchical governance is essential to govern a complex common pool resource like a forest, a balance is needed with co-governance modes. When hierarchical governance overshadows the co-governance process it weakens governability and this has been identified by forest governors and experts as one of the weaknesses in Ghana's forest governance process (see next section).

The co-governance arrangements are rooted in the 1994 Forest and Wildlife Policy and its legislative instruments, especially the provisions and guiding principles relating to community forestry and collaborative resource management. Such arrangements are also being influenced by changes in the international community. The operationalisation of the collaborative resource management in the early 1990s has ensured that stakeholders have a better understanding of the activities of the FC in forest resource management. Furthermore, the collaborative resource management programmes have been creating avenues for participation and consensus building and opened opportunities to incorporate community and other stakeholders concerns into policy formulation. Over the years such trends have been promoted through forestry programmes (see Box 5.5) that have resulted in different hybrid governing actor structures as discussed earlier in this chapter. In this mode of governance, forests are managed jointly by government agencies and communities and conflict management issues are also resolved on a joint basis. An example is given in Chapter 9 in the form of a description of how forestry frontline staff together with MTS farmers and local traditional leaders manages conflicts that emerge from the MTS scheme despite weak participation of the MTS farmers in decision making.

Co-governance is also promoted through the forestry forum concept where different stakeholders come together for dialogue, with decisions being taken from a collective perspective. Equally important in this respect are the multi-stakeholder approaches em-

ployed in the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) and the Natural Resources and Environmental Governance Programme (NREG). A sector study revealed that donors' financial and technical contributions to the forest sector in the past had not resulted in sustainable forest management (World Bank 2006). This therefore necessitated a shift from direct sector support to inter-sectoral support, which gave 'birth' to the NREG programme.<sup>22</sup> The NREG programme not only aims to bring about inter-sectoral collaboration, but also promotes donor harmonisation and effectiveness, which are key elements of sectoral coordination and governance. Besides general support for government institutions, there is parallel individual donor support for civil society, industries and research institutions in their efforts to stimulate sustainable forest management through advocacy, efficient timber productivity, and scientific research respectively (see Box 5.4).

Kooiman *et al.* (2008) refer to self-governance as situations in which actors take care of themselves, outside the purview of the government. This governance mode prevailed prior to the introduction of scientific forestry. The case study in Chapter 7 shows how a local traditional council without government influence or mediation by government officials manages civil conflicts and imposes sanctions on offenders. This can be seen as an example of self-governance.

### From images to action: Forest governors' perspectives of 'interactive forest governance elements'

The final part of the governing system to be analysed concerns the elements, *i.e.* the images, instruments and actions developed by the governance actors. This analysis is based on the outcomes of workshop discussions with forest governors and experts during which the survey outcomes and other forest governance issues were discussed. The analysis of the participants' perceptions is structured in line with elements of interactive governance theory (*i.e.* images, instruments and actions).

#### *Images*

Despite intentions to move towards co-governance and to ensure sustainable forest management, the forest governors and experts at the workshop identified some challenges with regard to dealing with forest conflicts and their driving forces. One of the key challenges in this respect includes the pervasiveness of conflicts over forest and tree resources, which the existing conflict management mechanisms were unable to minimise successfully. Second, there are the weak institutional structures in the Forestry Commission, especially in the Forest Services Division, in terms of inadequate field staff and poor logistics to fulfil its statutory mandates. In addition, there is weak col-

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<sup>22</sup> In the interests of donor harmonisation and effectiveness, four donors are augmenting Official Development Assistance under a common Framework Agreement and Policy Assessment Framework. Donor contributions include those of the Royal Netherlands Embassy amounting to approximately €7 million per year over five years (2008-2012), the UK Department for International Development (DFID) with approximately £2.1 million per year for three years (2009-2011), the Agence Française de Développement (AFD) with approximately €1 million per year over five years (2008-2012), and the European Commission (EC) contributing approximately €4 million per year over three years (2010-2012). Total donor contributions will be approximately US\$ 77 million. URL:

[http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,contentMDK:22701705~pagePK:146736~piPK:226340~theSitePK:258644,00.html?cid=3001\\_2](http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,contentMDK:22701705~pagePK:146736~piPK:226340~theSitePK:258644,00.html?cid=3001_2)

Accessed on 9 September 2011.



laboration between FC, the judiciary and the police and this leads to weaknesses in law enforcement and sanctions. Workshop participants also mentioned challenges related to the supremacy of the top-down governance style in the formal sector, which overshadows the co-governance style inherent in the decentralised structures in the various districts and the participatory initiatives based on the 1994 FWP. An equally important challenge is resource ownership and management among separate actors (*i.e.* traditional authorities and governments respectively) with the former having no role in supporting forest management. This makes it difficult to reconcile statutory and customary systems to manage conflicts constructively. Inadequate political and administrative will address societal problems emanating from natural resource management because of the influence of politicians and powerful loggers which was also stated as being a hindrance to the forest governance process. Insofar as the sector promotes collaboration among key forest stakeholders, some of the workshop participants emphasised the fact that the implementation of co-management is often difficult as none of the actors has the sole power to decide in certain cases. Lastly, they revealed that forest laws insufficiently differentiate between forest reserves and off-reserve areas, despite the differences in contexts and actors.

In the opinion of the workshop participants, the aforementioned challenges can be overcome by using a combination of strategies. These include (i) a decentralised and interactive approach to forest governance with feedback loops during implementation, (ii) differentiated laws and regulations adapted to the specific conditions both on and off reserve, and (iii) the FC sharing responsibilities, equitable benefits, power and ensuring cooperation with key actors in communities and the private sector, in order to facilitate the smooth operationalisation of its activities. Furthermore, they identified the need to pay due attention to conflict management skills for forest practitioners in natural resource management academic curricula. In this respect they called for a clearly defined position of customary laws within the statutory forest laws, with defined roles for traditional authorities. According to the workshop participants, the above-mentioned strategies call for the commitment of the FC in addition to its ability to mobilise internally generated funds. The FC should also mobilise international donor funds to support these improvements, either alone or in collaboration with research and civil society organisations.

#### *Instruments*

As discussed earlier in this chapter, there are serious constraints that forest governors are facing in their day-to-day management of conflicts over natural resources. In order to improve the way they deal with the various stakeholders, the forest governors and experts made several suggestions during the workshop, based on soft instruments that could complement the existing legislation. They hope that this will create new opportunities favourable for the accommodation of the multiplicity of actors and for promoting effective interactive forest governance. For such implementation to be effective, they suggested the following joint actions and strategies:

- Provide the FSD district offices with adequate human, financial, technical and logistic resources for the implementation of policy strategies, laws and regulations at the district level.
- Strengthen capacity development of the FSD frontline staff, such as forest guards, range supervisors, customer service officers (where applicable) and district manag-

ers, particularly in conflict management. This will enable them to strengthen existing community-based organisations such as CBAGS and CFCs in terms of education and other provisions such as Wellington boots and identity cards to perform their duties.

- Create a common platform that occasionally redresses grievances and addresses conflicts through cross diffusion and fertilisation of ideas.
- Ensure participatory formulation and implementation of management plans with relevant stakeholders.
- Strengthen the forestry forum at all levels so that it can play a ‘broker’ role between the resource managers and forest users.
- Create spaces for people’s empowerment through participation in decision making.

### *Action*

In order to ensure that constructive conflict management becomes an integral component of the forest governance process, workshop participants proposed strategies which could be embedded in the governing system with a view to strengthening both second and third order governance (i.e. respectively institutions and underlying principles). The principles were discussed in the section on third order governance. The respondents’ and workshop participants’ suggestions to strengthen institutional arrangements and instruments were as follows:

1. Mobilise funds from the government and the donor community in order to strengthen the governing system and its institutions.
2. Explore international best practices in managing forest conflicts.
3. Institutionalise constructive conflict management options in the forestry sector.

With respect to the latter, the workshop participants advocated a unit within the sector which is specifically designed to manage conflicts and enforce laws, to arbitrate, to engage in adjudication, to mediate, educate and remain in constant dialogue with its stakeholders, clients and other sectors. They judged a periodic assessment of the performance of such a unit to be essential in order to identify weaknesses and apply the necessary remedy on time. In addition, the workshop participants argued in favour of legal recognition of social forestry within the policy framework and inter-sectoral planning and a strengthening of collaboration among land-use sectors. They also considered it important to define roles and responsibilities of the various actors and to create schemes for equitable benefit sharing among stakeholders in forest management. According to the workshop participants, these suggestions could be realised as part of the critical review of existing policies and procedures and ongoing institutional reforms.

## Discussion

This section addresses the research question on which this chapter was based, i.e. what the characteristics are in terms of features, orders, modes and elements of the governing system that contribute to the governability of Ghana’s forest sector and how does it deal with forest and tree-related conflicts? It starts with a discussion of the implications for forest governance and conflicts of the policy instruments inherited from colonial rule. This is followed by a discussion of the four components of governance systems distinguished in interactive governance theory, via an examination of the features, orders, modes and elements of the forest governing system and their implications for conflict

management mechanisms.

*Implications of colonial policy instruments for current forest governance*

Two main forest policies have been enacted since the introduction of scientific forestry in the colonial period, with very different policy directions. While the 1908 policy recognised protection as being important, the 1948 policy gave priority to production forestry. It resulted in an era mostly referred to as the ‘timberisation’ era, during which the timber industry became a powerful actor in the forest sector (Kotey *et al.* 2005). Each of these phases had different legislations to ensure the achievement of the policy objectives (see Table 5.1). The findings reflect the fact that the forest reservation process was fiercely opposed by local people who were supported by the Aborigines Rights Protection Society. Francois (1987) attributed this to poor consultation by the colonial government with the local people and their chiefs. To some authors, it was an act of using policy to disempower rural farmers while empowering chiefs to expropriate land by creating a customary system that vested land in paramount chiefs, which had hitherto not been their prerogative (Rathbone 1993, Adoo-Fenning 1997, Amanor 2005). Policy and legislative lapses and institutional failures, perceived goal incompatibility and perceived opportunities for deliberate interference with the other’s goals resulting in blocking behaviour can be seen as the underlying causes of conflict in the era of reservation (Schmidt & Kochan 1972, Tyler 1999, see also Chapter 2).

The struggles in the era of reservation were accompanied by a series of conflicts ranging from disputes over land ownership, claims on admitted farms, the emergence of illegal farming in the forest reserves for cocoa cultivation to the introduction of the concession system in off-reserve areas. This supports the assertion about the complexities resulting from such diversity of claims on natural resources and a lack of say in decision making (Dietz 1996, FAO 1996). The nature of conflicts inherited from Ghana’s colonial past also reveal that these are often triggered by a conflict of interests between livelihood needs and other interests in declining resources, whether economic or related to biodiversity conservation (Glasl 1999, Ros-Tonen & Dietz 2005).

*Elements of the governing system: Diversity, complexity, scale and dynamics*

One of the key challenges hindering the governance process is the multiplicity of actors in the forest governing system (Derkyi *et al.* 2010). The shift from government to governance increased the diversity of actors involved and has had tremendous implications for the role of the state, the relation between state and society and the role of the state versus other actors involved in the governing process, especially in Africa (Büscher & Dietz 2005). Although this has increased the complexity, from an interactive governance perspective it has also created an opportunity. In the words of Bavinck *et al.* (2005: 30): ‘if the interests, agendas and capacities of these stakeholders can be harnessed and guided, then there is a possibility of creating synergy that could benefit governance’. The hybrid-governing mode introduced in this chapter presents an actor constellation involving two or more of the five categories (i.e. statutory, market, civil society, customary and transnational governing structures) identified. It is essential to delineate this mode from the five categories because actors are often constrained or enabled in their actions by structures (Bavinck *et al.* 2005: 29). The hybrid mode facilitates their continuous changing from one governing mode to another as well as to ‘scale-jumping’

across different levels.<sup>23</sup> The emerging governance initiatives mean multi-stakeholder platforms are required for policy dialogue and the formulation and implementation of conflicts management strategies, which in itself are positive indicators of good governance. However, an insufficient focus on actors' interests can lead to a weak governance process. Actors may grab the opportunity to seek self and/or institutional benefits instead of achieving a common goal and this could create grounds for conflicts due to competing interests and claims.

*Different levels of governance orders in the sector: Opportunities and challenges*

According to Kooiman *et al.* (2005, 2008), the governing system is characterised by three orders of governance. This section begins the discussion on the third order (the underlying principles), which will be followed by a discussion on the second order (the institutions) and the first (day-to-day management) respectively.

– Third order governance: Principles underlying forest governance and conflict management

The analysis in this chapter revealed that principles underlying Ghana's forest governance can, to a large extent, be traced back to a series of dialogues at global level on how to improve forest governance and ensure sustainable forest management (see Table 5.2). The decisions taken at global level influence the management of natural resources at national level. A key source of these principles is Agenda 21 and the Forest Principles adopted at UNCED in 1992 that contributed to a shift in policy focus from timber production to a collaborative management-oriented policy framework that led to the establishment of the nation's Forest and Wildlife policy of 1994. Underlying principles emanating from UNCED include sustainable forest management, stakeholder participation and biodiversity conservation. New principles have been generated by more recent governance initiatives, such as the VPA process (principles relating to the rule of law) and REDD+ initiatives (principles relating to civil society participation, transparency and accountability, as well as the use of market mechanisms in forest conservation). The integration of these principles into the national agenda was, however, disputed at implementation level. The country is still struggling to translate them effectively into practice, while also having to tackle issues of unclear tenure, inequitable benefit sharing and illegal activities intertwined with conflict incidences (Marfo 2009, FC 2010, Marfo & Acheampong 2011).

In view of these challenges, the workshop participants suggested some substantial guiding principles and values as being relevant to Ghana's forest governance process. Many of these suggestions emanate from the good governance debate, principally the five building blocks for good forest governance and their components proposed by the World Bank (2009). These include (i) transparency, accountability and public participation, (ii) stability of forest institutions and conflict management, (iii) quality of forest administration, (iv) coherence of forest legislation and rule of law, and (v) economic efficiency, equity and incentives.

The congruence of the workshop participants' suggestions with the World Bank's ideology of good forest governance is a coincidence since the document had not yet been published at the time of conducting the survey and workshop. Even though some

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<sup>23</sup> The term 'scale-jumping' was coined by Neil Smith (1992) and refers to the nation-state operating beyond its jurisdictional boundaries. It was extended later into a metaphor that denotes the joining of power and political claims across geographical scales (Marston *et al.* 2005).

of the survey and workshop outcomes might have been steered by closed questions and the researcher's explanation of the concepts underlying the interactive governance approach, it is also illustrative of the participants' exposure to, and familiarity with, the international governance debate. For that reason, the respondents' and workshop participants' suggestions for strengthening interactive governance in Ghana were ordered according to the eight features (principles) of good governance in Figure 5.3.

– Second order governance: Institutional arrangements

In order to understand the institutions within Ghana's forest sector, this study follows the meaning given by Kooiman and Bavinck (2005), i.e. systems of agreements, rules, rights, laws and roles for decision making. The rules and norms guiding statutory and customary governing systems are addressed below.

As discussed earlier, Ghana's forest sector has undergone different policy reforms with the current Forest and Wildlife Policy of 1994 being considered one of the best in view of principles like collaborative management and equitable share of benefits (Agyeman *et al.* 2010). Several legislations emerged from this policy, which provide for rights and benefit sharing arrangements for different stakeholder groups. The benefit sharing arrangement observed in this study covers social responsibility agreements (SRAs) and the modified taungya system (MTS). However, despite the pro-poor nature of the current policy several challenges exist with regard to their implementation (Wiggins *et al.* 2004, Opoku 2006, World Bank 2006, Ayine 2008). The colonial legacy of poor recognition of customary laws and practices is seen as an underlying problem for the current regime.

Customary laws and practices differ among different ethnic groups of Ghana and the 1992 Constitution of Ghana (Article 272) allocates the task of codification of customary laws to the National House of Chiefs. Kasanga (2002) advocates a rationalisation of the plurality of the rules and sources of authority (both customary and statutory) to synchronise the two governing systems and increase the consistency between them. This could be achieved by following the recommendation made by Engel & Korf (2005: 57) that 'customary practices institutionalised within broader national legal frameworks may provide a good starting point to enhance traditional authorities' ability to deal with the challenges of contemporary natural resource management.'

– First order governance: Day-to-day conflict management

Both preventive and mitigation measures for managing conflicts in the forest sector are in place in Ghana. The patrolling of reserve boundaries by forest guards has not been very effective due to a lack of personnel. Support through hybrid governing structures like the CFCs and CBAGs has not led to many improvements due to a lack of long-term motivational incentives (World Bank 2006, Kendie & Guri 2007). Mitigation mechanisms involve different strategies which range from judicial to administrative approaches of fines and coercion. However, negotiation and mediation strategies for solving conflicts are also applied, particularly in relation to crop damage compensation and SRAs. The variety of conflict incidences (see Chapter 6) indeed mean that different resolution approaches are required, as advocated by Yasmi & Schanz (2007).

Despite the different approaches, conflict incidences in Ghana's high forest zone are still prevalent, especially in relation to illegal logging (see Chapter 8). The recommendation made by Castro & Nielsen (2003) that conflict management should be an intrinsic part of natural resource management has not yet received much or even any attention

in Ghana's forest sector. Some of the forest governors and experts involved in this study pointed out that foresters and resource managers are not trained in conflict management, which is considered to be the domain of the judiciary. This resulted in the recommendation to integrate conflict management in the academic curriculum (see Chapter 6).

*Emerging issues relating to modes of forest governance*

All the three modes of governance distinguished in interactive governance theory co-exist in Ghana. However, a blend of hierarchical and co-governance modes commonly prevails in the formal (statutory) forestry sector, whereas self-governance combined with the other two modes prevail within the customary governing structure.<sup>24</sup> Despite efforts to create co-governance arrangements, the hierarchical mode of governance characterised by command-and-control and centrist approaches still prevails over co-governance. This corresponds with the findings of Bavinck *et al.* (2005) for the fisheries sector. The integration of co-governance arrangements in the forest sector has been considerably improved with respect to joint decision making and benefit sharing between (and within) government, non-government actors and the donor community. These achievements have been possible through a series of governance initiatives such as the NREG programme and the REDD plus and VPA processes.

Both civil society and state-initiated co-management and participatory governance arrangements led to an increasing number of actors in the forest governance arena, all with competing claims and interests. This increases the complexity and dynamics of the governance system and the potential for conflicts. Nonetheless, the issue of conflict management is not given a lot of attention in most of the recent governance initiatives, except for the REDD plus process. A review of Ghana's REDD Readiness Preparation Proposal (R-PP) in January 2010 by the World Research Institute (Williams *et al.* 2011, WRI-Ghana, R-PP 2010: 3) reported the following issues related to conflict resolution:

'Ghana's R-PP provides a useful synopsis of the land tenure conflict dynamics in Annex 7, but fails to articulate sufficiently the significance of land tenure conflicts for the development of REDD+. However, it emphasizes the importance of effective conflict resolution and access to redress in the context of REDD+ (p19). The R-PP does not assess to what extent existing conflicts are effectively resolved by the judiciary and alternative systems of justice. However it proposes to establish conflict resolution structures that will operate at the most localized level as appropriate, including REDD+ specific training for lawyers, judges, etc. (p19, 63). At this stage, it is unclear how these conflict resolution structures for REDD+ will relate to existing judicial and other conflict resolution structures, or whether they will address wider underlying land and forest tenure-related conflicts.'

This reflects a positive signal of conflict management becoming a feature of forestry programmes with REDD plus taking the lead. Initiatives like the VPA process, which touches on the implementation of legality standards, must consider complementing the proposed hard enforcement measures with soft enforcement mechanisms (see Chapter 8 and Arts *et al.* 2010).

*Strengthening conflict management systems within the governance process:*

*From images to action*

The forest governors and experts highlighted the pervasiveness of forest conflicts, institutional lapses and poor recognition of traditional governing system in forest manage-

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<sup>24</sup> Chapter 7 of this thesis shows how the three modes of governance amalgamate in the customary institutions in the study area.

ment. Some recommendations were given based on specific challenges. As conflict management is not given a lot of recognition in Ghana's forest sector they recommended specific strategies to strengthen each of the three orders of element in the governing system.

## Conclusion

This chapter explored and assessed the status of the governing system in Ghana's forest sector with a focus on conflict management. The historical overview clearly indicated the underlying factors of past forest conflicts and their linkages with the present. The analysis of the features of the governing system brought the diversity and complexity of the system to the fore, as well as its multi-scalar and dynamic nature. The analysis of the governance orders highlighted the various principles and institutional instruments that guide the sector as regards achieving sustainable forest management as the core principle of its policy. However, the combination of colonial legacy of unresolved tenure and access rights issues, implementation challenges and dynamics associated with population growth have resulted in illegal land and resource use, characterised by conflicts.

Since conflicts are inherent in any natural resource to which multiple claims exist, they should be regarded as challenges which need to be addressed by setting up suitable institutions, structures and mechanisms for their non-violent management. This can be seen as an opportunity potential to strengthen governance if the process of problem solving is done in a transparent and fair manner, ensuring the equitable sharing of benefits and access rights and promoting conditions that can help to create cooperative relationships.

Considering these challenges, the forest governors and experts involved in this study have expressed their views on what actions they see as a point of entry for the establishment of constructive conflict management in the forest sector. Such actions are to be integrated into the myriad of ongoing governance initiatives in the sector, of which the REDD plus framework acknowledges conflict resolution to the greatest extent. Conflict management should be an integral component of the forest governance process in Ghana. How the forest governors and experts perceive the nature of conflicts and conflict management and the options for improvement is addressed in the next chapter.

## Forest governors and experts' perceptions of forest and tree-related conflicts and management strategies - from images to actions<sup>1</sup>

### Introduction

Forest resources contribute immensely to people's livelihoods and particularly those of the world's poor (Falconer 1990, World Bank 2001, Sunderlin 2005). However, widespread conflicts over forest and tree resources and the absence of constructive conflict management mechanisms undermine people's livelihood sources and pose challenges to forest governance and sustainable forest management (Ostrom 1999, Marfo 2006, Yasmi 2007). This also applies to Ghana, where literature on forest conflicts and failing conflict management strategies has hitherto focused mainly on legality and other issues around logging, such as compensation payments and social responsibility agreement (SRA) negotiations<sup>2</sup> (Kotey *et al.* 1998, Amanor 2000, Marfo 2004a & 2004b). As noted in the previous chapter, even less attention has been paid to conflict management strategies. The analysis in this chapter goes beyond the timber sector and aims to cover the full range of forest-related livelihood activities around which conflicts occur in Ghana. The chapter also adds to the literature on the nature and causes of natural resource conflicts by making them explicit for forest and tree resources in Ghana. It does so based on a joint analysis with policymakers and forest resource managers (governors)<sup>3</sup> and experts<sup>4</sup> in Ghana.

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<sup>1</sup> Part of this chapter is under review for publication in *Society and Natural Resources*<sup>a</sup> and another part for the *Ghana Journal of Forestry*<sup>b</sup> as:

<sup>a</sup> Mercy Derkyi, Mirjam A.F. Ros-Tonen, Ton Dietz & Boateng Kyereh (submitted b), Fighting over Forest: Livelihood Conflicts and Conflict Management in Ghana's High Forest Zone

<sup>b</sup> Mercy Derkyi (submitted c), Managing Livelihood Conflicts in Ghana's High Forest Zone.

<sup>2</sup> Social responsibility agreements (SRAs) refer to the legal obligation of timber operators to pay 5% of the value of stumpage fees (i.e. an amount to be paid by the timber operator on total felled trees) in cash or kind to adjacent communities.

<sup>3</sup> Forest governors are taken to mean actors in the formal forest sector mandated to formulate policies and implementation of policy strategies in Ghana.



In addition, this chapter contributes to conflict management debates (see Glasl 1999, Moore 2003, Engel & Korf 2005, Wehrmann 2008, Chapter 2) by clarifying how conflict management strategies in Ghana fit into existing classifications, and what alternatives are desirable from the governors and experts point of view. The methodology employed facilitated a shared problem analysis among those mandated to formulate and implement forest policies. Effective policies that deal with conflicts require shared problem definition and an in-depth understanding of conflicts over common pool resources (Adams *et al.* 2003).

The overall question addressed in this chapter is ‘what are the perspectives of forest governors and experts in the forest sector regarding the nature of forest and tree-related livelihood conflicts and conflict management options in Ghana’s high forest zone?’ The central question has been divided into three sub-questions:

1. What are respondents’ images regarding forest and tree-based livelihood options and associated conflicts?
2. What are respondents’ perceptions regarding the instruments available to manage these conflicts?
3. What actions do forest governors and experts propose to improve conflict management?

This question will be answered against the background of the system-to-be-governed outlined in Chapter 4 and the governing system analysed in Chapter 5, based on data collected with the four-step methodology (desk study, self-completed questionnaires, dissemination and consensus workshop and additional face-to-face interviews) described in Chapter 3. The respondents’ views on the subject matter are analysed using the interactive governance approach developed by Kooiman *et al.* (2005, 2008), with particular attention being paid to actors’ perceptions of the system-to-be governed and their images, instruments and actions.

The next sections present the results regarding respondents’ perceptions of forest and tree-based livelihood options and associated conflicts, and the options to manage these conflicts. Then the findings are discussed against the context of scholarly literature on the subject matter and ongoing forest policy reforms in Ghana. The chapter ends with a conclusion.

## Respondents’ views of the system-to-be-governed:

### Forest and tree products and services in Ghana’s high forest zone

Ghana’s high forest zone provides both direct and indirect livelihood services and products to numerous actors in Ghana. This applies to both on-reserves and off-reserve forest areas. Respondents were generally aware of the different livelihood options in the two types of forest management areas and the benefits thereof. Those in the on-reserve areas encompass the modified taungya system (MTS), commercial plantations, Highly Indebted Poor Countries (HIPC)-funded plantations, admitted and illegal farming, and NTFP extraction for both domestic and commercial purposes. Livelihood options in off-

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<sup>4</sup> Experts are representatives of governmental, non-governmental institutions and individuals who have a role or stake in forest and tree management in Ghana.

Table 6.1 Forest and tree-based livelihood components and key beneficiaries within forest context in Ghana

Forest context	Livelihood components	Benefits involved	Main actors involved
<b>On-reserve forest area</b>	<ul style="list-style-type: none"> <li>Modified taungya system in degraded forest reserves</li> </ul>	<ul style="list-style-type: none"> <li>Cash and non-cash income from crops</li> <li>Revenues from harvestable timber</li> </ul>	<ul style="list-style-type: none"> <li>Forest fringe communities</li> <li>FC</li> <li>Stool land owners</li> <li>Individual taungya farmers</li> </ul>
	<ul style="list-style-type: none"> <li>Commercial plantations in forest reserves</li> </ul>	<ul style="list-style-type: none"> <li>Employment</li> <li>Share in timber revenues</li> </ul>	<ul style="list-style-type: none"> <li>Local and expatriate investors</li> <li>FC</li> <li>Adjacent communities</li> <li>Stool land owners</li> </ul>
	<ul style="list-style-type: none"> <li>Highly Indebted Poor Countries (HIPC)<sup>5</sup> plantations initiative</li> </ul>	<ul style="list-style-type: none"> <li>Employment<sup>6</sup></li> <li>Daily labour<sup>7</sup></li> <li>Timber revenues</li> </ul>	<ul style="list-style-type: none"> <li>Villagers</li> <li>FC/FSD</li> <li>Plantation supervisors</li> </ul>
	<ul style="list-style-type: none"> <li>NTFP extraction (<i>flora and fauna</i>)</li> </ul>	<ul style="list-style-type: none"> <li>Cash and non-cash income from NTFPs</li> </ul>	<ul style="list-style-type: none"> <li>Hunters</li> <li>Individuals in local communities</li> <li>Individual NTFP traders</li> <li>FC/WD and FSD</li> </ul>
	<ul style="list-style-type: none"> <li>Illegal farming</li> </ul>	<ul style="list-style-type: none"> <li>Cash and non-cash income from crops</li> </ul>	<ul style="list-style-type: none"> <li>Farmers near reserves</li> </ul>
	<ul style="list-style-type: none"> <li>Admitted farming</li> </ul>	<ul style="list-style-type: none"> <li>Cash and non-cash income from crops</li> </ul>	<ul style="list-style-type: none"> <li>Admitted farmers</li> </ul>
<b>Off-reserve area</b>	<ul style="list-style-type: none"> <li>Planted timber trees on farmlands</li> </ul>	<ul style="list-style-type: none"> <li>Revenues from timber</li> </ul>	<ul style="list-style-type: none"> <li>Farmers (tenants or landowners)</li> </ul>
	<ul style="list-style-type: none"> <li>Payment received from crop destruction on farmland during logging (crop damage compensation rate)</li> </ul>	<ul style="list-style-type: none"> <li>Cash from damage compensation</li> </ul>	<ul style="list-style-type: none"> <li>Farmers (tenants or landowners)</li> </ul>
<b>Both on-reserve and off-reserve areas</b>	<ul style="list-style-type: none"> <li>Cash or kind benefits from SRAs with timber operators</li> </ul>	<ul style="list-style-type: none"> <li>Cash and benefits in kind (e.g. cement for school projects or a community centre hall, construction of a bridge or subsistence products).</li> </ul>	<ul style="list-style-type: none"> <li>Communities adjacent to TUC/ concession areas.</li> </ul>
	<ul style="list-style-type: none"> <li>Legal timber logging</li> </ul>	<ul style="list-style-type: none"> <li>Timber revenues</li> <li>Employment</li> <li>Provision of SRA benefits</li> </ul>	<ul style="list-style-type: none"> <li>TUC holders and concessionaires</li> <li>Forestry Commission</li> <li>Workers at the timber companies</li> <li>Stool landowners,</li> <li>Communities adjacent to TUC/concession areas.</li> </ul>

(continues)

<sup>5</sup> The Highly Indebted Poor Countries fund in Ghana is partly used to finance forest plantations.

<sup>6</sup> Employment refers to labour for a monthly or weekly salary.

<sup>7</sup> Daily labour to work for daily wages commonly referred to in Ghana as 'by day'.

(cont'd)

- |                                     |                              |                                      |
|-------------------------------------|------------------------------|--------------------------------------|
| • Illegal timber logging            | • Timber revenues            | • Individual illegal loggers         |
|                                     |                              | • Legal timber operators             |
| • Chainsaw lumbering                | • Timber revenues            | • Villagers                          |
|                                     |                              | • Lumber sellers for domestic market |
|                                     |                              | • Chainsaw operators                 |
| • Timber tree nursery establishment | • Employment                 | • Labour force                       |
|                                     | • Trees for reforestation    | • FSD                                |
|                                     | • Timber /seedlings revenues | • Timber companies, FORIG            |

*Key:* FC = Forestry Commission; FORIG = Forest Research Institute Ghana; FSD = Forest Services Division of the FC; HIPC = Highly Indebted Poor Countries; NTFPs = Non-timber forest products; SRA = Social responsibility agreement; TUC = Timber utilisation contract; WD = Wildlife Division of the FC.

*Source:* Field survey 2009-2010.

reserve areas include planting trees on farmlands and crop damage compensation received from crop destruction on farmland during logging. Livelihood options occurring in both and off-reserve areas include legal and illegal logging (or chainsaw milling), social responsibility agreement (SRA) payments by legal timber operators, and timber nursery establishment. Beneficiaries include the inhabitants of forest-adjacent communities, timber operators, plantation developers and the government (see Table 6.1 for a further specification). The latter three operate at multiple levels of scale (community, district, regional and national levels).

## Images

Below, the perceptions of forest governors and experts are analysed with respect to the meaning of conflict and the kind of conflicts in Ghana's high forest zone.

### *Views on the meaning of 'conflict' and 'conflict over forest and tree resources'*

Conflicts and disputes are terms which respondents used interchangeably when assessing certain types of conflicts based on different livelihood components. In the local language, Twi, a distinction is made between (i) *ntawatawa*, which indicates a difference of opinion or misunderstanding, and (ii) *ntokwa*, which is a more severe conflict, or which indicates a violent dispute.

Respondents (n=15) used slightly diverging interpretations of the word 'conflict' and the phrase 'conflict over forest and tree resources'. Some of the proposed definitions<sup>8</sup> included:

- *'A situation of open discontent between two people or institutions'.*
- *'Actual or perceived opposing needs, values and interests'.*
- *'A clash of interests between stakeholders over access, allocation, utilisation and/or management of a resource'.*
- *'A process that occurs between two or more persons when they have different points of view or different goals and values and they fight over limited resources to address them'.*

<sup>8</sup> See Appendix 3 for the full range of definitions of 'conflicts' and 'conflict over forest and tree resources' that were generated by the survey.

- *'A process in which two or more people disagree on issue(s) and take it to a level which leads to intolerance of one another'*.

Respondents gave the following definitions for the phrase 'conflict over forest and tree resources':

- *'Dispute over natural resources by two or more parties in terms of uses, ownership, benefits and management'*.
- *'Unresolved differences over access to resources'*.
- *'Groups of people having different or similar uses for the same resources'*.
- *'A lack of equal access to resources'*.
- *'Disputes due to a lack of flow of information and benefits to stakeholders'*.

Underlying these divergent views is a common understanding of 'conflict' as either 'perceived' or 'actually' opposing or competing needs, values and interests between two or more people. Respondents also agreed that these competing needs and interests refer to the access, allocation or utilisation of the resource in question. Finally, they shared the view that conflicts only arise if one of the parties does not meet his/her perceived or actual expectations. Hence, the integrated definition of conflict adopted at the workshop was 'perceived or actual opposing or competing needs, values and interests between two or more parties related to the allocation, access, ownership or utilisation of a resource.'

#### *Perceptions of conflicts associated with forest and tree resources*

This section presents the results according to the six dimensions of the conflict wheel that were presented in Chapter 2 as an analytical tool (see Figure 2.2).

##### – Context

Generally, the survey and interview respondents classified conflicts according to the context in which they occur, i.e. on-reserve, off-reserve, or both. Each of these contexts has its own unique conflict type(s) within which multiple actors with conflicting claims aim to achieve their expectations (see Table 6.2).

##### – Issues and actors in different contexts

Conflicts in Ghana's on-reserve forests usually evolve around (i) illegality issues (illegal farming, expansion of admitted farms and illegal extraction of NTFPs); (ii) the allocation and use of modified taungya system (MTS) land,<sup>9</sup> and (iii) competing land uses (e.g. conservation versus productive uses, forestry vs. farming, and mining vs. forestry).

Issues that trigger conflicts in the off-reserve areas include (i) inadequate compensation for crops damaged by timber operators during felling, (ii) administrative lapses in obtaining permits to harvest trees planted on farm, (iii) felling of nurtured trees on farms, and (iv) (compensation for) crop destruction by pastoralists. The farmers are

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<sup>9</sup> The modified taungya system (MTS) is a co-management reforestation scheme between the FC and local communities that allows farmers to grow food crops between the planted trees and share in the timber revenues (see Chapter 9).

Table 6.2 Contexts and types of forest and tree-related conflicts and main actors involved

Context	Conflict type	Main actors involved
<b>Forest reserve management area</b>	Conflicts about illegal farming.	Illegal farmers and the FSD; illegal farmers among themselves.
	Conflicts arising from the extension of admitted farm boundaries.	Admitted farmers and the FSD.
	Conflicts arising from the illegal extraction collection and harvesting of NTFPs for commercial purposes.	NTFP collectors and the FC (both the FSD and WD) officials.
	Conflicts arising from the allocation and use of MTS farms.	Among taungya farmers; taungya farmers and taungya leaders; illegal farmers and taungya farmers; taungya farmers and the FSD.
<b>Off-reserve forest management area</b>	Conflicts arising from conservation objectives versus livelihood needs in protected forest areas.	Forest fringe communities and the FC.
	Crop damage compensation conflict.	Farmers and timber operators (both legal and illegal).
	Conflict about harvesting of plantations. Conflict over felling of nurtured trees.	The FSD and tree growers. Farmers and timber operators (both legal and illegal); farmers and FSD.
<b>Both forest reserves and off-reserve management areas</b>	Conflict arising from crop destruction by pastoralists.	Fulani herdsmen and farmers.
	Conflict arising during SRA negotiation.	Beneficiary communities and chiefs/community elites; communities vs. timber operators.
	Conflicts relating to illegal logging.	Timber operators (permit and non-permit holders vs. TIDD/FSD; farmers vs. timber operators (permit and non-permit holders).
	Conflicts relating to illegal chainsaw millers. About crop damage. About illegality. About competing claims to timber.	Chainsaw millers vs. farmers. Chainsaw millers vs. FSD. Chainsaw millers from different financial support groups.

*Key:* FC = Forestry Commission; FSD = Forest Services Division of the FC; MTS = Modified taungya system; NTFPs = Non-timber forest products; SRA = Social responsibility agreement; TIDD = Timber Industry Development Department; WD = Wildlife Department of the FC.

*Source:* Field survey, 2009-2010.

interested in gaining benefits from timber trees. In relation to this, Ghanaian law distinguishes between naturally regenerated trees and planted trees on farms. Naturally generated trees fall under the custody of the State, which allocates felling rights to timber operators and not to farmers on whose land these trees grow. When farmers tend the trees, they perceive this arrangement as unjust. However, felling and selling the tended trees is illegal according to Ghanaian law and results in conflicts with the FSD. The FSD is interested in benefiting from revenues generated from the timber trees sold to timber operators with legal documents. Farmers, however, do have the right to sell trees that they planted themselves according to Act 617 (see Chapter 5) but need to go

through administrative and negotiation arrangements<sup>10</sup> with the FSD as well as with a legal timber operator who wants to fell the trees. In this instance, conflicts can arise when farmers' fail to adhere to the procedure. Conflicts also occur in relation to compensation for crops damaged by timber operators during tree felling and by pastoralists when they graze their animals on the farmer's land.

Issues prevailing in both on and off-reserve contexts include conflicts over SRA negotiations, illegal logging and illegal chainsaw milling in addition to crop damage and competing claims on timber (Table 6.2).

The actors involved in conflicts in forest reserves include FC officials, farmers (taungya farmers, illegal farmers, admitted farmers) and NTFP collectors (Table 6.2). The FSD officials are the most common actors in these conflicts because they are the ones who are confronted with the aforementioned actors in their efforts to ensure that people do not access forest resources illegally in order to meet forest conservation and management objectives.

Within the off-reserve areas, farmers are considered to be the main actors in the identified conflicts. They could be in conflict among themselves or with other actors such as the FSD, timber operators (i.e. both legal and illegal) or pastoralists (Fulani herdsmen).

Actors involved in the conflict types that occur in both on and off-reserve forest management areas are members of the beneficiary communities in conflict with the local chiefs or elites, or with timber operators in the case of conflicts during SRA negotiations. In conflicts relating to illegal logging, the actors are timber operators (both permit holders and non-holders) who may become involved in a conflict with either the FC officials or the farmers. Actors involved in conflicts relating to illegal chainsaw milling are mostly chainsaw millers in conflict with each other, or with other actors such as farmers and the FSD.

Each of these actors has different interests ranging from the need to access forest resources to build a livelihood, to a greedy desire for financial benefits, or a desire to fulfil management objectives to sustain the resources for now and the future. If these interests or expectations are not met, these actors exercise their powers to get what they want and that often leads to conflicts.

#### – Underlying causes

Results of the survey and interviews with forest governors and experts revealed that, in their opinion, several underlying factors trigger conflicts in the high forest zone. The conflict sources mentioned in the survey and interviews in Box 6.1 were categorised using the categories identified in the literature (Schmidt & Kochan 1972, Homer-Dixon 1994, Tyler 1999, see Chapter 2 and the discussion section).

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<sup>10</sup> In his ongoing PhD research, Insaidoo (forthcoming ) observed that a farmer who intends to harvest his/her planted timber trees first has to contact a registered contractor or timber dealer willing to buy the mature timber trees. When the contractor inspects the trees and shows interest in buying the timber, he negotiates the price of the trees with the farmer and eventually purchases the number of trees the farmer wants to sell at the agreed price. The contractor then collects a letter of consent from the farmer for the district FDS office. The district FSD then sends officers with the contractor to the farmer's village, to inquire about the true owner of the timber tree farm in question. When the farmer's ownership of the tree farm in question is confirmed, the district FSD manager allows the farmer to harvest his timber trees for the contractor. The contractor then applies to the district FSD for a conveyance certificate in order to be able to transport the harvested timber legally.

**Box 6.1** Forest governors and experts' opinions of sources of offence and conflicts related to forest and tree livelihoods in Ghana's high forest zone

**POLICY AND LEGISLATION LAPSES (based on Tyler 1999)**

- The absence of a sectoral policy on timber benefits sharing with farmers who nurture timber trees on farmlands.
- Poor enforcement of forest laws.
- Poor implementation of policy strategies and actions.
- A lack of political will among technocrats and government officials to implement stringent sustainable forest management systems.

**INSTITUTIONAL FAILURES (based on Tyler 1999)**

- Inadequate forestry education (laws, policies, strategies, etc.) for both farmers and timber operators.
- The absence of guidelines on crop compensation payments.
- Procedural difficulties obtaining permits to harvest planted trees on farmlands.
- The absence of internal forest boundary markers or pillars.
- Poor participation of communities in forest resource management in terms of monitoring and benefit sharing.
- The absence of FC officials in mediation in SRA negotiations between timber operators and communities.
- Systems for managing conflict weakly developed.
- Minimal supervision of timber harvesting by the FSD.
- Inadequate FC frontline staff and logistics to monitor activities at the resource base.
- Inadequate supervision by the FSD and taungya heads under the modified taungya system.

**PERCEIVED GOAL INCOMPATIBILITY (MOTIVATIONAL FORCES) (based on Schmidt and Kochan 1972)**

- Boundary disputes.
- Diverging interests in forest resources by local communities, general public and forest managers.
- Irritation among farmers not involved in timber harvesting benefits especially in off-reserve areas.

**PERCEIVED OPPORTUNITIES FOR DELIBERATE INTERFERENCE WITH THE OTHER'S GOALS (based on Schmidt and Kochan 1972)**

- Actors benefiting from the difficulty of controlling off-reserve resources because of the varied nature of the land-use system and the many actors involved in their different interests and needs.
- The hijacking of the SRA negotiation processes by community elites at local level.
- The support pastoralists receive from traditional leaders as regards grazing their animals anywhere, resulting in crop destruction.

**ENVIRONMENTAL SCARCITY (INCLUDING STRUCTURAL SCARCITY BASED ON UNEQUAL DISTRIBUTION) (based on Homer-Dixon 1994)**

- Population increase.
- Farming land scarcity.
- Poor fertility of farmlands.
- Limited pasture land for animal grazing.
- Financial greed resulting in illegal exploitation of forest resources especially timber.
- Rent seeking by officials from timber operators.

Key: FC = Forestry Commission; FSD = Forest Services Division of the FC; SRA = Social responsibility agreement

### – Conflict dynamics

Respondents perceived differences in intensity and scale of conflicts. For example, conflicts related to illegal chainsaw logging and milling or forestland use for farming may be latent (the potential for conflict exists, but has not yet developed), emerging (when it becomes obvious or may exhibit signs of crises) or escalating (leading to injury or violence when the conflict results in physical clashes between the parties) (*c.f.* Engel & Korf 2005). A conflict does not necessarily need to escalate into stalemate. For instance, a latent conflict relating to crop damage during logging can be prevented from escalating when the timber operator negotiates peacefully with the farmer, reaches an agreement on the amount to be paid, and fulfils the agreement. However, when negotiation fails, mediation becomes the next option. Failure of such an approach may result in emergence or injury, with the last resort being violent clashes between the contractor and the farmer and the involvement of their supporters. Usually such escalations include the setting up of road blockades to prevent the operator from transporting timber logs.

According to the survey and interview results, most of these incidents start at the resource base but shift from localised to national issues because of media coverage, thereby bringing in more actors who were not involved during the initial stages of the conflicts. The respondents were of the opinion that resource conflicts arise because of triggering events such as multiple claims on forest resources and forestland for farming and weak enforcement or compliance of laws. Others include rent-seeking behaviour by elite groups with regard to timber resources and legislative lapses as regards timber revenue-sharing mechanisms in off-reserve areas, which exclude farmers.

### Instruments: Conflict management strategies and challenges

The respondents mentioned several case-by-case approaches of conflict management, which were categorised on the basis of the continuum of conflict management approaches adapted from Glasl (1999), Moore (2003), Engel & Korf (2005) and Wehrmann (2008) (see Chapter 2).

Among the informal decision-making approaches, conflict avoidance appeared to prevail mostly in chainsaw milling. Upon hearing of the presence of the FSD/Military patrol team<sup>11</sup> in the area, the offenders try to escape, leaving behind the lumber and their work tools.

Negotiation and mediation mechanisms are employed by timber contractors involved in conflicts about SRA and crop damage compensation. The SRA negotiation process occurs between beneficiary communities and the timber operators in the presence or absence of the District FSD or the local government representative. These officials often mediate when negotiations are unsuccessful. In the event of crop damage, contractors first try to negotiate with the farmer directly. Only if the process fails does either the contractor or the farmer call upon the district FSD officials to mediate or take action. Arbitration, which falls under informal third-party decision-making, takes the form of

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<sup>11</sup> In Ghana, both the military and police collaborate with the FSD to form a task force that monitors illegal forest activities, particularly chainsaw milling and illegal timber logging. The presence of either the military or the police is location-specific and depends on the availability of the enforcement agency in that location. In the Ashanti region, where the study was conducted, the FSD has established a standing task force in collaboration with the military instead of the police. However, in some parts of the country the police also team up with the FSD to form a task force.



committees of inquiry which assess conflict cases such as illegal farming and logging in forest reserves, and present recommendations for action.

Legal authoritative third-party decisions in the form of adjudication are taken by signing affidavits by offenders in which they pledge to desist from committing such offences again and pay for the forest products stolen (fines). This is a common practice in relation to illegal logging by legal timber contractors, although prosecution leading to a prison sentence of a number of years is also an option. Such legal action can be based on the legislative framework that stipulates how disputes should be settled between the FC and timber operators (LI 1649) and other forest offenders (Act 624) (see Chapter 5). The last approach, coerced decision making, is used when the FSD military / police team arrests illegal chainsaw operators (non-violent direct action) or destroys illegal farms in the reserves (violence). Violent clashes occur mostly in relation to illegal chainsaw milling, because of the use of force in clashes between chainsaw millers and a team of FSD officials and the military, or among chainsaw millers themselves in the case of conflicts over money or log theft.

According to the respondents, there are challenges inherent in some of these approaches. First, the prevalence of coercion in the administrative system has resulted in hostility between FSD officials and actors engaging in forest offences. This has resulted, in turn, in apathy among the stakeholders as regards providing support for forest management or, worse still, fighting and injuries. Second, although the SRA guidelines mandate the District Forest Manager or his/her representative to be a witness during the negotiation process and mediate when the need arises, the officials are often absent during negotiation processes. This often results in a disagreement between community members and the timber contractor or within the community, leading, in turn, to disputes that may escalate if not resolved on time. For instance, in some cases, the property of timber contractors will have been destroyed or the offended community members will have barricaded the road, thereby denying the contractor access and preventing him to transport logged timber from the forest. A third challenge involves interference by politicians and elites during conflict resolution processes. In some instances, these elites plead on behalf of the offenders, thereby preventing them from receiving the necessary punishment in the form of fines or imprisonment. Finally, respondents noted the overall problem that it is often difficult to arrive at trade-offs that are acceptable to all conflict parties involved, and that an efficient mechanism capable of minimising conflict incidences would be an important means towards achieving sustainable resource management.

### Action: Propositions to minimise forest and tree resources conflicts

With a view to identifying options for minimising the challenges with regard to the existing conflict management mechanisms, the forest governors and experts involved in the survey and interviews were asked to mention scale-specific but inter-linked recommendations. The rationale behind asking them for scale-specific recommendations was that forest and tree-related conflicts occur at different levels of forest management scale (national, regional, district and reserve). However, the actors involved may operate on multiple scales. Hence, effective conflict management at one level contributes to a reduction in conflicts at another level, if proper mechanisms are in place. In order to complement the recommendations resulting from the survey and interviews, the workshop

participants selected priority issues and proposed action plans that may reduce forest conflicts for consideration by policymakers of Ghana's forest sector.

*Scale-specific but inter-linked recommendations*

The recommendations resulting from the survey and interviews synthesized and adopted during the workshop are the following (see Appendix 4 for the full range of recommendations that were generated by the survey and interviews).

At national level

1. The Forestry Commission and Ministry of Lands and Natural Resources, with support from other actors within the forest governance system, must make use of the ongoing forest and wildlife policy review<sup>12</sup> to integrate conflict management strategies that blend statutory and customary systems to meet the conditions of contemporary forest governance processes.
2. The Forestry Commission should seek internal and external funding sources to strengthen forums and platforms at all levels of scale. This will help discussions and the finding of solutions to forest-related problems and will facilitate information flows and education. Furthermore, additional funds would help ensure that frontline staff at the Forest Districts and Reserve levels has adequate resources via the regional level, thereby allowing the effective implementation of the policy strategies.

At regional level

The Regional FSD managers should make an effort to:

1. Adopt effective coordination measures to address and monitor problems promptly at forest district level.
2. Promote interactions between actors at regional and forest district levels through the strengthening of the existing regional and district forestry forums (see Chapter 5) that have the potential to remove false suspicions and perceptions. For instance, local communities usually perceive the FSD as an ally to timber contractors, while the FSD perceives farmers and local communities as conniving with chainsaw millers.
3. Facilitate training in conflict management techniques and the enforcement of forest laws for all district frontline staff (District Managers, Range Supervisors and Forest Guards) with a view to providing them with the necessary skills to manage potential and ongoing forest conflicts.

At forest district level

The District FSD managers should make an effort to:

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<sup>12</sup> With sector support via the Natural Resources and Environmental Governance (NREG) programme, the Ministry of Land and Natural Resources and the Ghana Forestry Commission, in collaboration with other stakeholders, are reviewing the 1994 Forest and Wildlife Policy and accompanying legislations in order to accommodate contemporary global issues such as climate change, forest law enforcement and governance processes (see Chapter 5).

1. Use the resources (financial, human, logistics etc.) provided by law and/or access funds from external sources (e.g. national and international donors) in order to ensure effective implementation of policies and strategies.
2. Intensify forestry education not only for local communities but also for the timber contractors to make them aware of their roles and responsibilities, especially regarding the management of non-violent forest conflicts.
3. Delegate some responsibilities to subordinates such as Customer Service Officers (where applicable) or Assistant District Managers, thereby allowing them to mediate or arbitrate in forest conflicts.

#### At community level

The District Forest Services Division should, in collaboration with representatives of communities and other stakeholders:

1. Institutionalise a local conflict management structure. A committee composed of representatives of the different groups in the community (including the resident forest guards) should be established to settle non-violent forest conflicts after having received adequate training in conflict management skills.
2. Institutionalise annual stakeholder dialogues between District Forest Services officials, local people and timber operators to bridge gaps between these actors.
3. Enter into a Memorandum of Understanding with forest communities through institutions like Community Forestry Committees (CFCs) and Community Biodiversity Advisory Groups (CBAGs) which can support the Forest District Office in creating awareness of forestry issues after capacity building of the leaders in these directions.
4. The Forestry Commission and its key stakeholders (e.g. the timber industry and commercial plantations investors) should create economic opportunities that are compatible with forest conservation objectives to improve wellbeing in forest fringe communities, especially those located at the borders or within protected forest areas where access to forest resources has been denied or restricted.

#### *Action Plans proposed by the workshop participants*

Based on the recommendations outlined above, the workshop participants formulated two action plans as shown in Boxes 6.2 and 6.3 respectively.

Conflict type (CT) 1: Compensation and land use-related conflicts

#### **Recommended steps:**

1. A priority step towards resolution should be a **negotiation process** among conflict parties (i.e. timber operators, farmers, FC staff, landowners, etc.) from which a win-win situation must be achieved.
2. In the event that this does not work, an alternative could be 3<sup>rd</sup> party mediation (e.g. FSD official, traditional leaders, a District Chief Executive, or any other person with up-to-date mediation skills).

3. If the conflict remains unresolved, the Land Valuation Division under the Lands Commission must be called in to intervene to assess the cost of the damage.
4. If all these attempts fail, the parties could resort to legal proceedings although these often lead to a win-lose outcome (see Figure 6.2). The flow chart in Fig. 6.2 indicates the four conflict management pathways.

**Box 6.2** *Action Plan 1 - Effective strategies to achieve an integrated conflict management (ICM) model that reconciles statutory and customary mechanisms*

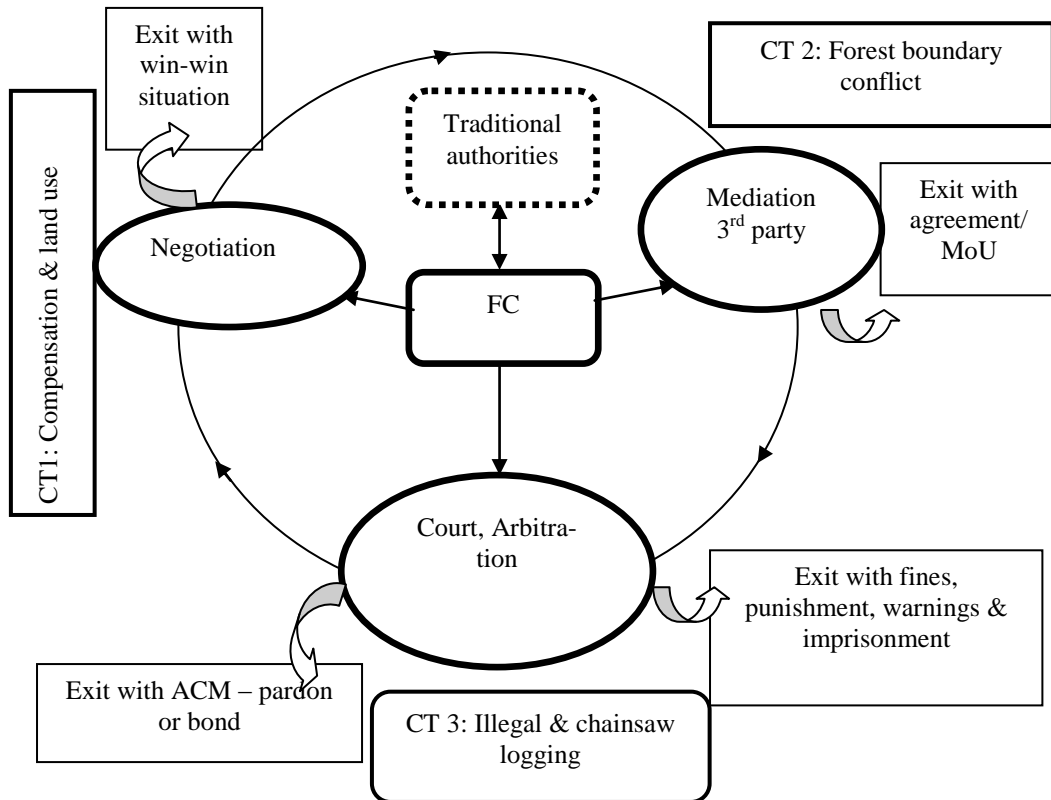
Existing conflict management options are subject to several challenges. The workshop participants therefore designed what they called an integrated conflict management (ICM) model to deal with these challenges (Figure 6.1). This model revolves around three key sources of forest and tree conflicts that are very prevalent in the sector, i.e. conflicts relating to (i) compensation and land use (e.g. illegal farming in forest reserves and crop damage compensation payments), (ii) forest boundary conflicts, and (iii) illegal chainsaw operations and logging. As seen in Figure 6.1, each of these conflict types is associated with specific conflict management strategies. In the proposed model, the Forestry Commission is the mediating actor (provided it maintains close linkages with traditional authorities) who indicates the steps to achieve each solution.

**Box 6.3** *Action Plan 2 - Assessment of the feasibility of re-introducing the forest prosecution system into the forest sector with a prosecuting mandate for the FC and of adapting the curriculum of natural resource academic institutions accordingly*

The workshop participants highlighted the fact that the current law to prosecute forest offences in Ghana gives the mandates to the Attorney General (AG) through the Ghana Police Service (GPS). In the past, FC officials were trained and mandated as prosecutors but the FC lost this mandate to the Ghana Police Services due to a change in national policy. The rationale behind calling for a re-introduction of the prosecution system into the forest sector is twofold. First, the Ghana Police Service officials are not very conversant with the forest laws, and that is the reason why the FC often loses forest-related lawsuits. Second, with the emerging perspective of governance as multi-actor and multi-sector steering, it is necessary for prospective natural resource managers to have a more interdisciplinary focus. It was revealed that the Forestry Commission has sent a proposal to the Attorney General to reacquire the legal mandate to prosecute forest criminal cases in court, but the sector is still awaiting approval. Within the educational sector, the Faculty of Renewable Natural Resources (FRNR) of Kwame Nkrumah University of Science and Technology (KNUST) arranges courses in forest policy and law, but not in legal proceedings.

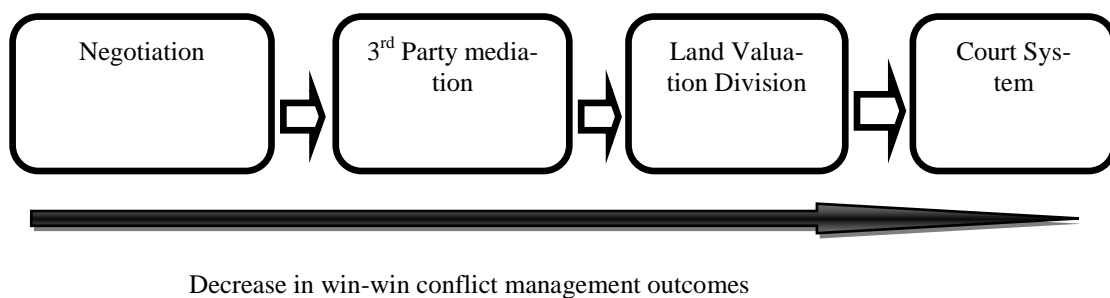
*Source:* Workshop organised by the researcher with forest governors and experts.

Figure 6.1 Integrated conflict management system (ICM) model designed by forest governors and experts during the dissemination and consensus workshop on 'Forest and tree governance arrangements and forest and tree conflict management in Ghana's high forest zone' held in Kumasi, Ghana, on 12 February, 2010



Key: CT = Conflict type; MoU = Memorandum of understanding; LIs = Legislations; ACM = Alternative Conflict Management

Figure 6.2 Flow chart of compensation and land use-related conflict management pathways



**Conflict type (CT) 2:** Forest boundary conflict (e.g. admitted farms, modified taungya system (MTS), etc.)

**Recommended steps:**

1. The starting point is that the conflict management strategy must take the form of either an agreement or a memorandum of understanding and should therefore begin

- with negotiations between the conflict parties (FSD, admitted farmers, taungya farmers etc.).
2. In the event that this does not work, 3<sup>rd</sup> party mediation (i.e. FSD, taungya heads, and traditional leaders) must be explored.
  3. If the second stage fails, conflict parties can resort to forming an arbitration team, with representative arbitrators from each conflict party to facilitate the resolution process.
  4. As a final resort, legal proceedings can be started if these initial strategies fail.

### **Conflict type (CT) 3: Illegal logging or chainsaw milling**

#### **Recommended steps:**

1. This kind of conflict should be settled in court with an FC official as prosecutor.
2. Arbitration could be used through administrative means by the FSD or through ‘pardon with bond’<sup>13</sup> if the timber is intended for community development.

This conflict management pathway starts with a legal battle with the offender in court, but the workshop participants acknowledged that either the FSD or the offender must have the option of settling the case out of court based on an affidavit. In such instances, the FSD could fine the offender according to legislation and the fines could be paid into the coffers of the FC.

The workshop participants concluded that the forest policymakers and governors must pilot the proposed ICM model in an integrated way and ascertain how effective it is as regards managing conflicts about forest and tree resource and strengthening ongoing governance processes. In addition, natural resource governance could benefit greatly from the incorporation of the ICM perspectives into teaching curricula (not only the forestry professional but for primary and secondary school teachers) and research. In view of the failure to manage forest offences and conflicts amicably, the workshop participants used a SWOT (strength, weakness, opportunity and threat) analysis and confrontation matrix tools to assess the potential of re-introducing the prosecution system in the forest sector. This system would mandate forest resource managers to prosecute forest offences cases. These officials must receive judicial prosecution training to acquire the skills to prosecute offenders using existing legislations and laws.

Five strengths and two weaknesses representing the internal factors and five opportunities and three threats making up the external factors were identified during the workshop brainstorming session (Table 6.3). The group then concentrated on a few issues from each quadrant to develop the confrontational matrix based on the key issues shown in Table 6.4. This resulted in the following points of action:

1. Facilitate collaboration between institutions – the FC, training institutions and the judiciary.
2. Make the prosecution system part of the Natural Resources and Environmental Governance (NREG) programme; a sectoral programme with the Ghana Forestry Commission through the Ministry of Lands and Natural Resources. Lobby the Attorney General and Parliament to endorse the proposed mandate and to create an Administrative Dispute Resolution Act that enables the Ghana Forestry Commission to exer-

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<sup>13</sup> Pardon with bond means that the community in question has to sign an affidavit not to fell trees for timber without a permit from the FSD for community development.

- cise the right to use alternative dispute arrangements besides adjudication to manage the numerous conflict cases.
3. Lobby the Attorney General and Parliament to endorse the proposed mandate and to create an Administrative Dispute Resolution Act that enables the Ghana Forestry Commission to exercise the right to use alternative dispute arrangements besides adjudication to manage the numerous conflict cases.
  4. Empower and motivate FC staff to take up the new challenge.
  5. Create awareness and sensitise institutions such as traditional authorities, judiciary and timber industries.
  6. Foster collaboration between the FC, police and judiciary for the common good.
  7. Solicit donor support through the Voluntary Partnership Agreement with the EU to improve governance and combat illegal logging and the NREG programme to champion the proposed plan.
  8. Enforce forest codes and ethics among FC officials, police and the judiciary.
  9. Teach forest law and prosecution procedures by training staff at the institutions and by posting students as interns at the Police and Judiciary institutions and by integrating these topics into all academic curricula related to natural resource management.

*Table 6.3* SWOT matrix of re-introduction of forest prosecution system in the forest sector and curriculum of natural resource academic institutions

<b>Strengths</b>	<b>Weaknesses</b>
S1: Well-established institutions S2: Human resources are abundant S3: Larger % of stakeholders likely to embrace FC prosecuting its cases and similarly, the university training the professionals S4: Historical reference S5: Proposal has been sent to Attorney General by FC legal unit	W1: Non-availability of funds W2: Lack of transparency among FC staff
<b>Opportunities</b>	<b>Threats</b>
O1. Universities have a desire to teach skills in addition to current curricula O2. Financial support can be tapped from donors – VPA, Africa Forest Legislation O3. Availability of training institutions – Law schools, Ghana Police Training School O4. Further lobbying of Attorney General and Parliament O5. Ongoing constitutional and forest policy reviews	T1. Problems with the current prosecuting system especially with the Ghana Police Service T2. Traditional norms and customs T3. Interference from elites ( <i>e.g.</i> politicians, chiefs, etc.).

*Key:* VPA = Voluntary Partnership Agreement between Ghana and the EU to improve forest governance and combat illegal logging.

Table 6.4 Confrontation matrix

	Strengths ( S1, S2, S4)	Weaknesses (W1, W2)
<b>Opportunities O1, O2,O3, O4,O5</b>	<ol style="list-style-type: none"> <li>1. Facilitate collaboration between institutions – FC, training institutions, and the judiciary</li> <li>2. Make the prosecution system part of the NREG programme</li> <li>3. Lobby the Attorney General and Parliament</li> <li>4. Empower FC staff</li> </ol>	<ol style="list-style-type: none"> <li>1. Awareness creation, sensitisation of people (chiefs, politicians, etc.)</li> <li>2. Collaboration between FC, police and judiciary for the common good</li> </ol>
<b>Threats T1, T3</b>	<ol style="list-style-type: none"> <li>1. Solicit donor support – VPA, NREG</li> <li>2. Enforce forest codes and ethics</li> <li>3. Teach ethics via training institutions</li> </ol>	<ol style="list-style-type: none"> <li>1. Motivation of FC officials</li> </ol>

Key: NREG = Natural Resources and Environmental Governance; FC = Forestry Commission; VPA= Voluntary Partnership Agreement.

## Discussion

This section commences with a discussion of the nature of forest and tree livelihood conflicts from two perspectives. It first discusses respondents' perspectives of forest and tree-related livelihoods conflicts and its contributions to conflict debates. Secondly, it examines conflict management strategies and ways of strengthening them as perceived by respondents.

### *Images: Respondents' perspectives of forest and tree related livelihoods conflicts and its contributions to conflict debates*

The respondents' synthesised view of conflict definition is relevant to conflict theories, which have no commonly agreed definition of conflict (Fink 1968, Schmidt & Kochan 1972, Wall & Callister 1995). Their common understanding of forest and tree-related livelihood conflict refers to a dispute over natural resources by two or more parties regarding the allocation, access, use, ownership and benefits of dwindling resources. This definition and other answers revealed that policymakers, resource managers and forest experts in Ghana use the terms 'conflict' and 'dispute' interchangeably when discussing types of forest and tree-related conflicts prevailing in the high forest zone. This confirms the statement by Spangler & Burgess (2003) that it may, in fact, be difficult for most people to recognise the difference between the two. The definitions provided by the respondents were also evasive in respect of seeing conflict as violent incidences, which could result in destruction of properties and even death. However, the case studies in Chapters 7-9 confirm that local people perceive most of the forest conflict types as being non-violent rather than violent.

The range of forest and tree-based livelihoods found in Ghana's high forest zone and acknowledged by the respondents corresponds with assertions in literature (World Bank 2001, Sunderlin *et al.* 2005) that hundreds of millions of people depend to varying degrees on forests for their livelihoods. The various livelihood and other economic interests in the forest and tree resources lead to conflicts around each of the identified livelihoods types, confirming the need to look beyond the timber sector when analysing conflicts over forest and tree resources.

The findings also confirm that the context in which conflicts occur is essential when defining the type of conflict, even though the actors can change from one conflict type to another (Wall & Callister 1995, Moore 2003). In trying to bring order to the variety



of conflict causes, the causes were categorised using the main categories identified in conflict literature: policy and legislative lapses and institutional failures (Tyler 1999), perceived goal incompatibility and perceived opportunities for deliberate interference with the other's goals resulting in blocking behaviour (Schmidt & Kochan 1972), and environmental scarcity, including structural scarcity related to the unequal distribution of natural resources (Homer Dixon 1994). These categories cover most of the conflict causes mentioned by the respondents, but are not mutually exclusive. As can be seen in Box 6.1, most of the perceived opportunities for deliberate interference with the other's goals are created by policy failures and institutional failures. Many of the conflict types identified by the respondents arise because of violations of key forest laws and regulations<sup>14</sup> in Ghana. These are the Forest Protection Amendment Act 2002, Act 624, which deals with offences in forest reserves, and the Trees and Timber (Amendment) Act, 1994 together with the Timber Resources Management Regulations, 1998, L.I. 1649 (see Chapter 5). This confirms the need for improved forest governance and law enforcement, as is currently being addressed under the ongoing Natural Resources and Environmental Governance (NREG) programme (a sectoral programme with the Ghana FC through the Ministry of Lands and Natural Resources) and the Voluntary Partnership Agreement (VPA) agreement between Ghana and the EU (Beeko & Arts 2010). Another basic trigger is the conflict of interest between people (Glasl 1999), particularly between livelihood needs and other interests in declining resources, be they economic or in biodiversity conservation (Ros-Tonen & Dietz 2005). This divergence of interests, goals and needs often leads to either latent or violent conflicts, further limiting people's livelihood base and causing institutional disintegration among the people. These conflicts can only be managed if underlying causes of these conflicts are addressed.

Conflict incidences are dynamic because latent conflicts may escalate into violent ones depending on the people involved, the scale at which the conflict occurs and the conflict management approaches employed (see Chapter 2). The distinction between latent, emerging and escalating conflicts proved to be highly useful for the analysis of forest and tree-related livelihood conflicts in Ghana.

*Instruments: Integrated approaches of strengthening existing conflict management strategies*

There is a recognition that conflicts need to be managed in order to prevent them from escalating (Buckles & Rusnak 1999, Yasmi *et al.* 2006) and that conflict management should be an intrinsic part of natural resource management (Castro & Nielsen 2003). As indicated by Yasmi & Schanz (2007), conflict incidences require different resolution approaches. Currently, all conflict management mechanisms from scholars such as Moore's (2003) and Wehrmann's (2008) conflict management continuum (see Chapter 2) are being applied in Ghana's high forest zone. These conflict management strategies operate within the three different social systems distinguished by Engel & Korf (2005), *i.e.* the national legal system, the collaborative system and the customary system. It is often assumed that the latter does not play a functional role in the forest context of Ghana (e.g. Mayers & Kotey 1996). The reason is that customary authorities (particularly the stool landowners) are owners of the resources and benefit from royalties, but have no legal role with respect to forest management and, for that matter, managing conflicts emanating from the same resources they own. According to Mayers & Kotey

<sup>14</sup> Both the forest law and the regulations can be accessed at <http://www.fcghana.com/publications/index.htm>.

(1996: 30), legislation has turned these traditional authorities in Ghana into passive and marginalised recipients of insignificant and irregular share of revenue, with no formal decision-making roles in any aspect of forest management despite their legal position as owners. However, in a study of conflicts about forest resources in Ghana's protected area, Derkyi *et al.* (submitted b) found out that the role of customary institutions in forest conflict management at local level is greater than generally acknowledged – including by the forest governors and experts involved in this study (see Chapter 7).

### *Action*

According to the forest governors and experts involved in this study, what is needed to manage forest and tree-related conflicts is not only legislation and administrative conflict management strategies, but also integrated and practical conflict management systems with active involvement of forest actors in the formulation and implementation processes. The designed system in Figure 6.1 proposed as Action plan 1 is a closed loop with various options that policymakers and practitioners can use according to the applicable situation and the preferred outcome. Such a systemic approach to forest and tree resources conflict management is badly needed. This means that the implementation of the integrated conflict management model proposed should be embedded within 'interactive governance' processes. Only then can a fostering and enabling environment be created in which integrated conflict management can thrive.

This is also necessary for the implementation of the proposed Action Plan 2, which is feasible only if the principles of good governance are applied. From the interactive governance theory point of view, such principles are referred to as third-order or meta-governance (Kooiman *et al.* 2005). The related discussion with the forest governors and experts is examined in Chapter 5 of this thesis. Without such principles, the proposed FC prosecution system may be prone to corruption and a lack of transparency. The workshop participants considered the ongoing forest policy and legislation reviews as potentially positive triggers to consider these proposed strategies in order to minimise forest and tree-based conflicts once these strategies have been properly implemented.

### Conclusion

This chapter has shown that a methodology that combines a survey and interviews with a workshop to synthesise and discuss the findings with policymakers, resource managers and forest experts enables an overall picture to be acquired of forest and tree-related conflicts and conflict management strategies in a specific region. More importantly, such combined methodology also creates a consensus on desirable improvements among those who bear primary responsibility for forest governance. Ghana's high forest zone is endowed with a broad array of forest and tree products and services that support the livelihoods of different categories of forest actors. Due to diverging interests and policy and institutional failures, it is also a contested 'battlefield'. The solutions to these problems call for proactive initiatives and a practical conflict management system with active involvement of forest actors in the formulation and implementation processes.

There is, therefore, an unequivocal call for the forest governors, some of whom were the respondents in this study, to initiate the revision of forest laws and regulations and the implementation of the recommended conflict management strategies with the support of the other actors. For actors to be properly integrated into effective conflict management, policymakers and practitioners alike should take into consideration the spe-

cific but inter-linked recommendations proposed by the forest governors involved in this study, which were specified for the national, regional, forest district and community management levels. This requires adaptations in forestry and natural management curricula at universities that need additional reflection and elaboration. The author stresses, however, that the proposed ICM model and re-introduction of a prosecution mandate for the FC cannot be effectuated in isolation of ongoing efforts to improve forest governance in Ghana. Conflict management and law enforcement only thrive in an accountable, transparent, responsive and inclusive governance context. In addition, such a conflict management system should encompass a stepwise approach in which negotiation is priority, legal proceedings are the last resort, and which involves close links between statutory and customary institutions.

## Conflicts over forest resources in the Tano-Offin forest reserve<sup>1</sup>

### Introduction

In the early 1990s, the Forestry Commission of Ghana identified thirty forest reserves as having exceptionally high levels of biological diversity and re-designated them as globally significant biodiversity areas (GSBAs) (see Chapter 4) through multi-donor support.<sup>2</sup> This was in response to Ghana's quest for biodiversity conservation that meets national and international aspirations in accordance with the Convention on Biological Diversity (CBD) and related international agreements and treaties that Ghana had ratified (Kyereh *et al.* 2006) (see Chapter 5). Such reserves or portions thereof were excluded from timber exploitation. One of these is the Tano-Offin Forest Reserve in the Ashanti Region of Ghana's high forest zone, with about 45% of the area designated as GSBA. This reserve includes the admitted village<sup>3</sup> of Kyekyewere where people's livelihoods are linked to the forest. The management plans developed as an instrument to govern the GSBAs have a strong emphasis on forest protection. With the creation of the GSBA, the inhabitants of the admitted village experienced further loss of forest access and use rights, which resulted in informal access characterised by conflicts. With the emergence of the Voluntary Partnership Agreement (VPA) with the European Union

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<sup>1</sup> Part of this chapter is under review for publication in a special issue of *Forest Policy and Economics* as: Mercy Derkyi, Mirjam A.F. Ros-Tonen, Ton Dietz & Boateng Kyereh (submitted a), Conflicts over forest resources in the Tano-Offin Forest Reserve, Ghana: Implications for social safeguards in the Voluntary Partnership Agreement.

<sup>2</sup> Funding came from the International Development Association (IDA of the World Bank Group), the European Union (EU), the African Development Bank (AfDB), the Department for International Development (DFID), the Royal Netherlands Embassy (RNE), German Technical Cooperation (GTZ), the Japanese International Cooperation Agency (JICA), the Danish International Development Agency (DANIDA), the World Food Programme (WFP) and the Global Environmental Facility (GEF).

<sup>3</sup> Admitted villages refer to the rights of people who had their village in the reserve area before its designation as a reserve to continue inhabiting the designated areas. Similarly, the law recognises admitted farms in forest reserves to preserve the right to farm.

(EU) to strengthen law enforcement and improve governance to combat illegal logging (see Chapter 5), it is likely that inhabitants' access to forest resources for livelihoods will be further restricted.

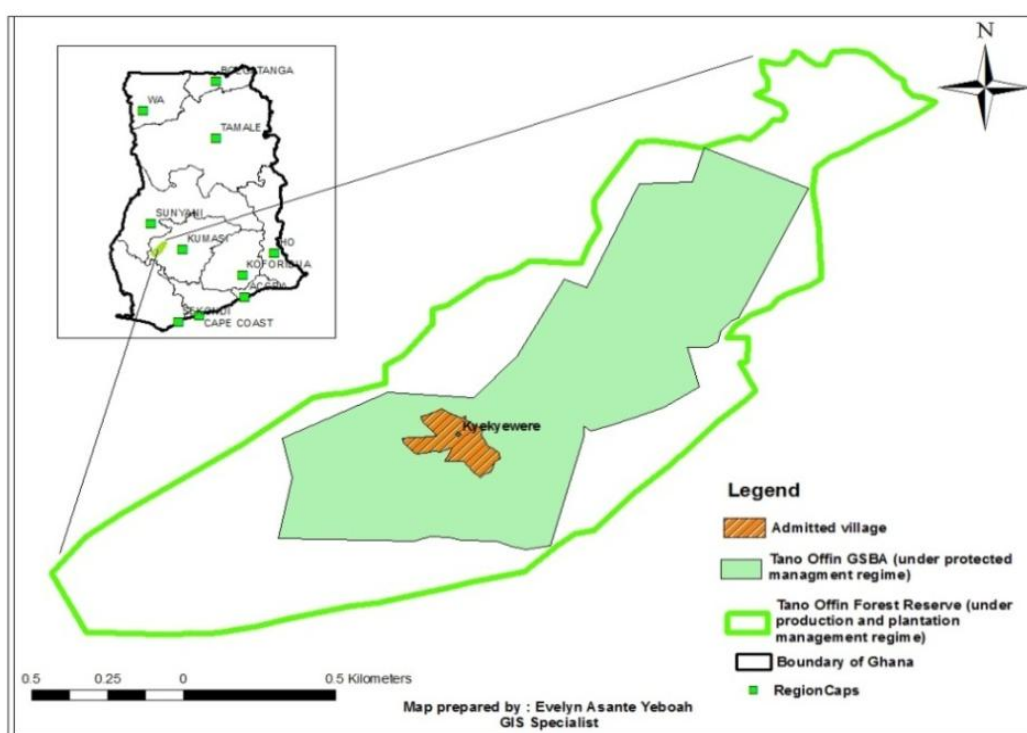
This chapter analyses the conflicts over forest resources in the Tano-Offin GBSA. It addresses the following sub-questions:

1. What are the characteristics of the Tano-Offin GBSA as a system-to-be-governed in terms of the natural and socio-economic sub-systems and the interactions between the two?
2. What governing systems operate within the Tano-Offin GBSA?
3. What are the perceptions of the inhabitants of Kyekyewere regarding the nature of forest and tree-related livelihood conflicts in Tano-Offin GBSA?
4. What do the findings mean for ongoing trends in forest governance such as the VPA and REDD+ processes (see Chapter 5)?

This chapter is based on documentary analysis, a semi-structured questionnaire survey among 119 inhabitants of Kyekyewere and focus group discussions in the admitted village, as well as a validation meeting with representatives from the three case study communities (see Chapter 3).

The secondary data and respondents' views on the subject matters were analysed along the lines of interactive governance theory, i.e. in terms of the system-to-be governed, the governing system and governance interactions (Kooiman *et al.* 2005, 2008, see Chapter 2). Furthermore, the elements of day-to-day conflict management – images and instruments (*Ibid.* 2005) – were blended with the conflict wheel developed by Mason & Rychard (2005) (Chapter 2) for a more in-depth understanding of the nature of

Figure 7.1 Map of Kyekyewere village within the Tano-Offin GBSA



conflicts and conflict management prevailing in the study area from the perspective of the local people and governors involved.

The next section presents the system-to-be governed (i.e. Tano-Offin GSBA) as a natural system and a socio-economic system with a focus on, respectively, the diversity, complexity and dynamics of the system and the interactions between them. Then, the governing systems are presented from both customary, statutory and hybrid perspectives. Next, the respondents' images and the instruments used in day-to-day conflict management are presented. The penultimate section links the findings from Tano-Offin GSBA with other GSBA in the high forest zone of Ghana based on a situational analysis study conducted by Tropenbos International Ghana (TBI 2010). The last part of the chapter discusses the findings and links it with the on-going social safeguards debate in the VPA in Ghana. The chapter ends with the conclusions.

### The system-to-be-governed (SG)

This section looks at the system to be governed from the two perspectives. These are the natural system, which describes the Tano-Offin GSBA and its environs, and the human system that depicts the socio-economic characteristics of inhabitants of Kyekyewere and their dependency on forest resources.

#### *The natural system: The Tano-Offin GSBA*

The Tano-Offin GSBA forms part of the larger Tano-Offin Forest Reserve and lies between latitudes 6°54' and 6°35' north and longitudes 1°57' and 2°17' West in the high forest zone of southern Ghana (Figure 7.1). It covers a gross area of 413.92 km<sup>2</sup> that includes the admitted village land and farms covering a total of 6.27 km<sup>2</sup> and the GSBA that covers an area of 178.34 km<sup>2</sup>. The GSBA portion is classified as an upland evergreen (UE) forest (see Chapter 4, Hall & Swaine 1976) because of its location on isolated hills within the area of the moist semi-deciduous (MS) forest type. Trees in this vegetation type attain an average maximum height of about 45 m. The floral richness and diversity of the Upland Evergreen forest in Ghana is botanically unique in terms of floral richness and diversity. Some common timber species include *Mansonia altissima*, *Pterygota macrocarpa* and *Terminalia superba*.

According to Hall & Swaine (1981) cited in Kyereh *et al.* (2006), sample plots in upland evergreen forest generally provide a longer species list than those in the surrounding moist semi-deciduous forests. The area harbours a wide range of biological resources. Three Black Star<sup>4</sup> and 17 Gold Star<sup>5</sup> species have been identified in the forest and a genetic heat index (GHI) value<sup>6</sup> of 176.4 has been recorded. In addition, there is a

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<sup>4</sup> Hawthorne & Abu-Juam (1995) designed a categorisation of conservation priority for each timber species in Ghana, based on ecological, chorological and taxonomic facts (with chorology referring to the geographical area occupied by a species). According to this categorisation, Black Star species are rare internationally and uncommon species in Ghana.

<sup>5</sup> Gold Star species are fairly rare internationally and locally (Ghana) (Hawthorne & Abu-Juam 1995).

<sup>6</sup> The genetic heat index (GHI) value is the relative value of each species in building up a standard spot conservation score. A high genetic heat index signifies that the area is relatively rich in rare species and that the loss or degradation of the area would represent a highly significant erosion of genetic resources for the World as a whole and for Ghana in particular. The average GHI ranges from a minimum of 59 in the dry semi-deciduous fire zone (DSFZ) to a maximum of 301 in the wet evergreen (WE) rain forest (Hawthorne & Abu-Juam 1995, see Figure 4.3 in Chapter 4 for the various vegetation zones).

rare tree fern *Cyathea manniana*, used for medicinal purposes (JSTOR Plant Science).<sup>7</sup> Important fauna includes birds like the yellow-throated green bulbul (*Criniger olivaceus*) and green-tailed bristle-bill (*Bleda eximia*) (Kyereh *et al.* 2006).

The reserve has steep slopes and rugged deep gorges resulting from the undulating topography because of progressive erosion. The relatively high rainfall in the area means the removal of tree cover had led to degradation and loss of topsoil through erosion (Kyereh *et al.* 2006). It also serves as a watershed for the Tano and Offin rivers that are sources of drinking water for surrounding communities. As such the area serves as a sponge that buffers the flow of water and avoids localised flooding and erosion. It therefore performs an all-important function by protecting the environment. Due to the nature of the topography, removal of vegetation makes the area prone to erosion and flash flooding during rainfall (Kyereh *et al.* 2006). However, over the years, changes have been occurring in this special Upland evergreen forest through gradual deforestation. The actors involved in this deforestation process are diverse as will be seen later in this chapter. According to some young people in the three study areas involved in community meetings (see Chapter 3), the area has become ‘No man’s Land’ that is a common pool resource provided one is not arrested by the FSD officials.

#### *The human system*

This section deals with the GSBA human system, addressing respectively the perceptions of the inhabitants of its history, the socioeconomic characteristics of population, their livelihoods and actor analyses for admitted and illegal farming.

*Photo 7.1* Kyekyewere village located within the Tano-Offin reserve



<sup>7</sup> URL: <http://plants.jstor.org>, accessed on 13 September 2011.

– Myths on the origin of the ‘admitted’ village of Kyekyewere

The historical migration events explained initially by one of the chiefs<sup>8</sup> in Kyekyewere village – caretaker of the Nkawie-Panin – and clarified in more detail by his elders were that the ancestors of the village were Fantes<sup>9</sup> from Mankesim in the Central Region of Ghana. The ancestors first settled at Nkawie-Panin in the Ashanti Region. During a performance of traditional religious rituals at Nkawie-Panin, Okomfoba<sup>10</sup>, Nana Kofoa Gyemfua revealed that there was a stream of water deep in the forest, which could be a source of money (gold). This encouraged the first settlers – the hunters Kofi Asare and Kofi Baah and the fetish priestess to go into the forest and settle there as far back as 1834. One day, whilst in the village, the fetish priestess went to fetch water from the nearby stream. When she fetched some to wash her bowl she noticed some dusts of gold which was an indication that the stream or land was full of gold. The first settlers therefore named the stream of water ‘Disere’, which literally means ‘we are going to consume with laughter’. That same day, the two hunters brought home seven antelopes and two tortoises. They were so happy that day that they commented, ‘We are going to make fun with the antelopes (bushmeat) and use the tortoises as consolation (‘*akyekyere hen were*’). Hence, the name of the village: ‘Kyekyewere’. During the reign of Nana Asi, the third chief of the village, the Nyinahin<sup>11</sup> group joined the Nkawie-Panin group that had settled there first. Since the land already used to belong to stools before forest reserves were created, both were therefore owners of the land. The respective stools relegated their powers to the respective Odikros (local chiefs) and their sub-sub-chiefs.

The main purpose of settling in the village was to engage in gold mining in the stream and hunting in the forest in addition to the cultivation of food crops. The first settlers initially tried cocoa (*Theobroma cacao*)<sup>12</sup> farming, but later realised that the yield was relatively low due to a high rate of damping (pod rotting) disease. Moreover, because they badly needed land for food crops, many of the people abandoned their cocoa farms to give way for food crop farming. The main food crops they produce include plantain, cocoyam, maize, cassava and local vegetables. Current inhabitants revealed that in 1985 a ‘*galamsay*’ (small-scale illegal surface mining) operation was started in the forest reserve which resulted in a significant increase in the village’s population. The ‘*galamsay*’ operation was abandoned in 1991.

– Local people’s views of the reservation processes and aftermath challenges

The community elders revealed that, according to tradition, in the early 1940s some ‘white people’<sup>13</sup> came to the village, when the population of the village totalled about

<sup>8</sup> The admitted village of Kyekyewere has two chiefs. The chiefs represent the Nkawie-Panin stool and the Nyinahin stool respectively. These two stools, in addition to the Hia and Kontri stools are the stool landowners of the reserve.

<sup>9</sup> The Fante people, along with Asante, comprise two of the largest and best-known ethnic groups that make up the Akan. Akan is a generic term used to refer to a large number of linguistically related peoples who live in southern Ghana and southeastern Côte d’Ivoire, <http://www.uiowa.edu/~africart/toc/people/Fante.html> accessed on 15 September 2011.

<sup>10</sup> Okomfoba is the Twi name for a fetish priestess in Ghana.

<sup>11</sup> Nyinahin is the capital town of the Atwima Mpounua District and is located in the southern portion of the Tano-Offin forest reserve.

<sup>12</sup> Cocoa is a major cash crop in Ghana produced by small farmers and contributed 2.6% to the agricultural GDP in 2010 (GSS 2011).

<sup>13</sup> Even though the local people could not explain who the white people were, the reserve’s management plan indicated that the forest was designated as a reserve in 1949 under the Kumasi Native Authority



Figure 7.2a Status of Tano-Offin and admitted village before GSBA demarcation

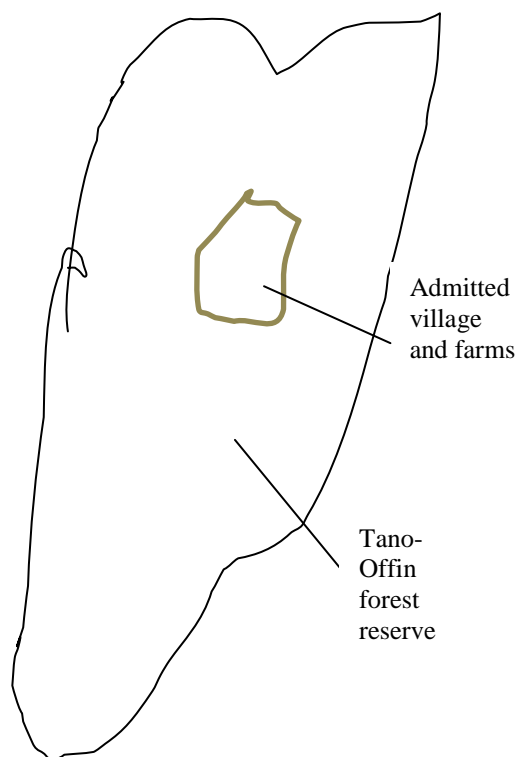
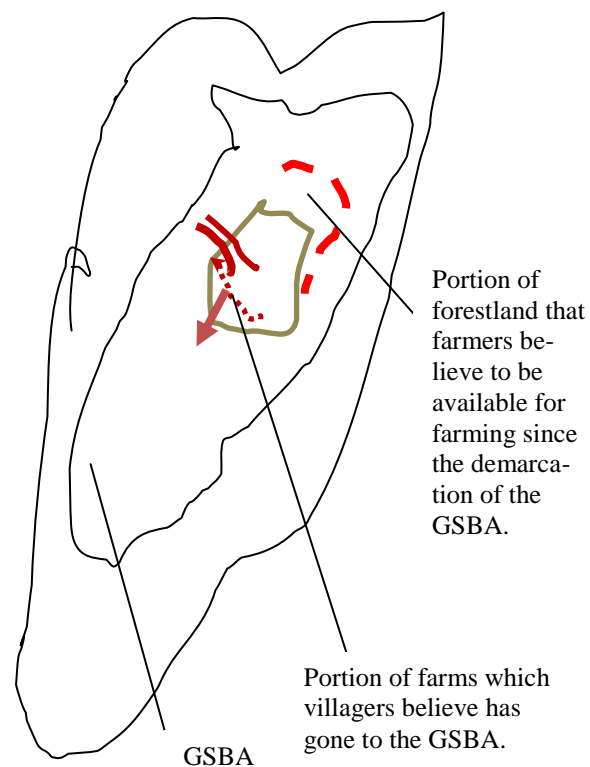






Figure 7.2b Status of Tano-Offin and admitted village after GSBA creation, indicating the perceived contested pieces of land



Legend:

-  = Indicated shift from admitted farmland to GSBA
-  = Boundary between admitted village farmlands and the GSBA
-  = Portion of forestland that farmers believe to be available for farming since the demarcation of GSBA
-  = Perceived border between admitted farmland and GSBA

Source: Constructed by the author based on local people's descriptions during the field survey in 2009.

62. The 'white people', together with some Ghanaians, measured the forest within the vicinity. They demarcated one portion within the forest as farmlands, whereas a larger portion was demarcated as forest reserve with pillars at the boundaries. According to the community elders the outcome of the reservation process over many centuries has resulted in farming land becoming scarce and infertile because of high population growth and continuous cultivation of the same piece of land for many years. They claimed that the creation of the GSBA in the early 2000s covered part of their portion of the forestland previously allocated for farming. Nevertheless, all attempts to get forestry officials to resolve the boundary problem have proven to be futile. Some of the community members alleged that the workers of the contracted firm who demarcated the GSBA informed them to farm in the portion of forest that fell outside the GSBA.

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Rules of 15 December 1949 (Kyereh *et al.* 2006). This period is also the colonial era, during which colonial government undertook forest reservation in Ghana (see Chapter 5).

Table 7.1 Socio-economic characteristics of respondents (n=119)

<b>Variables</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	83	70
Female	36	30
<b>Age range</b>		
18-35	42	35
36-53	62	52
53+	13	11
No response	2	2
<b>Level of education</b>		
No education	13	11
Informal ( <i>evening school normally in the local language</i> )	2	2
Primary level	9	7
Middle / Junior High School (9 <sup>th</sup> grade)	90	76
Senior High School	5	4
<b>Religion</b>		
Christianity	101	85
African tradition	1	1
Free thinkers	11	9
Islam	4	3
No response	2	2
<b>Origin<sup>14</sup></b>		
Migrants	53	45
Indigenes	66	55
<b>Occupation</b>		
<u>None</u>	9	7
<u>Single</u>		
Farming	63	53
Chainsaw milling	12	10
Trading	6	5
Handicraft	4	3
Teaching	2	2
Farm labour	3	3
Chainsaw rental	2	2
<u>Multiple</u>		
Crop farming and others*	10	8
Crop farming and chainsaw milling	8	7

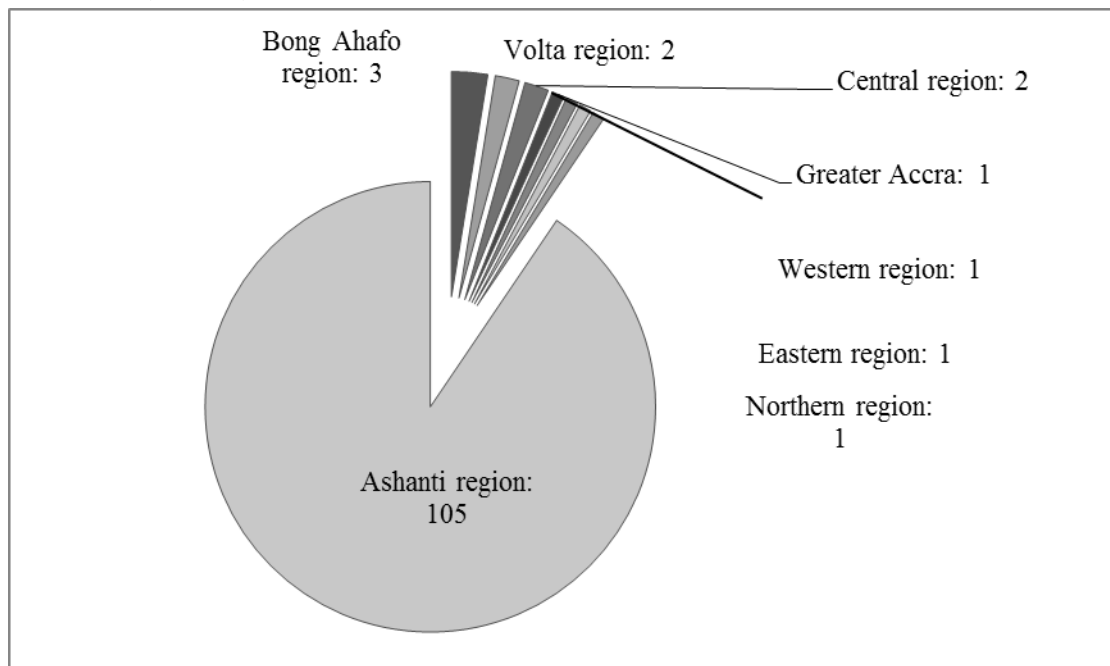
\* Others include tailor, hair plaiting, seamstress, driving, mechanics, trading, livestock, charcoal production and teaching.

Source: Field survey, 2009.

This situation generated misunderstanding and grievance among the community members on the use of the so-called 'open access' portion of the forest reserve that would be available for farming (Figure 7.2a & 7.2b). Community members who were aggrieved because portions of their admitted farms are now part of the GSBA extended their farms into the reserve 'illegally' (according to statutory law), with the risk of FSD officials arresting them or destroying their crops. Discussions with FSD officials about

<sup>14</sup> Migrants and indigenes live together peacefully in the community, which confirms the pronouncement of the chief of Nkawie-Panin during a community meeting in November 2008 that migrants help to build a community.

Figure 7.3 Geographical origin of the inhabitants of Kyekyewere according regions (n = 116)



\*Three of the respondents did not indicate their geographical origin.

Source: Field survey, 2009.

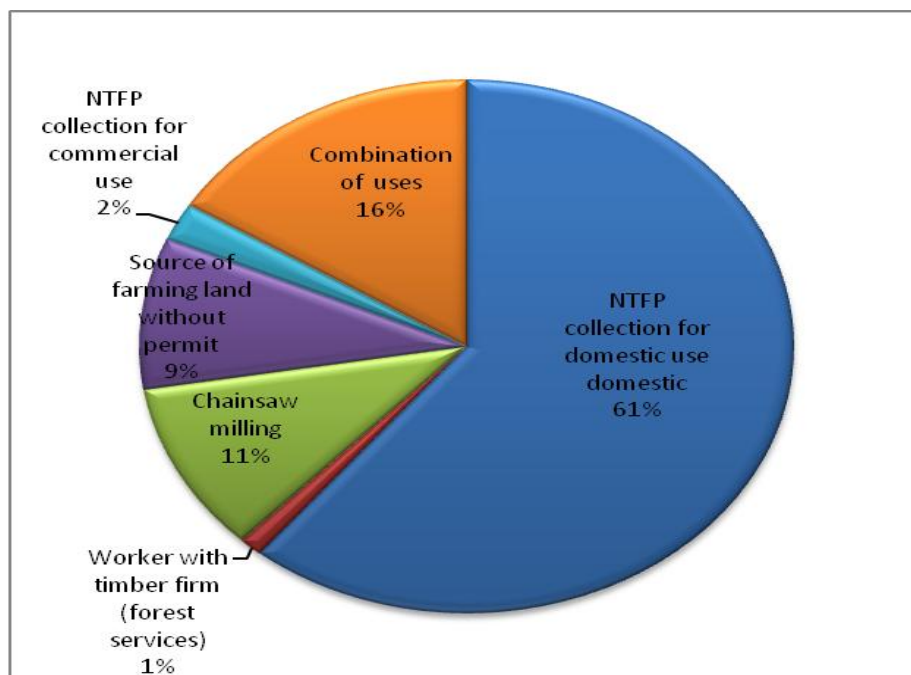
the ‘open access land’ as perceived by the community, revealed that such a situation would be impossible and that they were not aware of the problem since they had ‘never received any written complaints from the inhabitants of Kyekyewere’. Despite being made aware of the problem through this study, the FSD has not conducted any field verification thus far to dispute or agree on the assertion made by the local inhabitants.

#### – The inhabitants’ socio-economic characteristics

Kyekyewere currently has an estimated population of between 400-500 adults, of whom 119 individuals were involved in the survey. Table 7.1 shows the gender distribution of the respondents as being 83 males (70%) and 36 females (30%). The majority of the respondents (53%) are in the age range of 35-53, followed by 18-34 (36%) with the rest being older than 53. Generally speaking, the literacy level among the respondents is high with 76% having completed middle and junior high school (9<sup>th</sup> grade) and 4% having completed senior high school.

Most respondents (86%) are Christians and the indigenes (55%) slightly outnumber the migrants (45%). The number of years that migrants have resided in the village ranges from a minimum of one month to a maximum of 43 years with the average being 6 years. The migrants originate from other parts of the Ashanti region and from the Western, Eastern, Volta Brong Ahafo and Central Regions (Figure 7.3). Photo 7.1 provides a pictorial view of the Kyekyewere village as situated in the forest reserve. Eighty-four per cent (84%) of the respondents are engaged in a single occupation while 16% have multiple occupations. Food crop farming (commonly slash-and-burn agriculture, with cassava, plantain and vegetables as the main crops) is the lead occupation, with 57% practising it as a single occupation, 9% combining it with other activities such as tailoring, sewing, driving, trading, livestock raising and charcoal production and 7% combining it with chainsaw milling. Other occupations include chainsaw milling (11%

Figure 7.4 Use of the forest reserve by inhabitants of Kyekyewere (n=87)



Source: Field survey 2009.

as the sole occupation), trading (5%), handicraft (4%), farm labour (3%), teaching (2%), and chainsaw rental (2%).

#### – Contribution of forest resources to people's livelihoods

Resources from the forest reserve contribute to the livelihoods of the inhabitants of Kyekyewere in the form of chainsaw milling, NTFPs for domestic use or trade, farming land, or a combination of these (see Figure 7.4).

Most respondents (74%) collect NTFPs for domestic use. For 61% this is the only way they make use of the forest reserve, and for 13% it is one of the ways in which resources from the forest reserve contribute to their livelihoods. The NTFPs collected include mushrooms, pestles, game, snails, medicinal plants and chewing sticks. Secondly, the reserve contributes to people's livelihood through illegal chainsaw milling (11%) followed by illegal farming (9%). Sixteen per cent of the respondents make use of forest resources in multiple ways. However, 27% of the respondents reported that the forest does not contribute to their livelihoods, with the reasons being as follows:

- 'I have a passion for farming in the off-reserve area'*
- 'As a teacher, I am against illegal operations in the reserve'*
- 'I am afraid of being arrested for operating in the forest'*
- 'The forest is government property'*
- 'The nature of my occupation does not allow for extra time to engage in forest activities'*
- 'There are restrictions on entering the forest'*
- 'I was cheated by someone who leased part of the forest to me'*
- 'I am too old to go into the forest'*
- 'I am new and access to the forest is restricted'*

During field data collection, some of the community members were carrying canes and wrapping leaves from the forest for commercial use as shown in Photos 7.2 and 7.3 respectively.

*Photo 7.2* A man carrying a bundle of canes



*Photo 7.3* A woman and child with head loads of wrapping leaves



– Problems associated with livelihood components based in the forest reserve

Even though the local people in Kyekyewere village benefit from resources in the forest reserve, this is not without problems. The perceived problems can be grouped under several headings.

First, there are problems related to physical assets. One of these is the damage to both internal and external forest boundary pillars, because of which admitted farms extend into the designated forest reserve. Another problem is that of rotten food crops due to a poor road network and difficult transportation between the village and the market centre of the district capital Nyinahin.

Second, there are problems related to access to natural assets. Respondents mentioned the lack of farming land due to a growing population and refusal by the FSD to extend the area of admitted farms. They also stressed that access to NTFPs is not easy, both physically (hilled terrain) and legally. Finally, respondents complained about the lack of a plantation scheme in the village like the modified taungya system (MTS) which provides access to farming land during the first 3-4 years of plantation establishment (see Chapter 8). A third problem relates to what the villagers perceive as social injustice, i.e. the lack of possibilities to farm and extract forest products on a legally acceptable basis. Fear and the lack of negotiation skills stop inhabitants from fighting or petitioning for legal use of the forest reserve.

Fourth, there are several problems related to governance. In this context the respondents mentioned the numerous rules and regulations governing the forest reserve. The villagers are of the opinion that they receive inadequate clarification from the FSD regarding their rights to enter the forest. Some of them mentioned the illegality of chainsaw lumbering as a problem, with confiscation of lumber and equipment being the result when caught. Others identified the payment of bribes to transport the lumber to the market as a problem.

Fifth, the respondents mentioned the high population growth versus limited availability of farmlands.

Finally, there are several conflict situations that pose a challenge to the respondents, such as the confiscation of NTFPSs by forest guards and the constant fear of being arrested when entering the forest reserve without a permit. Boundary litigation and land ownership conflicts are also widespread. Finally, there are conflicts over tree ownership among chainsaw operators. More details on these conflicts can be found in the sections below.

– Actor analysis by community representatives related to access use of admitted farming and illegal farming in the reserve

As discussed in Chapter 4, twenty-two representatives from the two case study areas (Chirayaso and Nyinahin) bordering the Tano-Offin reserve and the admitted village conducted an actor analysis for five forest-based livelihood components in a workshop. The results for the analysis of actors involved in NTFP extraction were presented in Chapter 4. This section presents the actor analyses for admitted and illegal farming. Those for the modified taungya system and chainsaw milling are discussed in Chapters 8 and 9 respectively. The respondents' actor analysis focused on actors inside and outside the community as can be seen in Tables 7.2 and 7.3.

The respondents asserted that each of the five actor groups involved in admitted farming has its own main concern, interests, needs and power position (Table 7.2). These differences also illustrate the nature of interactions, which may be com-

patible/complementing or conflicting. The actor analysis is also illustrative of the different levels of scale at which the different actors operate, with three of them (i.e. land-owners, neighbouring farmers and tenant farmers) mostly residing in the village, the FSD which is based in Nkawie but which has officials at the resource base and the chainsaw operators from either the village or towns in the region. In terms of power, the respondents assign a score of 3 to actors involved in chainsaw milling, indicating that these are less powerful when it comes to the right to access natural resources (e.g. timber from people's admitted farms).

Similarly, when it comes to illegal farming in the reserve (Table 7.3), the respondents indicated that illegal farmers and food crop thieves are in the lower positions of power, with no access rights to the reserve to perform their tasks (i.e. farming or stealing people's food crops). Members of the Community Biodiversity Advisory Groups (CBAGs; see Chapter 5) and the FSD official (usually the forest guard) are considered to be in higher positions of power. In both analyses, the shaded portions of the tables indicate the actors that operate mostly at community level, whereas the other actors can come from within the community setting or from district, regional or national levels.

*Table 7.2* Actor analysis by community representatives relating to admitted farming in the forest reserve

Actors	FSD	Land owners	Neighbouring farmers	Tenant farmers	Chainsaw operator
<b>Main concern</b>	Sustainable forest management	Lease lands to obtain money	Land availability	Protection of their share of farm produce	Lumber production
<b>Interest</b>	Rigid forest laws to deter encroachers	More tenant farmers	Food security	Ensure his/her share of farm produce	Trees to saw into lumber
<b>Needs</b>	Logistics to perform his/her duties	Money and food	A good social life (i.e. good contacts with neighbours)	Money and food	Permit
<b>Power position*</b>	1	1	1	2	3

\* Key: 1 = most powerful; 2 = powerful; 3 = less powerful.

Source: Validation meeting with the three case study communities, February 2010.

*Table 7.3* Actor analysis by community representatives related to illegal farming in the forest reserve

Actors	FSD	CBAGS	Illegal farmers	Food crop thieves
<b>Main concern</b>	To prevent illegal farming	To protect the forest	To get food and income	To obtain food crops
<b>Interest</b>	To protect trees and animals	To ensure no one enters the forest to farm	To get food and income	Money, food
<b>Needs</b>	Logistics	Logistics (Wellington boots, identity card etc.)	Money, legal right to farm in the forest	Jobs, employment
<b>Power position*</b>	1	2	3	3

\* Key: 1 = most powerful; 2 = powerful; 3 = less powerful.

Source: Validation meeting with the three case study communities February 2010.

### Box 7.1 *The positions of sub-chiefs*

The positions of the sub-chiefs are derived from military ranks as follows:

1. The *Kurontihene* and *Akwamuhene* are the chief No. 1 war generals.
2. The *Adontehene* is the one who leads the army from the front. He is the head of the main army (foot soldiers).
3. The *Kyidomhene* is the last to go. He collects the soldiers who are left behind and sends them back into the fray.
4. The *Gyasehene* is the custodian of the chief's palace regalia and paraphernalia.
5. The *Ankobeahene* is the caretaker of the palace and stays at home when the others go to war.
6. The *Sanaahene* is the caretaker of the chief's money.
7. The *Nkosuohene* is responsible for the development of the traditional area. This title was created to honour someone who does not have to be member of a royal family. Some foreigners have been honoured with this title.

Source: Nana. S.A. Derkyi, personal communication, September 2011.

## The governing system (GS)

This section first presents the customary and statutory systems that govern the Tano-Offin GSBA, followed by a description of the institutional structure prevailing in this case.

### *The customary system*

The traditional council (known locally as Nananom Atenankonwa) consists of the chief, the queen mother and elders. In addition to these are sub-chiefs, including the 'Kurontihene', 'Akwamuhene', 'Adontehene', 'Kyidomhene', 'Gyaasehene, Ankobeahene, 'Sanaahene' and 'Nkosuohene' as well as the Okyeame (i.e. the chief linguist) (See Box 7.1). Their positions at the chief palace are hierarchical and derived from military ranks, which can be traced back to the history of the Ashanti Kingdom.

Traditional authority is organised according to a hierarchical order, with the Ashanti King, the Asantehene, at the highest level. The powers and authority held by the traditional chief and his sub-chiefs at the village level are lesser than those with the same title at the divisional level which, in turn, are subordinate to these positions at the paramount level. Although the management of forest resources falls under the jurisdiction of the state, there is a legacy of customary institutions to conserve forest resources. The culture of the people in and around the reserve is intrinsically linked with the forest and the people perceive the forest as a cultural heritage left by their ancestors that has to be preserved for future generations.

There is also the perception that the forest helps to stabilise the ecology of the area. For that reason, there are several so-called taboos, such as those prohibiting the hunting of some animals which are regarded as totems of some clans or taboos regarding farming and harvesting of forest products on certain days or by certain groups. For instance, porcupines are believed to be eaten by the Ashanti chiefs only. In addition, saplings of economically or culturally important trees or herbs tend to be preserved, protected from fire and nurtured into maturity on both food and tree crop farms. Examples of such trees include *Esa* (*Celtis mildbreadi*) and *Odum* (*Milicia excelsa*). Some plants, such as



'*Ahomakyem*' (*Spiropetalum heterophyllum*) and '*odii*' (*Okoubaka aubrevellei*) are believed to have certain spiritual powers<sup>15</sup> as well as important medicinal properties and people tend to conserve them for those reasons (c.f. Kyereh *et al.* 2006: 12-13).

The community elders reported that there are various reasons for the institutionalisation of taboos by ancestors and that they differ from one locality to the other. In Kyekyewere village, one day (Tuesday) is set aside each week to ensure rest from continuous work in the previous days, to settle disputes, and for people to get to know themselves well. More importantly, such taboo or period of rest at home helps to protect and multiply the natural resources, including forests trees and wildlife.

Other taboos do not allow menstruating women to cross certain water bodies (rivers and streams) in order to ensure hygiene, or to consume certain fishes in some rivers or streams, in order to ensure their multiplication.

Locally, therefore, the institution of taboos used to contribute to the sustainable management of the forest and its resources. However, the elders revealed that, within the local setting, the institutions have weakened as a result of multiple factors such as population increase and migration resulting in the influx of different cultures.

– Traditional means of resolving conflicts at the local level

Three modes of governance were observed in the village with regard to managing conflicts. The first is self-governance that is linked with the traditional council of the village. The second is the hierarchical one, which is linked with both the local traditional council and the divisional traditional council. The third mode is co-governance, which is a blend of actors from different governing structures.

In Kyekyewere, the chief, queen mother and elders form a dispute-settling group (*locally called 'Apamfo'*) that includes the various sub-chiefs outlined in the previous section. When dealing with a conflict, the resolution process unfolds as follows: First, the complainant files a complaint by paying a filing fee ranging from GH¢ 3.00 - GH¢ 7.00 (US\$ 2 - US\$ 5) and the defendant also pays an equal amount as a challenging fee (*locally called 'mpeeso'*) before the parties are summoned for the resolution process. The chief and his team come together on an agreed day, call the two parties involved in the case, hear them, and judge the case objectively. After settling the case, both parties are required to pay the '*sisitodee*' (which literally means 'sitting allowance') for the chief and elders. However, if one of the parties is found to be guilty, s/he has to pay a charge to the innocent party as well as to pay back the part of the '*sisitodee*' paid by the innocent party. The chief or leader of the dispute-settling team usually receives the filing fee as a compensation for polishing his traditional footwear whereas the other members share the sitting allowance among themselves.

Sometimes, the Unit Committee members (see Chapter 5) settle conflict cases independently of the chief's dispute-settling team, especially those that deal with non-participation in communal activities, but only with permission from the chief. These two modalities can be labelled as self-governance. Hierarchical governance starts to play a

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<sup>15</sup> Falconer revealed that '*odii*' (*Okoubaka aubrevellei*), and '*ahomakyem*' (*Spiropetalum heterophyllum*) are considered sacred and that there are taboos that protect them or rituals that have to be performed before they can be used. For example, an egg must be given to the '*ahomakyem*' climber before a piece can be cut for use, and before any part of the '*odii*' can be used, a libation must be poured (Falconer 1992).

**Box 7.2** *Forest Protection Decree 1974 NRCD 243 as amended by the Protection Amendment Act 2002, Act 624*

1. "Any person who in a Forest Reserve without the written consent of the competent forest authority
  - (a) fells, uproots, lops, girdles, taps damages by fire or otherwise damages any tree or timber;
  - (b) makes or cultivates any farm or erects any building;
  - (c) causes any damage by negligence in felling any tree or cutting or removing any timber;
  - (d) sets fire to any grass or herbage, or kindles a fire without taking due precaution to prevent its spread;
  - (e) makes or lights a fire contrary to any order of the Forestry Commission;
  - (f) in any way obstructs the channel of any river, stream, canal or creek;
  - (g) hunts, shoots, fishes, poison water or sets traps or snares;
  - (h) subjects any forest produce to any manufacturing process or collects, conveys or removes any forest produce; or
  - (i) pastures cattle or permits any cattle to trespass;
 commits an offence against the state and is liable to summary conviction to a fine not exceeding 500 penalty units or to imprisonment not exceeding 2 years or to both, except that for a second or subsequent offence under this section the offender shall be liable on summary conviction to a fine of not less than 250 penalty units or to imprisonment not exceeding 3 years or to both.
  
2. Any person who
  - (a) knowingly counterfeits or fraudulently uses upon timber or standing a mark or indicates that the timber or tree is the property of any person;
  - (b) without the written consent of a Forest Officer alters, defaces or obliterates a mark placed on any timber or tree; or
  - (c) alters, moves, destroys or defaces any boundary mark of any Forest Reserve;
 commits an offence and is on summary conviction liable to a fine not exceeding 500 penalty units or to imprisonment not exceeding 2 years or to both, except that for a second or subsequent offence under this section the offender shall be liable on summary conviction to a fine of not less than 250 penalty units or to imprisonment not exceeding 3 years or to both.
 

A 'competent forest authority' means a forest officer with the rank not below Assistant District Manager who is able to take decisions on behalf of the Executive Director of the Forest Services Division or the Chief Executive of the Forestry Commission."

Source: Ghana Forestry Commission (undated) <http://76.12.220.51/library.php?id=15> (accessed on 6 October 2011)

role when the traditional council cannot resolve an issue, and submits it to a higher chief to whom the village chief owes allegiance. This is often the case with land conflicts. In the Kyekyewere village, for instance, the two local chiefs present unresolved land disputes to chiefs at the level of the Nkawie-Panin and Nyinahin stools to which the village belongs.

In some cases a co-governance arrangement is in place, with dispute-settling groups comprising the traditional council, the Unit Committee members (statutory local government) and – depending on the issue – a representative of the Forestry Commission.

The latter is for instance the case, when the conflict is forestry-related, such as access of NTFPs on commercial basis without a permit. It is interesting to note that a member(s) of the Unit Committee may also hold a position as a sub-chief or vice-*visa*, which illustrates the fluidity of actor constellations at the community level.

The inhabitants of Kyekyewere therefore have several mechanisms in place to ensure peace through the amalgamation of actors from customary and statutory structures. As also detailed later in this chapter, the traditional council plays an important role in resolving forest livelihood conflicts at village level.

#### *The statutory framework*

The enactment of the Forest Ordinance (Cap 157) of 1927 gave the then Forestry Department the authority to select land suitable for reservation and declare them forest reserves. At the onset of the reservation process, some land and forest ownership rights remained unaltered in the form of admitted farms or villages and admitted or communal rights (see Chapter 5). Both rights are granted in the Tano-Offin Forest Reserve. Admitted or communal rights encompass hunting rights, footpaths to water sources and the right to collect non-timber forest products (NTFPs) for communal use. Another law that restricted people's access and use rights to forest resources was the Forest Protection Decree NRCDC 243 of 1974 amended by the Forest Protection Amendment Act 2002 (Act 624). This Act determines that all operations within forest reserves (with the exception of NTFP extraction for communal use) require written permission from the Forestry Commission with punishments being imposed if permission is not sought with a FSD official higher than a technical officer or forest guards (see Box 7.2). The District Forest Services Division (FSD) of the Forestry Commission (FC) is formally responsible for the management of the reserves at the micro level. The range supervisors and forest guards are the frontline officials in contact with the local communities. Within the protected area, the mandates of the forest guards are to clean the forest boundary lines and to patrol the reserve in order to prevent forest crimes such as encroachment, poaching, illegal logging and farming. The court and the police play a prominent role with respect to enforcement of these laws. The arrest and prosecution of an offender is done by the police, mandated to do so by the laws of Ghana (see Chapter 5). The court pronounces judgement on offenders based on evidence presented by the prosecutor(s), applying offence laws such as Act 624 and Act 547 to fine the offender when guilty (see Chapter 11 for some of these judgements and the laws applied).

#### *Hybrid governance*

In addition to the customary and statutory governing system, two hybrid actors in the village's local governance system were also identified. These are the Unit Committee (UC) and the Community Biodiversity Advisory Group (CBAG). Unit Committees form the basic structure of the local governance system. They are elective bodies with a legal basis in the 1992 Constitution of Ghana and associated decentralisation laws (Ayce 2003). A unit is normally a settlement or a group of settlements with a population of between 500 and 1,000 people in rural areas and a higher population (1,500 or more) in urban areas. Unit Committees, consisting of representatives of stakeholder groupings (i.e. the youth, civil servants, women, etc.) in a community, are in close contact with the inhabitants and play roles in education, organisation of communal labour, revenue raising and ensuring environmental cleanliness, registration of births and deaths, and the implementation and monitoring of self-help projects. The CBAG was created by the

Forestry Commission during the creation of the GSBA in the designated forest reserves with a view to acquiring community assistance in the management of the protected area. It is composed of representatives of several stakeholder groupings at village level (i.e. the Unit Committee, youth, women, traditional leaders, etc.). The CBAG assists in cleaning the GSBA boundaries and serves as a mouthpiece for the community in GSBA matters. However, according to local community members, it is little incentive to participate in the CBAG because of poor wages for cleaning the forest boundaries and a lack of proper identification means (e.g. badges with identity cards) through which CBAG members can be recognised as such.

### Governance interactions

Three issues were observed with regard to the governance interactions in the area under study in this chapter. The first relates to the functioning of the CBAGs. The CBAGs were designed within the framework of a so-called co-management approach, which calls for the active partnership or involvement of the local people in the management of the forest resources. However, it was observed that in practice hierarchical ‘command-and-control’ prevails, resulting in its opposition by many of the local people, mainly in the form of illegal resource use. The second issue is the operationalisation of the participatory management plan of the GSBA formulated in 2007. The primary aim of the participatory plan is to ensure the continued existence and integrity of the Tano-Offin GSBA. In view of that, the FC consulted different stakeholder groups to assess how this aim could be fulfilled. The plan has six objectives that include: (i) the protection and conservation of the biological and socio-cultural resources within the GSBA, (ii) the development of its eco-tourism potential, (iii) ensuring optimum flow of benefits to the local people, (iv) encouraging and promoting education and research within the GSBA, (v) promoting revenue optimisation for the management of the GSBA, and (vi) enhancing the environmental services such as sink for carbon sequestration, protection of soils and water on a sustainable basis. However, since its formulation in 2007, the management plan is not yet operational, as a result of which no progress has been made towards the achieving these objectives.

The third issue refers to compensation strategies put in place to assist communities affected by the establishment of GSBA. This followed the recognition that the creation of GSBA could result in a loss of revenue and access to NTFPs for local communities in and around the reserve. Community investment funds (CIF) were established to help the affected communities to engage in alternative livelihood projects.<sup>16</sup> Within this framework, training in alternative livelihood ventures such as grasscutter and small ruminant rearing has been given to ten people from the admitted village and a revolving fund was set up as micro-enterprise start-up capital. However, during data collection, it was observed that most of these ventures, especially grasscutter rearing, no longer existed.

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<sup>16</sup> Another strategy employed in GSBA areas since 2002 is the involvement of local communities in reforestation schemes in degraded parts of the forest reserves using the modified taungya system (MTS; see Chapter 8 and Insaïdoo *et al.* forthcoming). This does not apply to the case addressed in this chapter and people in the admitted village are not involved in the MTS scheme because of the GSBA.

## Conflicts and conflict management in the Tano-Offin GBSA: Images, instruments and actions

This section analyses conflicts and conflict management in the Tano-Offin GSBA using the conflict wheel developed by Mason & Rychard (2005) (see Chapter 2). The use of the conflict wheel enables an in-depth analysis of the various dimensions of conflicts<sup>17</sup> and the coming to grips with the three orders of day-to-day conflict management (images, instruments and actions). Based on the survey outcomes, the issues, actors, causes and dynamics reflect the respondents' images that underlie the choice of instruments. The instruments and actions are addressed thereafter.

### *Issues*

The survey revealed that two forest-related conflict types prevail in the study area: those related to forest resources and those related to forestland use. The first includes conflicts related to chainsaw milling, commercial NTFP extraction, the gathering of NTFPs for domestic use and hunting. Conflicts relating to forestland use evolve from illegal farming and the extension of admitted farms. Table 7.4 indicates the number of respondents who mentioned each conflict type when they were asked whether they are aware of any forest and tree-related conflict in the Tano-Offin GSBA. The most frequently mentioned conflicts are those relating to chainsaw milling (53%), extension of admitted farms (49%) and illegal farming (34%).

*Table 7.4* Livelihood components around which conflicts evolve

Livelihood component	Respondents who mentioned the conflict types* <sup>18</sup>	
Chainsaw milling	63	(53%)
NTFPs for domestic use (plants)	5	(4%)
NTFPs for commercial use (plants)	18	(15%)
Hunting	6	(5%)
Extension of admitted farms	58	(49%)
Illegal farming	40	(34%)

\* N = 119; more than one conflict type could be mentioned. *Source:* Field survey 2009.

### *Actors involved*

The actors involved in livelihood conflicts in the Tano-Offin GSBA operate at different levels of scale, namely at community, district, regional and national levels (Figure 7.5). In each conflict type, most of the actors belong to the community setting while the rest cut across the district, regional and national levels.

The principal actors in chainsaw milling are the chainsaw operators. These include community members (either indigenes or migrants) and external operators who migrated from elsewhere purposely to engage in the milling activity. Counterparts in the conflicts include the FSD and military or the FSD and police officials<sup>19</sup>, lumber buyers and carriers. In addition, traditional authorities, community members and farmers are involved in conflicts with chainsaw operators. There are also conflicts among the operators themselves. Most respondents (76%) perceive the chainsaw operators to be the lead actors in conflicts because their actions conflict with the prevailing statutory forest leg-

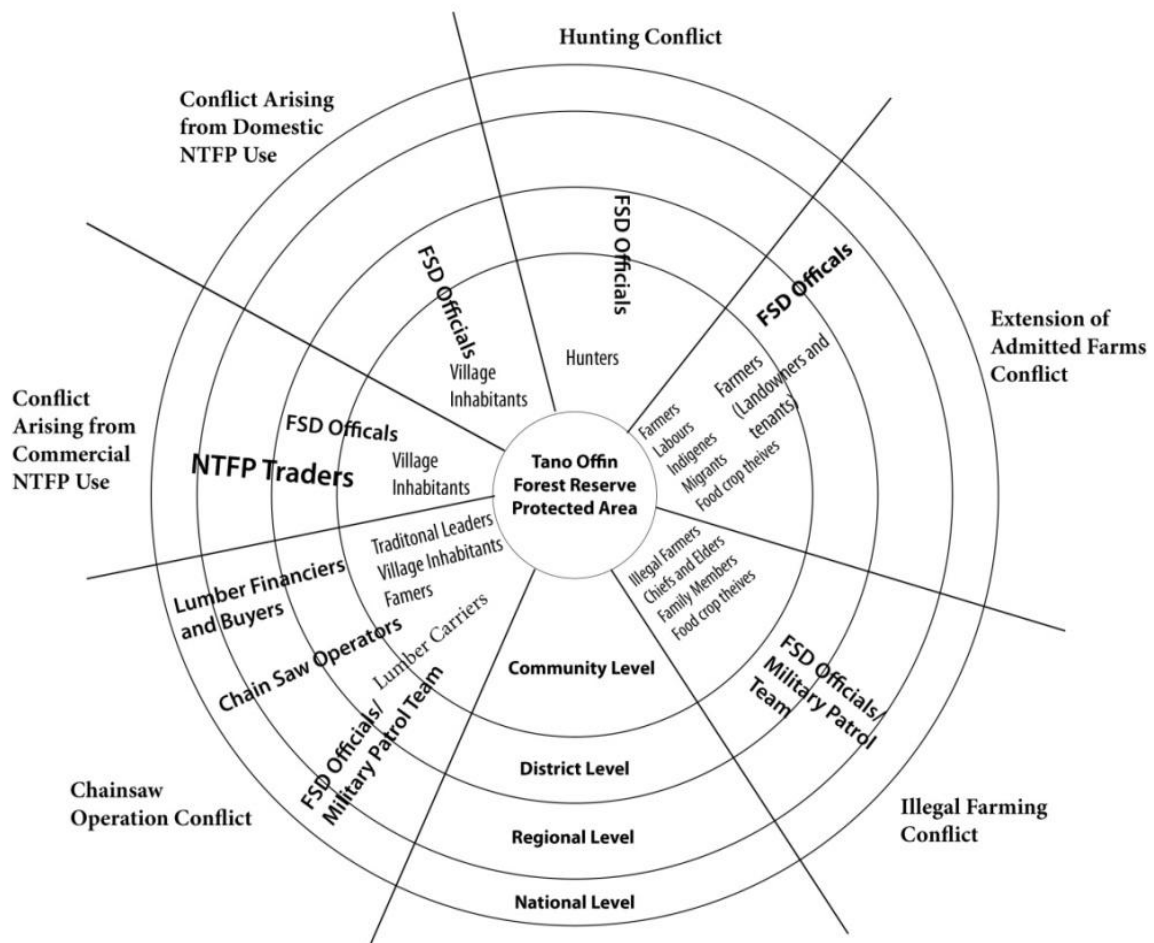
<sup>17</sup> The context of the six dimensions was addressed earlier in this chapter.

<sup>18</sup> Not all the questions on conflict dynamics and management strategies related to the different conflict types that are dealt with here were responded to by all the respondents.

<sup>19</sup> See Chapter 6.

islands and because they steal and fight over stolen trees among themselves or with forestry officials or farmers. The FSD/military teams are also blamed (by 14% of the respondents) because of the coercive strategy they employ when arresting the culprits. In the midst of this blame game, some respondents (10%) accuse the national and local governments of taking inadequate steps to create employment, and this contributes to the prevalence of chainsaw operations within the reserve. Less visible to the respondents, but behind the operators, are actors at district and national levels who finance the operations.

Figure 7.5 Multi-level analysis of actors involved in livelihood conflicts in Tano-Offin GSBA (Kyekyewere village), Ghana



Source: Field survey 2009.

Actors involved in conflicts around NTFP collection for domestic use and hunting are mainly village inhabitants. Their counterparts in the conflicts are FSD officials. Actors involved in commercial NTFP trade are mainly outsiders, but also resident villagers. As shown in Figure 7.2, actors involved in the extension of admitted farms include farmers in conflict with other farmers with whom they share a common boundary, or with FSD officials, chainsaw millers, food crop thieves, farm labourers or family members. The survey data revealed that most instances of this conflict type (reported by 48% of the respondents) occur among farmers who share common boundaries.

Finally, conflicts arising from illegal farming occur between illegal farmers (both natives and migrants) on the one side, and FSD officials, the military taskforce, CBAGs, or chiefs and elders on the other. Conflicts also occur between illegal farmers and the native community members of Kyekyewere. Most of the respondents (80%) perceived the illegal farmers to be the ‘villains’ because they have no legal right to farm in the forest.

### *Causes*

Multiple factors contribute to conflicts, including both antecedent conditions and manifest (observable) behaviour, with incompatible claims to forest land and resources being the underlying cause of all of them (Table 7.5).

*Table 7.5* Antecedents and manifest behaviour leading to forest livelihoods conflicts in Tano-Offin GSBA

Kind of livelihood conflict	Antecedents conditions	Manifest behaviour
Chainsaw milling	Hardship Scarcity of farmlands Inadequate job opportunities Mistrust between actors Greed	Theft among chainsaw operators Felling trees without a permit Cheating other lumber operators or lumber carriers Application of force by FC/military officials during arrest
NTFPs for domestic use	Hardship and need for forest resources Competing claims among collectors	Entering the reserve for NTFP collection without a permit or permission from forest guards Excessive use relative to other collectors
NTFPs for commercial use	Hardship Need for income	Entry into the reserve without a permit
Hunting	Need for income	Hunting during the closed season between August and December
Admitted farming	Land scarcity because of population increase Absence or decay of border markers	Extension of admitted farms into forest or neighbouring farms
Illegal farming	Land scarcity FSD failure to provide extra farmlands Hardship Landownership/boundary disputes	Entry into the forest reserve to farm

*Source:* Field survey 2009.

The manifest behaviour which leads to conflicts relating to illegal chainsaw milling is felling trees without a permit, theft and cheating among chainsaw operators, and the use of violence in confrontations with FSD and military officials. The antecedent conditions at community level are mainly hardship, scarcity of farmland and a lack of job opportunities. At higher levels of scale, both need and greed (e.g. of timber traders, chainsaw millers) are underlying factors.

Manifest behaviour resulting in conflicts relating to NTFP extraction and hunting includes entering the reserve without a permit, excessive NTFP use relative to other community members, and disregard for the legal ban on hunting (‘closed season’) from

August to December.<sup>20</sup> The antecedent conditions that trigger these conflicts are hardship, competing claims and the need for cash income. Extension of admitted farms into the GSBA and/or on land claimed by neighbouring farmers are the key immediate causes of admitted farm conflicts, with the antecedent conditions being land scarcity due to the village's location in the middle of a forest reserve and unclear borders (due to absence or decay of border markers). The key immediate cause of illegal farming conflicts is entry into the forest reserve to farm (identified by 45% of the respondents). Antecedent conditions include land scarcity, FSD failure to provide extra farmlands, hardship and landownership/boundary disputes.

### *Conflicts dynamics*

The key effects of the conflicts described above are hatred, insults and fights between actors, the destruction of food crops, the evacuation of illegal farmers, the confiscation of chainsaws and/or lumber by forestry officials and the arrest or prosecution or imprisonment of offenders. In some instances, the offenders receive beatings from the FSD/military patrolling team or vice-versa that sometimes lead to injuries and death. The conflicts appear to occur all year round.

Chainsaw milling conflicts occur when chainsaw operators are confronted by either the FSD or the military officials when they enter the forest to fell trees, during transportation of the lumber to the market, or when they fight among themselves over money or logs. Respondents distinguished between two kinds of conflict stages namely non-violent and violent. It was noted that these qualifications were subjective and not underpinned by explicit criteria. This means that a conflict type could be classified as violent by one respondent and non-violent by another, depending on how the respondents perceived the incidence. The respondents' perceptions of a conflict stage being non-violent or violent may be in line with how local people give meanings to the term 'conflict'. In the local language, Twi, a distinction is made between either (i) *ntawatawa*, which indicates a difference of opinion or misunderstanding, or (ii) *ntokwa*, which is a more severe conflict or indicates a violent clash. Table 7.6 presents the conflict stages reported as non-violent and violent by the respondents for each conflict type.

*Table 7.6* Respondents' opinions about conflict severity

<b>Conflict types</b>	<b>Conflict severity</b>	
	<b>(no. of respondents indicating the respective per conflict type)</b>	
	Non-violent	Violent
Chainsaw milling (n=61)	54	7
NTFPs for domestic use (n=5)	5	-
NTFPs for commercial use (n=16)	16	-
Hunting (n=6)	6	-
Extension of admitted farms (n=56)	56	-
Illegal farming (n=36)	29	7

\* N = 119; more than one issue could be mentioned. *Source:* Field survey 2009.

<sup>20</sup> The Wildlife Conservation Regulation of 1971 (LI 685) and its amendments (LI 1284, LI 1357 and LI 1452) establishes a four-month period from 1 August to 1 December during which it is not allowed to hunt for any animal, except for grasscutters (*Thryonomys swinderianus*). This period coincides with the breeding season for most animals.



Seven respondents mentioned violent conflict incidences relating to chainsaw milling. Five of them referred to conflicts between operators and a team of FSD officials and the military because of the use of force by both parties. The other two respondents referred to conflicts between chainsaw operators due to money disputes and/or stealing of logs.

Among the five respondents who responded to conflicts relating to NTFP extraction for domestic use, the conflict incidences witnessed were found to be non-violent. This type of conflict does not occur frequently, provided the inhabitants do not exceed the average communal use quantity (normally estimated as 'head load') and provided permission has been asked from the forest guards. As shown in Table 7.6, conflicts relating to NTFP extraction for commercial use were also qualified as non-violent, as were hunting and the extension of admitted farms. Unlike other conflict types, which occur throughout the year, hunting conflicts mainly occur during the 'closed season' between August and December when hunting is prohibited. Conflicts relating to the extension of admitted farms also occur throughout the year, but are more frequent at the beginning of the farming season or during the harvesting season (when people steal food crops or when there is a misunderstanding between landowners and tenants or among family members about crop-sharing mechanisms or when admitted farms extend into the forest reserve).

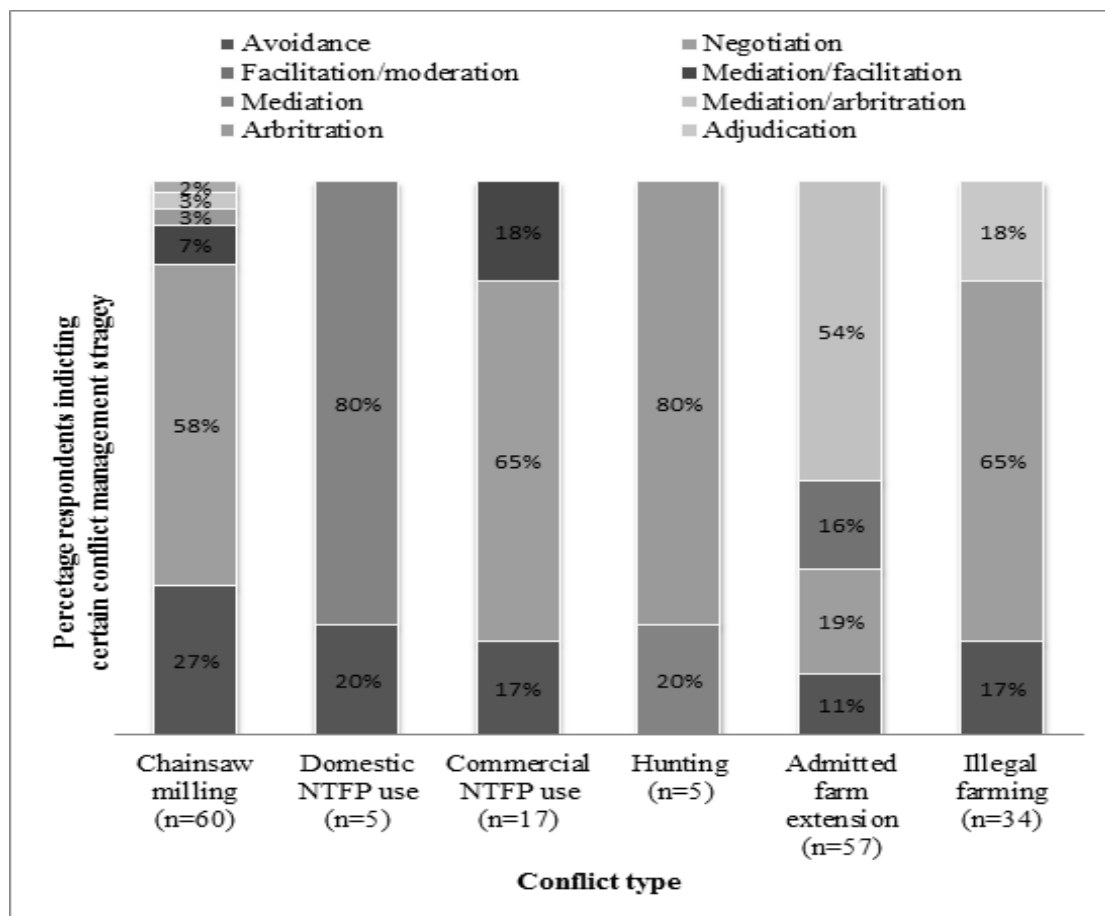
Illegal farming conflicts occur whenever a farmer enters and farms in the reserve and is confronted by either a forestry official or a community member who is a CBAG member or someone who claims the same piece of land. Conflicts also arise in cases of boundary disputes with neighbouring illegal farmers or food crop theft. The peak seasons for such conflicts are the onset of the farming and the harvesting seasons. Similarly to chainsaw milling, only seven of the respondents classified this conflict type as violent.

*Instruments: Conflict management strategies*

Negotiation is generally used to resolve the conflicts relating to the six forest livelihoods conflicts types (Figure 7.6; see Chapter 2 for the different conflict management strategies). The most frequently reported coping strategy in chainsaw milling is negotiation (58% of the respondents) and includes (i) negotiating a fair deal among chainsaw operators, between chainsaw operators and farmers and sometimes between operators and forest guards and (ii) negotiation through bribery, which involves chainsaw operators and FSD/military personnel. Avoidance (i.e. escape because of fear) was found to be the second most important coping strategy represented by 27% of the respondents. Other strategies observed are arbitration, coercion and adjudication. A mixture of mediation and facilitation was found to be used by the chief and elders or the Unit Committees at village level to resolve conflicts among chainsaw operators, between chainsaw operators and lumber buyers, or between chainsaw operators and lumber carriers.

In the case of NTFP extraction for domestic use (n=5), the most common conflict management strategy is mediation, mentioned by 80% of the respondents with chief and elders acting as mediators. Only one person (20%) mentioned avoidance as being the prevailing coping strategy: the offenders abscond for fear of being arrested. Similarly, in conflicts relating to commercial NTFP extraction most respondents mentioned negotiation between extractors and forest guards as the most commonly employed conflict resolution strategy. Other strategies included adjudication and avoidance. In hunting conflicts, two conflict management strategies prevail: arbitration through the district

Figure 7.6 Proportion of respondents indicating which conflict management strategies prevailed for each conflict type  
 Source: Field survey 2009.



court system and negotiation (mentioned by 80% and 20% of the respondents respectively). Here the magistrate normally resolves such an offence using arbitration (giving a mild sanction to the offender) rather than the adjudication process by fining the culprit based on the level of offence. Alternatively, if the offender pleads with the official upon arrest, he receives a warning not to lay game traps again. The most common coping strategy reported in relation to admitted farm conflicts is a blend of mediation-arbitration (54% of the respondents), followed by negotiation (19%), facilitation and moderation (16%) and avoidance (11%) (Figure 7.6).

Actors involved in mediation–arbitration include the chief and elders, family elders, landowners, a joint team of chief and elders or Unit Committees. Negotiation occurs mainly in conflicts among farmers, between the FSD and the community, and between the FSD and farmers. Facilitation and moderation often involves the creation of a special conflict resolution team made up of family elders or a joint team of chief and elders, forest guards and Unit Committee members.

Just like coping strategies in chainsaw milling, illegal farming conflicts were observed to employ four conflict management avoidance modes because of a prevailing feeling of fear (mentioned by 53% of the respondents). Other modes reported by the respondents included negotiation (23%), mediation (15%) and coercion (9%). Actors

involved in the conflict management processes were the chief and elders, Unit Committee members, assemblypersons, FSD officials and the police.

*Perceived effectiveness of managing livelihood conflicts in the forest reserve*

The survey in the village of Kyekyewere on how actors in conflict management succeeded in managing the conflicts effectively generated a range of different views. Of the 99 respondents who responded to the question, 74% (n=73) were of the opinion that conflict management was effective, whilst 19% said this was not always the case and 7% were unsure about the effectiveness of conflict management strategies. Factors reported as having positively influenced conflict management outcomes are the culprit's acceptance of faults and supremacy of the intervening actors. The first has often resulted in agreements being reached based on a common understanding and tolerance between the parties, strong family ties and the desire for peace. The supremacy of intervening actors such as the Unit Committees, chiefs and elders, family elders, FSD officials, police and court also contributed to successful conflict resolution. This supremacy is rooted in society's respect and fear for these actors and on the fairness of the outcomes to the conflict parties. Some conflict cases have been minimised because of interventions of the military, police and FSD officials that made offenders abscond due to fear and threats.

Nevertheless, some factors were found to hinder conflict management processes including (i) the lack of arbitrators to plead for community members (reference was made to a contested piece of admitted farmland in the GSBA), (ii) greed, and (iii) impatience and pride on the part of the parties leading to misunderstanding and disagreement. Other impeding factors include the illegality of operations in the forest reserve (especially in chainsaw lumbering and farming) and restricted access to permits which people need to enter the forest.

## Discussion

*Interactions between the system-to-governed and governing system*

The system-to-be-governed analysed in this chapter is the Tano-Offin Reserve in Ghana's high forest zone. Its rich biodiversity and water bodies (Kyereh *et al.* 2006) led to the creation of the GSBA. In the midst of the GSBA are the inhabitants of the admitted village of Kyekyewere, whose livelihoods are linked to forest resources despite rules and laws that restrict their access. The location of the village makes its inhabitants highly dependent on forest resources and farming activities, with growing pressure on forest and land resources due to the growth of the village's population since the creation of the forest reserve<sup>21</sup> and the GSBA. The local inhabitants of the admitted village of Kyekyewere have few legal forest livelihood options other than access to NTFPs for domestic use. Most forms of forest-based livelihood components – NTFP extraction for commercial use without a permit, chainsaw milling, extension of admitted farms and farming in the reserve – are illegal according to the prevailing laws. In 1998, Ghana banned the use of chainsaws to process lumber. Farming within forest reserves is illegal, except for admitted farms and farming under reforestation schemes such as the MTS

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<sup>21</sup> According to the village chief, the admitted village of Kyekyewere had about 62 inhabitants when the reserve was created in 1949 and an adult (>18 years) population of 450-500 during the survey.

(Chapter 8). The illegality relating to forest resource and land use results in conflicts prejudicing local people's wellbeing.<sup>22</sup>

The governing system actually consists of three key governing systems, including the statutory or formal governing system (represented by the FSD), the customary or traditional governing system (*i.e.* chief and elders) and a hybrid system (with actors such as CBAGs and the Unit Committee (UC)). Each of these actors has specific roles and responsibilities in relation to forest resources management. The main actor in the statutory governing system, the FSD, has inadequate frontline staff and logistics to ensure effective monitoring and extension services at community level. At the same time, the forest reservation process, coupled with the Forest Ordinance (Cap 157) of 1927 and the Concession Act of 1962, took power from traditional leaders by transferring resource allocation and ownership to the central state.

According to Mayers & Kotey (1996), legislation with regard to forests has turned traditional authorities in Ghana into passive and marginalised recipients of insignificant and irregular shares of revenue, with no formal decision-making roles in any aspect of forest management. According to formal laws, traditional leaders have no legal role with respect to managing forest resources and, for that matter, in conflict management processes. However, this study revealed that the local traditional council of Kyekyewere is actively involved in resolving forest-related livelihood conflicts and hence contradicts the interpretation by Mayers & Kotey (1996).

The Forest Protection Decree NRC D 243 of 1974 amended by the Forest Protection Amendment Act 2002 (Act 624) restricted people's access to, and use of, forest resources, with the exception of communal rights to domestic use of NTFPs. Only with permission from officials higher than forest guards and technical officials can inhabitants of forest-fringe communities use forest reserve resources for trade. This is paradoxical because the officials closest to the local communities are the forest guards. Requiring permission and permits from higher officials who are difficult to access is *de facto* the same as denying local people's formal rights to access forest resources. It is therefore not surprising that the introduction of permits, levies and fines for accessing forest resources reduced responsible local attitudes towards forest protection and management. Forest reservation and its legislations have modified tenure systems and created a disincentive for those nearest to the resource to take responsibility for it, as was rightly noted by Mayers & Kotey (1996).

The creation of the GSBA initially raised the hopes of communities for national and even international attention that they believed could translate into better prospects for external assistance in developing their livelihoods. However, the GSBA concept only resulted in the further restriction of community rights and denied them access to forest resources, without viable alternative livelihood options. Projects to create alternative livelihood opportunities (such as grasscutter rearing) were not successful, the MTS as a possible alternative was not implemented in the study area, and a participatory management plan to manage the GSBA is not yet operational. These challenges and limitations correspond with findings of other authors (e.g. Nygren 2004, Coad *et al.* 2008) regarding restricted access policies and their implications for local people's livelihoods. Among these are the dislocation of local people without equitable compensation, denial

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<sup>22</sup> Wellbeing is an emerging concept in development debates. It is a concept that embraces three elements namely: material (what people have or do not have), relation (what people do or cannot do with it) and subjective (what people think or feel about their wellbeing) (Chambers 2004, McGregor 2007, White 2009).

of access, severe punishments for people who could not adhere to existing rules and patrolling by national security. Such a top-down ‘fence and fine’ approach (Adams & Hulme 2001) or ‘ecototalitarian’ approach, as Dietz (1996) termed it, is opposed in practice by many actors, mainly in the form of illegal resource use. It is noted that the FC is still evolving out of a typical civil service command-and-control structure (Young 2005) suggesting that improvement in governance may occur with time, but it looks as if it is taking the FC too long to develop in line with the principles of co-management.

#### *Governability implications*

The interaction between the system-to-be-governed and the governing system restricted local people’s access to forest resources. This has resulted in different kinds of conflicts. The respondents identified two conflict types: those related to forest resources (timber and NTFPs, including game) and those related to forest land use (illegal farming and extension of admitted farms). This reaffirms that conflicts are inherent in natural resource use due to the complexity, diversity and dynamics of their natural and socio-economic environments, in which actors operate at different levels of scale (Castro & Nielsen 2003, Buckles & Rusnak 1999, Kooiman 2008, Chuenpagdee & Jentoft 2009). In each conflict type analysed in this chapter, most of the actors belong to the community setting while the rest cut across the district, regional and national levels. Most conflicts occur among resource users and between resource users and FC officials. The multi-level presentation of the actors involved in the conflicts (Figure 7.5) highlights the spatial distinctions between actors involved in conflict situations (Bryant 1992, Dietz 1996). The immediate causes of conflict are often related to manifest behaviour (such as entering the forest reserve without a permit or stealing crops or logs from others). Behind these are underlying causes (termed ‘antecedent conditions’ by Pondy (1967)) such as land scarcity and poverty. In terms of dynamics, only conflicts involving actors at community level are perceived as being the least violent, with more violence occurring when conflicts escalate to district level or beyond.

Results show that actors involved in conflict management and resolution processes use a combination of coping strategies (Glasl 1999, Moore 2003, Engel & Korf 2005, Wehrmann 2008). The traditional authorities play a more important role in conflict management than is often assumed. The literature suggests that they no longer have a say in forest resource allocation and management since forest resources fall under the custody of the central state (Mayers & Kotey 1996, Ghana Constitution of 1992). However, these findings revealed that traditional authorities at local level still play an important role in the management and resolution of conflicts relating to these resources.

Even though the inhabitants of Kyekyewere presented a positive image of the way conflicts are currently managed, the underlying problems of a lack of access rights coupled with the absence of sustainable livelihoods still prevail. The local community in the middle of the forest will continue to demand their rights informally through illegal access until the prevailing statutory governing system becomes favourable to communities living in and within protected areas. Kyereh *et al.* (2006) argue that the *‘forest type like Tano-Offin is so unique that there are enough reasons for the area to be conserved since these qualities cannot easily be replaced once they are destroyed’*. The above statement, the study findings in the Tano-Offin and other GSBAs must serve as springboard for forest governors to reconsider the prevailing governing systems to ensure their efficient interactions with the system-to-be-governed. Some implications for forest governance and recommendations are proposed in the next section.

*Implications of new trends in forest governance: the need for social safeguards*

The VPA strategies to combat illegal logging and improve forest governance (see Chapter 5) do not consider protected areas as a management regime to ensure legality of timber resources, and therefore do not seek social safeguards for the livelihoods of local people in protected areas. Nevertheless, law enforcement can affect all forest management regimes, which means that the forest-related livelihoods of protected area inhabitants like the villagers of Kyekyewere will be further restricted. If the VPA is implemented, there will be serious implications for protected area management.

First, laws on illegal chainsaw milling will be strictly enforced. For illegal operators in timber production forests there is hope for some of them that their operations will be converted into legal artisanal millers as a social safeguard to ensure the continuation of their business (Marfo 2010). For illegal chainsaw millers in the GSBAs, however, there will be no such opportunity and operators are simply expected to disappear. This is very unlikely to happen. This suggests that, whilst the VPA could reduce conflicts in timber-producing forests, the opposite may be the case in the GSBAs.

Second, VPA implementation without adequate social safeguards for the GSBAs may lead to a situation in which local people replace chainsaw milling with illegal farming when enforcement sanctions against chainsaw milling become severe. Such a scenario may be a disaster since illegal farming, if done in the middle of the reserve where patrolling and monitoring is minimal, can only be detected once very serious damage has already been caused, leading to a drastic change in the forest land-use system.

Third, in July 2009 the researcher presented preliminary findings from this study to a team of key officials of Tropenbos International (TBI-) Ghana. The team led by the Director of Tropenbos made two major decisions. The first was to visit Tano-Offin to verify the situation presented in my study and second was to let a team conduct research in other GSBAs to assess whether the situation in Tano-Offin is specific or representative for other GSBAs. In August 2010, a mission made up of representatives from the Forestry Commission, Forest Services Division, Resource Management Support Centre, and international donors (The Netherlands Embassy) and the researcher, who represented Tropenbos International Ghana, visited the site. During the visit to the admitted village, the team interacted with the villagers to assess their wellbeing and the state of the GSBA. In the same month TBI-Ghana commissioned a two-member research team to conduct a situational analysis of four different forest reserves with a GSBA across the high forest zone. The areas were Krokosua Hills in the Western Region, Bandai Hills GSBA in the Ashanti Region and the Atewa Range and Apedwa GSBAs in the Eastern Region. The team interacted with the surrounding communities and officials of the FSD did a field verification to assess the situation. The outcomes of the research, though place-specific, revealed problems of encroachment and non-implementation of the management plans in all the study sites (see TBI Ghana 2010). Generally, the situation in these areas is not so different from that which prevails in the Tano-Offin forest reserve. The only difference is that Tano-Offin is unique because of the presence of an admitted village in the middle of the GSBA.

Based on these assumptions, the following recommendations have been made.

*1. Rethinking the governance conditions of protected areas*

Building social safeguards in the VPA process therefore implies rethinking the governance conditions of protected areas, especially the status of admitted villages and farms where people have restricted access to forest resources and few legal options to build a

better livelihood. Bodegom (2010) cautions that, although the VPA process is participatory, it is impossible to talk about its contribution to good forest and environmental governance if no measures are put in place to curtail resource depletion in protected areas. The recognition of protected areas in the VPA implementation process is therefore paramount for sustainable forest management. The new thinking and interpretation of social safeguards among forest stakeholders in Ghana as multi-stakeholder processes based on equitable access and control over forests, implies good prospects for addressing the concerns of communities living around and within protected areas. However, it should be noted that the stakeholders' proposal on possible social safeguard mechanisms put under the six categories in Chapter 5 is essentially 'old issues' that have not yet received adequate policy and implementation attention. It will therefore require a serious push from civil society to turn things around and ensure that the proposals are implemented in the interest of communities trapped inside protected areas. It is worthwhile to explore whether carbon or REDD+ payments could be a form of social safeguard in the GSBA, together with the MTS reforestation scheme that the communities requested.

2. *Creating space for inhabitants in admitted village to 'escape' or 'serving as nature caretakers'?*

The Forestry Commission needs to take into consideration that, during the creation of the reservation, the population size was sixty-two and the land size provided was favourable. For almost five decades now, the adult population has increased to between 450-500, whereas the area assigned to the admitted village and farms remained the same and access to forest resources was further restricted by the creation of the GSBA. Moreover, the number of children in the village now exceeds that of the adult population. The educational status and socio-economic future of these children will become uncertain if they remain trapped in the reserve, as will the future status of the GSBA and entire reserve. There is therefore a need to consider strategies that will be favourable to both biodiversity conservation and development of the local people.

- In this specific case and other similar cases where villages are located in the reserves, one option is to re-locate the village to a more conducive environment where support for viable alternative livelihoods is more feasible. The prospects for removing the trapped community will not only give them a real chance to improve their livelihood elsewhere but will enable the ecosystems of GSBA to serve efficiently as a carbon storehouse with fewer human disturbances of deforestation and forest degradation. This may provide a permanent solution but it must be done with caution in order to prevent human rights conflicts. The World Bank's involuntary resettlement safeguards (World Bank 2001) may serve as a guide for resource managers and other parties involved.
- Alternatively, the inhabitants of the admitted village should be compensated for their role as 'nature caretakers' to an extent regarded as acceptable. This can be done with donor funding or through payments for environmental services (PES). In such a case, the inhabitants will obtain income that will enable them to provide better education for their children outside the village. In addition, such money could enable them to engage in sustainable livelihood enterprises that will keep them away from the reserve. The Ghana Forestry Commission's engagement with the REDD+ initiative is

an open window to explore such funds. However, it remains to be seen whether this is an appropriate solution because, under this option, the inhabitants will still be in the forest to which access is further restricted because the government's commitment to REDD+ implies increased efforts to prevent further deforestation and forest degradation.

### *3. Enhancing conflict management in forest management*

Finally, there is a need to enhance conflict management capacity with due regard for the role of chiefs and elders and integration of conflict management strategies in forest management policies and programmes of Ghana which currently receive less attention.

## Conclusion

This chapter revealed that the inhabitants of the admitted village of Kyekyewere in the Tano-Offin Forest Reserve have few legal forest livelihoods options according to the prevailing laws. Whereas laws restricted access and use, people's livelihoods are further challenged by conflicts involving actors beyond the community level. The VPA process to combat illegal logging as well as REDD+ may further aggravate this situation in this and other protected areas if no measures are taken to address the situation. Consequently there is a need to rethink governance conditions in protected areas, especially regarding the status of admitted villages and farms where people have already restricted access to forest resources and where there are few opportunities for building a livelihood, for creating social safeguards for the inhabitants of protected areas and for enhancing the conflict management capacities of the actors in the governing systems and acknowledging the role of actors in the customary and hybrid governing structure.



## Conflicts and uncertainties in co-management: The case of the modified taungya system in Ghana

### Introduction

The co-management concept has gained recognition in both theory and practice in natural resource management during the past three decades (Borrini-Feyerabend *et al.* 2000, Ostrom *et al.* 2002, Carlsson & Berkes 2005). There are varied definitions of co-management, but the central tenet is that it is a partnership between two or more different actors, most often between state and non-state actors. In this partnership, the different actors negotiate, define and guarantee amongst themselves an equitable sharing of management functions, power, entitlements, decision making and benefits (McCay & Acheson 1987, Berkes *et al.* 1991, Borrini-Feyerabend *et al.* 2000, Castro & Nielsen 2001).

In Ghana's forest sector, a co-management arrangement between the Forestry Commission (FC) and forest fringe communities exists with the aim being to reforest degraded forest reserves with the ultimate objectives being sustainable forest management and poverty reduction. The scheme is known as the modified taungya system (MTS) and was introduced in 2001. Since the implementation of the MTS a decade ago, various studies have been carried out to identify successes and shortfalls in the early stages as a means of avoiding similar problems inherent in the old taungya system. From a socio-economic perspective, the food crop component of the MTS was found to contribute to local people's livelihoods (Blay *et al.* 2008, Ledger *et al.* 2010, Insaïdoo *et al.* forthcoming). Other studies have analysed its benefit sharing arrangements and the challenges associated with it (Marfo 2009, Agyeman *et al.* 2010), gender aspects (Abugre *et al.* 2010) and factors influencing the maintenance of trees until maturity (Westerlaan 2010, Insaïdoo *et al.* forthcoming).

However, no research has yet been carried out to gain an understanding of the co-management context of the MTS and the prevailing conflict issues. This chapter aims to explore whether the adaptive co-management approach provides a way to enable the system to overcome complexity and uncertainty and thus improve forest governance processes.

This chapter contributes to the debate about the performance of the MTS by analysing conflicts in a plantation forest in the Tano-Offin forest reserve. The chapter is structured around four sub-questions:

1. What are the characteristics of the plantation forest (i.e. MTS scheme) in the Tano-Offin forest reserve as a system-to-be-governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?
2. What are the characteristics of the governing system (i.e. institutional arrangements) that steers the plantation regime?
3. What are the perspectives of the inhabitants of the communities at the forest plantation fringe regarding the nature of forest and tree-related conflicts in the plantation regime?
4. What conflict outcomes arise and what are their effects on the governance arrangements?

The chapter is based on document analysis, a semi-structured questionnaire survey among 212 inhabitants of Chirayaso and Kunsu-Nyamebekyere No. 3 villages bordering the plantation forest regime in the Tano-Offin forest reserve. Furthermore, community and validation meetings were organised during the fieldwork period. Finally, informal interviews were held with key FC officials to validate concerns raised by the local communities during the meetings (see Chapter 3 for a more detailed description of the methodology).

The data and respondents' views on the subject matter are analysed from an interactive governance perspective (Kooiman *et al.* 2005). Additionally, the elements of interactive governance theory (images, instruments and actions) are blended with the dimension of the conflict wheel developed by Mason & Rychard (2005) (Chapter 2) to understand the nature of conflicts and conflict management prevailing in the study area from the perspective of the local people. Subsequently, the conflict outcomes are analysed and their effects assessed against the governance arrangements of the MTS.

The next section presents the natural system (i.e. Tano-Offin plantation regime) and the socio-economic system of the two communities and their dependence on the MTS. Then the governing system is presented, with a focus on the institutional arrangements of the MTS. The subsequent section presents the respondents' images, instruments and actions concerning conflict and conflict management. After that, the conflicts outcomes and their effects on the governance arrangements are analysed. The discussion section links the findings with the adaptive co-management system and reflects on the question of whether the MTS co-management functions as an adaptive co-governance process or whether it is primarily a form of hierarchical governance (i.e. fixed state system) meant to satisfy the interests of the FC. The chapter concludes with recommendations.

### The system-to-be-governed

This section looks at the natural and human sub-systems of the system-to-be-governed. The section on the natural system describes the Tano-Offin plantation regime and the one on the human system looks at the socio-economic characteristics of the inhabitants of Chirayaso and Kunsu-Nyamebekyere No. 3 and the benefits they derive from MTS.

Table 8.1 MTS beneficiary communities and planted areas under the Tano-Offin plantation regime (2002-2007)

MTS beneficiary communities	Forest area planted (ha) per year coupe <sup>1</sup>						Total area planted (ha) / years
	2002	2003	2004	2005	2006	2007	2002-2007
Chirayaso	-	-	5	17	30	30	82
Kunsu-Nyamebekyere No. 3	10	10	10	-	30	10	70
Asuntaa	-	-	5	5	12	-	22
Kramokrom	-	-	12.5	11	20	-	43.5
Desireagya	-	-	10	10	15	-	35
Kwaswotire	-	-	5	8	11	-	24
Akantansu	23*	26	20	22	24	15	130
Boafaso	-	-	-	-	-	10	
Awesasu	-	-	-	-	13	-	13
Nyinahin	-	-	-	-	15	-	15
Adiembra	10	3	4	11	16	-	44
Mpasaaso 1	20*	5	15	-	25	-	65
Mpasaaso 2	10*	10	10	20	38	-	88
Oforikrom	10	3	-	10	10	-	33
Koojourkrom	-	2	10**	10	10	-	32
Domeabra	-	-	32	-	-	-	32
Awaduwa	10	10	-	10	10	12	52
Nyinanfu	10	5	10	-	-	10	35
Bonkrom	10	10	10	10	17	21	78
Dotiem Kunsu	10*	10*	10*	12*	30	20	82
Enyehwee	-	-	-	-	30	-	30
Saakrom	-	10	10*	10	22	20	72
Apenemadi	-	10	10	-	-	-	20
Wioso	20	-	-	-	-	-	20
Adadekrom	30	3	5	-	-	-	38
Ofirikrom	-	3	-	-	-	-	3
Oseikrom	10	2	-	-	-	-	12

\* Indicates that a community did not meet the target; \*\* Indicates that a community exceeded the target.

Key: A dash (-) in the table may imply that:

1. A community did not join the MTS that year.
2. The community performance in the previous year was not good enough, as a result of which it was not allowed to take part again.
3. The survival rates of the planted trees were low and the farmers had to undertake beating up (i.e. filling up gaps with new seedlings) in that year's coupe before a new area was allocated to them to plant trees and food crops.
4. There is no more degraded area within the range of a community.

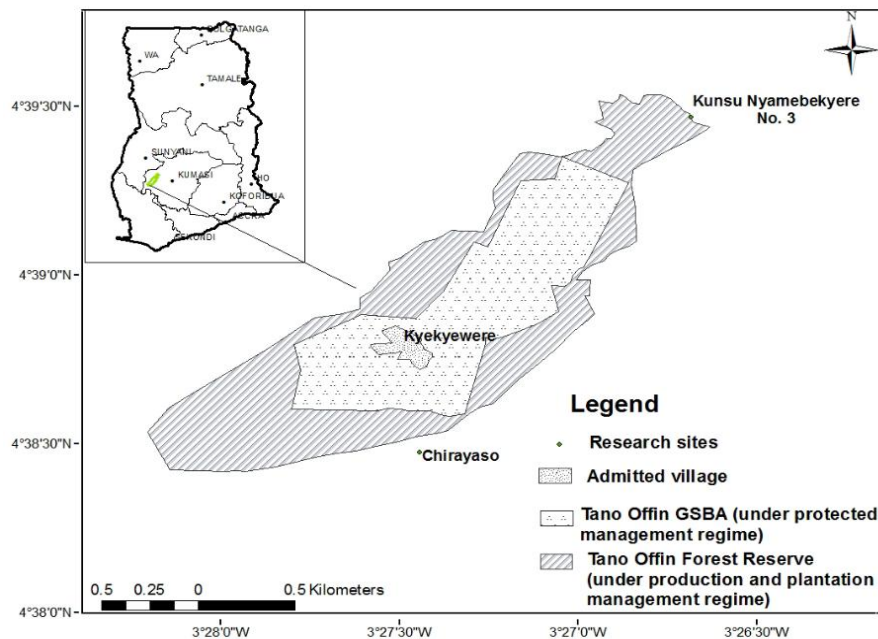
Sources: Agyapong, Nkawie FSD plantations unit, (pers. comm. 2008).

### *The natural system: The Tano-Offin Reserve plantation regime*

As outlined in Chapter 4, the Tano-Offin Forest Reserve is located in the Nkawie Forest District and falls under two administrative districts: the Ahafo Ano South and Atwima Mponua in the Ashanti Region of Ghana. The reserve is surrounded by 41 villages whose inhabitants partly depend on the forestland and resources of the reserve for their livelihood. Since the MTS became operational in the reserve in 2002, twenty-seven villages have been involved in the scheme (see Table 8.1) of which two were selected for this study. They are Kunsu-Nyamebekyere No. 3 and Chirayaso (Figure 8.1). The criteria for their selection are discussed in Chapter 3.

<sup>1</sup> Coupe is a term mostly used for plantation forest to denote the operational unit of about sixteen hectares for either establishing plantations or annual harvesting in an area.

Figure 8.1 Map of Tano-Offin Forest Reserve showing the study communities



The plantation regime within the forest reserve (mostly located in the production management area) consists of various compartments<sup>2</sup> in the reserve. Each of the MTS beneficiary communities are given degraded areas in a specific compartment with the aim being to achieve a given target (see Appendix 5 for details).

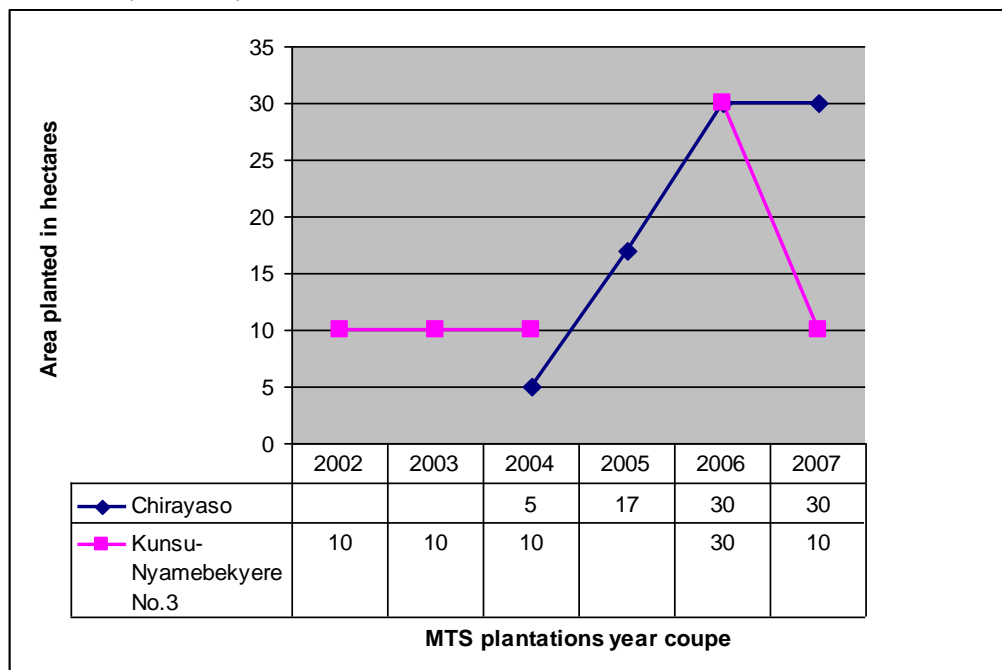
The official report of the Nkawie District indicates that the number MTS of farmers differs per year. For instance Chirayaso had 170 MTS farmers in 2006 and 100 in 2007 (see Appendix 5). An analysis, based on the official records, of the MTS beneficiary communities around the Tano-Offin reserve and the area planted is presented in Table 8.1. Figure 8.2 shows the trend of area planted (ha) in the two study sites over the years based on the data from Table 8.1.

From Figure 8.2, it can be seen that land allocation to the farmers in Chirayaso increased from five hectares in 2004 to thirty hectares in 2007, whereas the degraded forest area allocated to MTS farmers in Kunsu-Nyamebekyere No. 3 has steadily increased since 2002. Personal communication with the FSD official revealed that allocation of a degraded land area depends on (i) the interest and willingness of the participating people in a community; (ii) the availability of land within the range of the communities; and (iii) the performance of the MTS farmers in the previous year(s).

In the case of the small area (five hectares) given to Chirayaso at the onset, the FSD official revealed that, when the MTS was introduced to the inhabitants, not many people showed any interest in participating. In view of that, a small area was given to the few people who were willing to form an MTS group. However, when the inhabitants realised the food crop benefits the participated farmers are deriving, they also decided to join, which resulted in an increase in the land area over the years.

<sup>2</sup> Within the on reserve areas, the production areas are partitioned into numbered compartments (main units) of 128 ha each.

Figure 8.2 Trend in the area planted under the MTS by farmers in Chirayaso and Kunsu-Nyamebekyere No. 3 from 2002-2007



Source: Nkawie FSD plantations unit (2008).

As is shown later in this chapter, denying some people entry to the MTS scheme resulted in a demonstration in Chirayaso in 2009 (see also Box 8.2).

In the case of Kunsu-Nyamebekyere No. 3, the FSD official revealed that the majority of the inhabitants had shown an interest in the MTS from the beginning because they live very close to the reserve and have limited farmlands. The steady increase in forest land being allocated over the years corresponds to the adult population in the village. The significant increase in land allocated in 2006 can be attributed to the fact that more people living outside the community took part in the scheme and by the excellent performance of the MTS farmers in the previous years, as a result of which farmers were allowed to work on more than the usual one acre plot (Agyapong, Nkawie FSD plantations unit, pers. comm. 2008).

#### *The human system*

This section deals with the human system and addresses the socioeconomic characteristics of the respondents and livelihood benefits of the MTS respectively.

#### – Socio-economic characteristics of the respondents

Chirayaso and Kunsu-Nyamebekyere No. 3 have an estimated adult population of 770 and 240 respectively of whom 103 and 109 individuals were involved in the study respectively. Generally, the inhabitants of the study communities engage in crop farming as their major occupation. Cocoa, pineapple and oil palm are commonly grown as cash crops on family or individual farmlands, whereas short-rotation food crops are cultivated in the forest reserve under the MTS scheme or are integrated with cocoa and other perennial crops on farmlands.

Table 8.2 shows that 54% of the respondents are men and 46% are women. The majority of the respondents (46%) in both villages were in the age range of 18-35, while

19% were in the age range of 53 years and above. In terms of religion and education, Christianity dominated with 91%, whilst more than half of the respondents (54%) had been educated to middle and junior high school level. Fifteen per cent of the respondents in Kunsu-Nyamebikyere No. 3 have no education, compared to 5% in Chirayaso. Generally speaking, migrants (59%) exceeded the proportion of indigenes with more migrants recorded in Kunsu-Nyamebikyere No. 3 (69%) than in Chirayaso (31%). The period of stay in the villages by the migrants ranged from one to 58 years. Most of the respondents migrated across the districts of the ten regions of Ghana with the majority (79%) coming from the Ashanti Region. The respondents from Kunsu-Nyamebikyere No. 3 included two non-Ghanaians from Burkina Faso who were participating in the MTS. Thirty-four per cent of the respondents were engaged in a single occupation while the majority (63%) had multiple occupations, with 3% being not engaged in any occupation at all. The MTS was the lead occupation (82%) of the total respondents in the two villages.

Among the MTS respondents, 26% engage in it as a single occupation and 75% combined with other occupations such as off-reserve farming, trading, handicrafts and government employment (Table 8.2). In both communities, few respondents (2%) stated that they were engaged in chainsaw lumbering as their single occupation, while others combined it with the MTS. The common trees planted by the farmers under the MTS scheme (with food crops such as plantain, cocoyam, vegetables and maize) included the exotics *Cedrella odorata* (cedrella) and *Tectona grandis* (teak). The indigenous ones were *Terminalia Superba* (ofram) and *Entandrophragma* spp. (African mahogany).

#### – Benefits derived from the MTS

As the major occupation within the two villages, the MTS has contributed to the livelihoods of the inhabitants, especially those who participate in the scheme. According to the respondents of Chirayaso, access to farmland to cultivate food crops was a problem prior to the introduction of the MTS. The available family lands are under cocoa cultivation, a major cash crop in Ghana, resulting in food crop scarcity especially once the canopy of the cocoa farm has closed. The inhabitants of the two villages reported food for consumption and sale to obtain cash income as the major benefits they derived from the MTS for almost a decade. Some key benefits that have improved the wellbeing of the MTS communities are: (i) employment in the form of farm labour and micro-enterprises (notably petty trading) that could be established thanks to the revenues from the MTS plots; (ii) improvement in school attendance of their children; (iii) quality housing; and (iv) food security throughout the year. Without the MTS the respondents asserted that many hardships would have forced young people to migrate to urban areas where unemployment is high or would possibly have led them to engage in illicit farming in the forest reserve.

Photos 8.1–8.3 show some of the MTS benefits that the farmers demonstrated to the research team, notably the food crops derived and building constructed with revenues from the food crops cultivated under the MTS. For a more detailed analysis of livelihood benefits from the MTS see Insaïdoo et al. (forthcoming). Some also referred to the benefits in conversations as presented in Box 8.1.

Table 8.2 Socio-economic characteristics of the respondents (N=212)<sup>3</sup>

Variables	Frequency (n) and percentage (%) of respondents			
	Chirayaso (n=103)	Kunsu- Nyamebekye No. 3 (n=109)	Total (N)	Percentage (%)
<b>Gender</b>				
Male	54	60	114	54
Female	49	49	98	46
<b>Age range</b>				
18-35	50	47	97	46
36-53	34	40	74	35
53+	19	22	41	19
<b>Religion</b>				
Christianity	97	95	192	91
Islam	4	6	10	5
Traditionalist	1	2	3	1
Free thinker	1	6	7	3
<b>Education</b>				
Post- Secondary/Secondary	14	4	18	8
Middle school/Junior High School	65	49	114	54
Primary	7	17	24	11
Informal	9	5	14	7
No education	11	31	42	20
<b>Origin</b>				
Indigenes	65	23	88	41
Migrants	38	86	124	59
<b>Occupation</b>				
Single occupation				
Modified taungya system (MTS)	16	27	43	20*
Farming in off-reserve	10	10	20	9
Others <sup>4</sup>	4	2	6	3
Chainsaw milling	3	1	4	2
Multiple occupations				
MTS and off-reserve f farming	48	47	95	45*
MTS and others <sup>5</sup>	17	19	36	17*
Off-reserve farming and others <sup>6</sup>	2	-	2	1
No occupation	3	3	6	3

\* The calculation of the percentages of MTS farmers in the table was based on the total respondents (n=212).  
Source Field survey, 2010.

<sup>3</sup> Of 212 respondents from Table 8.1, 137 responded to questions for Chapter 9 (see Chapter 3 on methodology).

<sup>4</sup> Included trading, farm labourer, hairdressing, pastoral job, worker of administrator of stool lands.

<sup>5</sup> Included civil service employees (mainly teachers), pensioners, artisans (or handicraft workers) and chainsaw operators.

<sup>6</sup> Included trading and masonry.

*Photos 8.1 – 8.3* Tangible benefits local people derive from MTS in Chirayaso village



*Photo 8.1* Food crops from MTS farms provide local communities with cash and non-cash income.

*Photo 8.2* Madame Beatrice, a proud owner of this house that she could afford thanks to her participation in the MTS in Chirayaso from 2004-2010.



*Photo 8.3* Timber trees established in the MTS represent future income for the farmers who are entitled to 40% of the revenue. Five per cent of the value will go to the village where plantations were established.

*Source:* Field survey, 2010.



**Box 8.1: *Local peoples' views on the contributions of the MTS to their livelihoods***

*Kunsu-Nyamebekyere No. 3 village*

'I couldn't get any land to grow crops and this caused me economic hardship. However, since joining the MTS I have been able to grow crops and get money to support my family.'

*Opayin Kwame*

'I used to be a 'by-day' (farm day labourer), couldn't pay my children's school fees, and was wallowing in poverty, but since I joined the MTS I have been able to pay the fees of my male son up to the senior secondary level. Things have changed for the better ever since.'

*Kwasi Foso*

'I come from Kumasi (Santase) and came into the community in 1994. I own 6 acres of land on which I have planted cocoa and intercropped it with food stuff. When the canopy closed it was difficult to grow food crops. I joined the MTS from 2002-2009 and participated 5 times. I used money from the MTS to pay labourers to weed the cocoa farms, to attend funerals and to build a two-bedroom house.'

*Maame Abena*

'Before the inception of the MTS, the community members could not pay their contributions to community projects but now they are doing well thanks to the MTS. Many of my people have been able to use money from the sale of food crops to erect cement block housing in the village. Furthermore, community members are able to take care of their children and are able to pay for the repairs of the community borehole.'

*Chief of Nyamebekyere*

*Chirayaso village*

'As a woman, I have been able to build a house with the proceeds from the food crop component under the MTS and I have been able to educate my children to the senior secondary school level. If the MTS is going to be stopped, I will not know how to cater for my children and myself.'

*Madam Beatrice*

'I used to be a 'by-day' (farm day labourer) and was unable to feed my children and myself. Since participating in the MTS, I have been able to feed the family and provide for my children's needs. If the MTS were to be stopped, it would be difficult for me to survive since I have no farmland'

*Sister Ama*

'I am now able to enrol some of my children into apprenticeship and cater for their daily needs'.

*Nana C.K.*

Source: Field survey 2010.

## The governing system

This section presents a brief history of the MTS (see Chapter 4 for details) and examines the institutional arrangements that govern the system.

### *Brief historical perspective of the modified taungya system*

The colonial government introduced the taungya system in Ghana in the early 1920s with the primary aim being to obtain a mature crop of plantation timber with a relatively short rotation period (Agyeman *et al.* 2010). The then Forestry Department gave it a boost in the early 1970s by giving farmers access to parcels of degraded forest reserves to plant food crops and establish timber trees. The system became important in Ghana as communities fringing forest reserves were faced with a lack of farming lands whereas the forest reserves were degraded in terms of commercial timber species that needed to be restocked. The system enabled participating farmers to improve household food security. However, in the early 1980s the system exhibited some flaws, including the fact that access to forestland was limited to three years and that farmers had no direct share in the revenues from the harvestable trees they helped to establish.

As a result farmers did not regard it as a priority to pay attention to the trees and in many instances did not plant them at all (Mayers & Kotey 1996, Marfo 2009, Agyeman *et al.* 2010). The old system was classified as a failure, leading to its decline and subsequent abandonment in the late 1980s (Owusu *et al.* 1989). In spite of the above challenges, the forest fringe communities viewed the taungya system as a favourable means of getting access to farmland with no implications of crop sharing or land rent payment.

Thus, repeated requests were made to the government for its re-introduction after which the Forest Services Division (FSD) in the mid-1990s piloted the modified taungya system (MTS) and carried out studies to identify the weaknesses and strengths of the old system (Agyeman *et al.* 2010). Ironically, the taungya system produced better results in terms of forest land restoration than plantations established by the FSD with hired labourers (Affum-Baffoe 2008). In early 2002, the Forestry Commission (FC) of Ghana, through the FSD, initiated the MTS as a co-management approach. The partnership is between the FSD and the forest fringe communities to establish forest plantations in degraded forest reserves for shared benefits. It is a reforestation strategy aimed at restoring the forest cover and creating livelihood opportunities for forest fringe communities through the provision of land to cultivate timber trees and food crops in return for which farmers share in the harvestable timber (see next subsection for more details). The key improvements *vis-à-vis* the old taungya system are increased tenure security and benefit sharing arrangements for the timber revenues that were absent in the old taungya system (Marfo 2009, FC-NPDP 2003).

### *Institutional arrangements*

In 2001 the government of Ghana launched the MTS as one of the key poverty reduction strategies for the forest fringe communities in the country. The objectives of the plantation development programme under the MTS are in line with the overall objectives of the National Forest Plantation Development Programme (NFPDP) (see Chapters 4 and 5). Thus, the MTS became functional mostly in the high forest zone in 2002 and has its basis in some provisions of the Forest and Wildlife Policy of 1994 related to community forestry that encourages reforestation programmes.

Complementing the policy framework is the pursuit of the Forestry and Wildlife Master Plan to reverse deforestation with an annual target of establishing 10,000 ha of

plantations over a twenty-year period (Agyeman *et al.* 2010). From the legal perspective, the MTS is governed by land lease and benefit sharing agreements that clearly state the tenurial arrangements, responsibilities as well as the benefits of each of the parties involved in the scheme.

Within the land lease agreement, the FC is the ‘Lessor’ as the party in charge of the management of the country’s forest reserves and protected areas and their development. The mandate of the FC as the land leaseholder is based in Sections 16(1) and (2) of the Concessions Act 1962 (Act 124) which establish that lands that have been constituted as forest reserves are vested in the President of Ghana’s trust for the stool. The ‘Lessee’ is the group of MTS farmers who participate in the plantations development scheme in the degraded reserves. The farmer is to use the land for the purpose stipulated in the agreement, which is for the planting of trees, being inter-planted with food crops (not cash crops). Within the lease agreement, the purpose of the lease, as well as the obligations and responsibilities of the ‘Lessor’ and ‘Lessee’ and the general stipulations such as ownership rights, benefit sharing, and dispute resolution mechanism are clearly stated (FC 2005). In the interest of this study, Section (8) of the lease agreement states the mechanisms of managing disputes or conflicts as follows:

‘In case of any dispute, difference or controversy arising out of, or in connection with this lease, that cannot be settled amicably between the parties, it shall be settled in accordance with the provisions of the Arbitration Act 1961 (Act 38) and any subsequent amendments by a panel of three arbitrators. Each party shall appoint one arbitrator and the two arbitrators shall appoint the arbitrators who shall be the umpire. The place of arbitration shall be at the arbitration centre, Accra, Ghana, or any other places as the arbitrators and the parties may agree. The language of the arbitration shall be English. The decision of the arbitrators shall be final (FC 2005)’.

The benefit sharing agreement of 2005 outlines four key actors that form the institutional body of the MTS. These are the FC, the farmers involved in the plantations, the stool landowners and the community. The FC, referred to as the ‘investor’, is responsible for the financial management, marketing and technical inputs of the plantation investment. The taungya farmer, referred to as the ‘farmer’, is responsible for the provision of labour and maintenance of the modified taungya plantation. The third party is the ‘landowner’ – generally the stool (see Chapter 5) responsible for guaranteeing access to the land and security of tenure for all parties concerned. The fourth party to the agreement is the ‘local community’ responsible for assisting in the prevention of wild-fire and illegal activities within the plantation. Section (7) of the agreement document outlines how the benefits from the harvested timber trees are to be shared among the key parties. The FC receives 40% of all proceeds obtained from the plantation (i.e. the timber revenues), excluding those from non-permanent food crops unless by mutual agreement with the farmer. The farmers receive 40% of all the proceeds obtained from the tree plantations and all the non-permanent food crops except when agreed otherwise. The landowner and the local community receive 15% and 5% respectively of all proceeds obtained from the tree plantations, excluding proceeds from non-permanent food crops. The MTS scheme across the country has a mixture of both indigenous timber tree species (e.g. *Mansonia altissima* (oprono), *Terminalia superba* (oftam) and exotic timber species (e.g. *Tectona grandis* (teak) and *Cedrella odorata* (cedrella)). Timber tree species for a specific forest reserve are selected by the Forest Services Division. Tree seedlings are sometimes supplied by the FSD, while at some plantation sites farmers are allowed to grow seedlings in nurseries, for which they are paid by the government.

Generally, no cash crops such as cocoa are allowed to be integrated with the timber trees, only food crops can be inter-planted, with the exception of cassava. According to Insaïdoo *et al.* (submitted) the ban on planting cassava in MTS farms is motivated by the fear that it will compete with timber seedlings. Such a ban does, however, prejudice farmers' livelihood portfolio, as cassava is their staple crop.

In order to strengthen the MTS groups, the FC, in consultation with some key forest stakeholders from the local communities, university, civil society and other government institutions, drafted a constitution that must be adopted by each MTS group to guide the governing of the groups. The constitution includes sections that outline: (i) the name of the MTS group, (ii) objectives, (iii) members, (iv) structure, (v) details about the disbursement of the 40% benefit share, (vi) sanctions, and (vii) transfer of ownership of benefits, dissolutions and amendment of the constitution.

The transfer of ownership of benefits, which is meant to minimise potential inheritance conflicts states that:

'A group member may transfer his/her share of right, after the entire group agrees to it, when:

1. Any member may bequeath his/her right at any time if s/he so desires and s/he should be of clear and sound mind.
2. Any group member in his own free will wants to transfer the plantation to his next of kin. If any member dies, the executives shall in consultation with the deceased family, accept the next of kin to replace the deceased and to collect his part of the benefits' (FC 2010).

Article (8) of the drafted MTS constitution also states that:

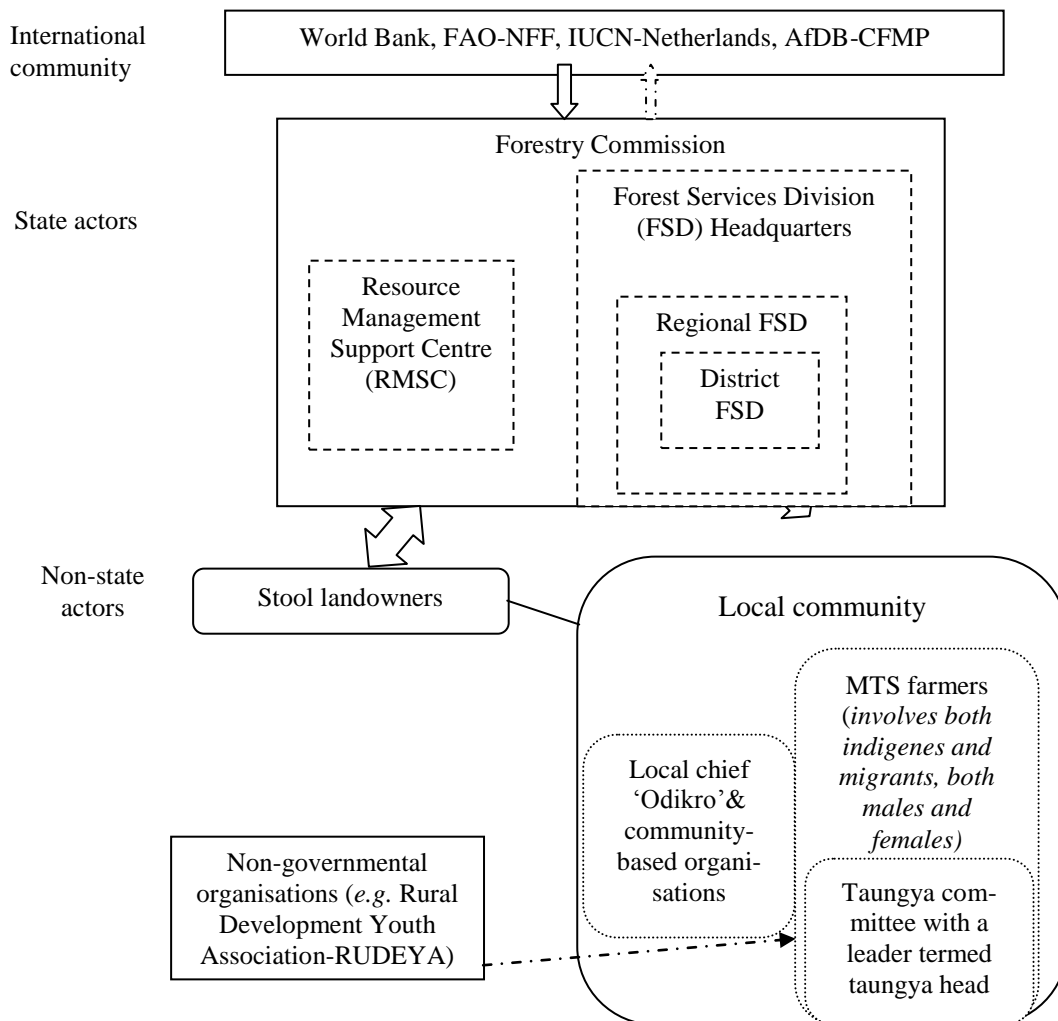
'A collective agreement shall be signed between each community MTS group and the FC. The group will be represented by the Chairman and an ordinary member elected by the group member who will be a witness'.

The constitution refers to a disbursement procedure of the 40% benefits among the farmers and their involvement in the negotiation of price and sale of the trees at final harvest (FC 2010).

Based on the institutional arrangement outlined above and in Figure 8.3, rather than a co-management arrangement in the narrow sense (i.e. between the FC and local communities), the MTS is a partnership involving both state and non-state actors as well as the international community (i.e. development partners). In practice, the district FSD allocates degraded portions of the forest to interested farmer groups in the communities. Prior to that, the taungya leader and the taungya committee members are elected. This local management committee is responsible for the further allocation of the MTS plots to the farmers, who are commonly known as the 'taungya farmers'. These farmers are those who actually establish the plantations with supervisory and technical assistance from the FSD.

At national level, the FC is responsible for the generation and management of the operational funds, which come from its own budget as well as the Forest Plantation Development Fund established in 2000 under Act 583 (amended Act 623 of 2002). Similarly, some key international institutions have supported the scheme, such as the World Bank and the African Development Bank (AfDB) (through the Community Forestry Management Project. In 2009 and 2010, a local non-governmental organisation, the Rural Development Youth Association (RUDEYA), in partnership with the International Union for Conservation of Nature (IUCN), which also supported the registration of about 600 modified taungya farmers who are holders of about 50 ha of timber planta-

Figure 8.3 The partnership arrangement within the modified taungya system (MTS) in Ghana



Key: AfDB-CFMP = African Development Bank-Community Forestry Management Project; FAO-NFF= National Forestry Facility of the United Nations Food and Agriculture Organisation (FAO); FSD = Forest Services Division; IUCN-Netherlands = International Union for Conservation of Nature; MTS = Modified taungya system.

tions in the Tano-Offin Forest Reserve. In order to make the arrangement more robust, the National Forestry Facility (NFF) of the United Nations Food and Agriculture Organisation (FAO) provided funds in 2010 through the Resource Management Support Centre (RMSC) of the FC to support the registration process which gives legal recognition to the farmers in the partnership (see Figure 8.3).

### From images to action: Forest fringe communities' perceptions of conflicts and conflict management

This section examines the elements of first order management of conflicts relating to the MTS (i.e. the images, instruments and actions). The study identified different conflict issues within the arrangement, which were grouped into three main categories. These are conflicts related to institutional and operational arrangements, conflicts resulting

from competing claims, and anticipated conflicts resulting from uncertainty about the future. Respondents indicated that each category represents a number of issues as well as different actors involved in the conflicts (Figure 8.4). The next subsections present the nature of each conflict category and highlight the images (type of conflict, issues, actors, causes and dynamics) as well as the instrument or strategies these conflict actors and their external actors employ to address these challenges. Subsequently, the actions proposed by the study respondents are discussed based on the three conflict categories.

*Table 8.3* Respondents' perceptions of conflict issues related to institutional/operational arrangements (N=192)

Conflict type	Conflict issues	Chirayaso		Kunsu-Nyamebekyere No. 3		Total %
		Frequency	%	Frequency	%	
Intra-group	• Boundary-related issues	35	18	79	41	59
	• Disproportionate allocation of forestland	52	27	10	5	32
	• High fee payment for land preparation	4	2	2	1	3
Inter-group	• Farmers failing to plant timber trees	3	2	7	4	6

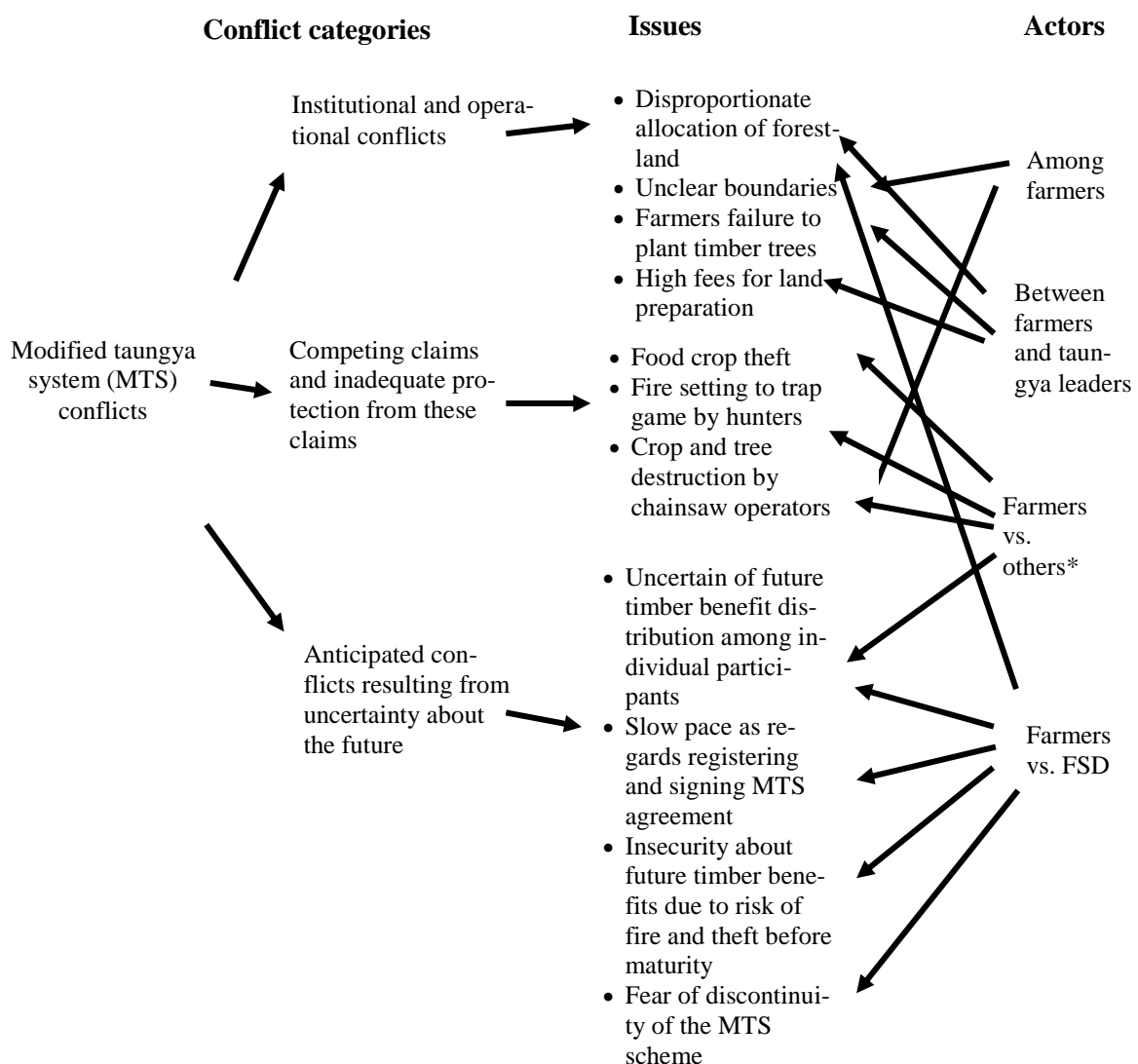
*Source:* Field survey, 2010.

#### *Conflicts related to institutional and operational arrangements*

The study identified three intra-group and one inter-group institutional and operational conflict issues (Table 8.3). These were mentioned by the majority of the respondents (N=192) representing 91% of the total respondents. The intra-group conflict types are boundary-related issues, the disproportionate allocation of forestland and high fees for land preparation incurred by farmers and between farmers and their leaders. The inter-group conflict type is crop destruction by the FSD due to the unwillingness of farmers to plant trees on their plots. Generally speaking, conflicts in Chirayaso with regard to the disproportionate allocation of forestland were referred to relatively more often (27% of the respondents), whereas in Kunsu-Nyamebekyere No. 3 the majority of the respondents (41%) reported boundary-related conflicts. Both antecedent and manifest causes of conflicts were identified in this conflict category. Three key drivers trigger the boundary-related conflicts. First, such conflicts occur when a person trespasses onto another person's plot, as often occurs in the case of farmers who share a common boundary, partly because the initial boundary lines<sup>7</sup> marking the demarcation of individual plots are distorted by weeding and burning. Secondly, the nature of the forest terrain contributes to unclear boundary lines between the plots. The third driver of such conflicts is greed and selfishness, which result in intentional trespassing by a neighbour and contribute to an atmosphere of mistrust and misunderstanding among the farmers.

<sup>7</sup> During the allocation of the degraded portion of forest lands, the range supervisor and forest guards, together with the taungya committee leaders, demarcate the allocated coupe for a year. Large trees are often removed by hired labourers with contributions from the group before the plots are divided among the members. Depending on the area assigned, each member receives at least a one acre plot. Boundaries between plots are often, but not always, marked by a stump, pegs or trench. Since boundary markers are not permanent, they easily burn and are covered up by the soil, which potentially leads to boundary disputes in the future.

Figure 8.4 Conflict categories displaying the issues and actors



\* Others include food crop thieves, chainsaw operators and hunters

With regard to the disproportionate allocation of forestland, 32% of the respondents accused the MTS leaders of greed, selfishness and favouritism during land distribution which had resulted in some people being denied land and allowing others to take more plots and occupy the most fertile portions of forestland. Such incidences were reported more frequently in Chirayaso (by 27% of the respondents), where most of the youngsters in the village were denied access to taungya plots (see Box 8.2). Another intra-group conflict type is related to the alleged high fees collected by the taungya leaders from the MTS members for land preparation. Moreover, in the process of collecting money, conflicts arise due to: (i) taungya leaders not paying and yet allocating extra plots to themselves and (ii) the denial of farmer access to a plot because of a failure pay the required contribution. In relation to the latter, some farmers believe the fees are exorbitant and deprive poor farmers of access to plots, whereas farmers who are financially better off are capable of accessing extra plots for farming.

A farmer's failure to plant trees despite several warnings by either taungya leaders or the FSD results in crop destruction by the FSD. The respondents were of the opinion that both the farmers and the FSD should share the blame because some farmers deliberately refuse to plant trees based on their belief that trees impede the development of the food crops if they are planted first. On the other hand, delays in the supply of seedlings by the FSD also affect the survival and growth success of the seedlings.

Boundary-related conflicts were mentioned more frequently in Kunsu-Nyamebekyere No. 3 (41%) than in Chirayaso (18%). They triggered multiple effects in the villages, including arguments, fighting, misunderstanding, quarrels, hatred, summons from the authorities (chiefs, elders and taungya leaders), illegal farming, a loss of interest in engaging in the plantation scheme, the destruction of crops, disagreements and threats.

Boundary-related conflicts occur during land preparation when the vegetation is burnt and boundary lines become blurred, and also occur during plot distribution in the planting season, when people encroach on each other's plots. The study revealed that most respondents (53%) classify boundary-related conflicts as non-violent, with only 8% reporting them as being violent (Table 8.4).

*Table 8.4* Respondents opinions about conflicts severity

Conflict issues	Frequency (n) and percentage (%) in the two communities(N*=185)					
	Chirayaso		Kunsu-Nyamebekyere No. 3		Total	
	Non-violent	Violent	Non-violent	Violent	Non-violent	Violent
Boundary-related issues	30 (16%)	5 (3%)	68 (37%)	10 (5%)	98 (53%)	15 (8%)
Disproportionate allocation of forestland	41 (22%)	9 (5%)	7 (4%)	-	48 (26%)	9 (5%)
Destruction of food crops by FSD officials	3 (1%)	-	6 (3%)	-	9 (4%)	-
Payment of fees for land preparation	4 (2%)	-	2 (1%)	-	6 (3%)	-

\* Seven respondents who reported conflicts of this category did not respond to this question.

Conflicts arising because of the disproportionate allocation of forestland cause grievances and protest, which almost resulted in violent clashes, especially in Chirayaso village. However, prompt intervention by the FSD official in charge of the area and the chief and elders of the village helped to ensure a peaceful end to the demonstration.

Other effects mentioned were quarrels among disputants, which often involved the invoking of 'gods' (curses<sup>8</sup>), and fighting that occasionally resulted in injuries. This type of conflict is seasonal and occurs during plot allocation and is perceived as non-violent.

Similarly, according to the respondents, the destruction of crops by the FSD results in feelings of hatred, fighting, misunderstandings and land confiscation by FC officials.

<sup>8</sup> Invoking of 'gods' (curses) is a local way of dealing with problems, and employed especially when a person is falsely accused. The accused person calls on the 'gods' to be a mediator or judge in the conflict situation. It has spiritual implications. If the accused person is indeed innocent, then the accusing person gets sick until some rituals are performed to help him or her to recover or to die peacefully.



**Box 8.2** *Conflict scenario and conflict management processes in the Chirayaso community*

**Conflict type:** Conflicts arising from disproportionate allocation of MTS plots among MTS farmers.

**Conflict issue:** Some of the people in Chirayaso did not gain access to forestland under the MTS during the 2009 allocation season.

**Conflict actors:** This conflict involved the executives of the MTS and some citizens of Chirayaso who were denied access to an MTS plot for farming.

**Causes and effects of the conflict:** The disproportionate allocation of plots by the executives resulted in about 58 community members not having access to MTS land to farm. The people who did not gain access to the land demonstrated in the community with red clothes tied around their wrist and head to indicate the seriousness of the problem. The matter was then reported to the chief and elders as well as to the FSD official in charge of the area. Some days were set for resolution processes to take place.

**Mode of conflict management: facilitation, mediation and field verification**

The conflict management approaches employed by the mediators in 2009 were a blend of facilitation and mediation, with key mediators being the FSD field official and the chief and elders. Other actors present in the management process were the taungya executives, forest guard, beneficiary taungya members, representatives of demonstrators (aggrieved farmers), and a teacher who acted as a secretary. The FSD official facilitated the resolution process by asking the taungya head to explain the allocation process used to distribute plots to the people. The head declared that the number of plots allocated was 120 plots (15 ha) measuring 25 by 50 m for each farmer. The opportunity was given to the demonstrators to respond, but nobody disputed the head's pronouncement. The facilitator therefore said the process of dividing the demarcated area by the leaders was wrong because it should have been twenty-eight hectares instead of fifteen. He also said that the taungya leaders did not adhere to his instructions and asked for the list showing the number of people registered for the scheme (139 people). However, it was ascertained that 123 people had been registered instead of the 139 referred to by the taungya head. During the process, a person commented that the taungya leaders had taken four plots each instead of one plot to be allocated to the farmers. Nevertheless, the women among them argued that, in view of the task of the taungya leaders, they should be entitled to the four plots to which the audience agreed. Thirty-two plots were therefore given to the eight taungya leaders, leaving a balance of eighty-eight<sup>a</sup> plots to be shared among 139 people. It was realised that fifty-one<sup>b</sup> people would then not have access to the plots and, in order to provide for these people, the FSD official, together with the chief and elders, called for field verification. The resolution process was also used to elect new taungya leaders, with the rationale being that the old leaders had been involved in the disproportionate allocation of MTS plots and allegedly had taken money from some farmers without providing them with plots. The chief asked the FSD official to investigate the monetary issue to unearth the truth of the matter.

*(continues)*

*(cont'd)*

The second resolution session took place in the field to verify the names of the farmers against each documented plot. The FSD official and the old and new leaders of taungya visited the designated plots in the forest in the company of some community members. The verification began when the FSD official started calling the names of people to stand beside their plots. Plot 12 was declared as being owned by the taungya head. However, plot 12 was not among the plots allocated to the taungya heads. Similarly, the owners of plots 15 and 16 were not identified, and there was controversy about who owned plots 26 and 27. Upon seeing that the claims made by the agitated farmers against the leaders were true, the FSD official did not continue the verification process because the discrepancies were obvious. Instead he provided the 58 demonstrators with additional portions of the degraded area to restore peace within the community. However, he reprimanded the old leaders for their action and warned the new leaders not to engage in such act. After the field visit, the FSD official and the taungya leaders visited the chiefs' palace, where he debriefed him on the incidences that happened during the inspection and informed the chief and elders of the actions taken.

#### **Actions taken**

- ✓ The facilitator provided the demonstrators with portions of degraded land to restore peace to the community.
- ✓ It was agreed among community members that executives should have 4 plots of land, compared to one each for ordinary members.
- ✓ The FSD official promised the chief and elders to investigate the monetary issues.
- ✓ New executives were elected.

<sup>a</sup> Consequently, 88 plots still need to be shared instead of 91 as reported in the minutes.

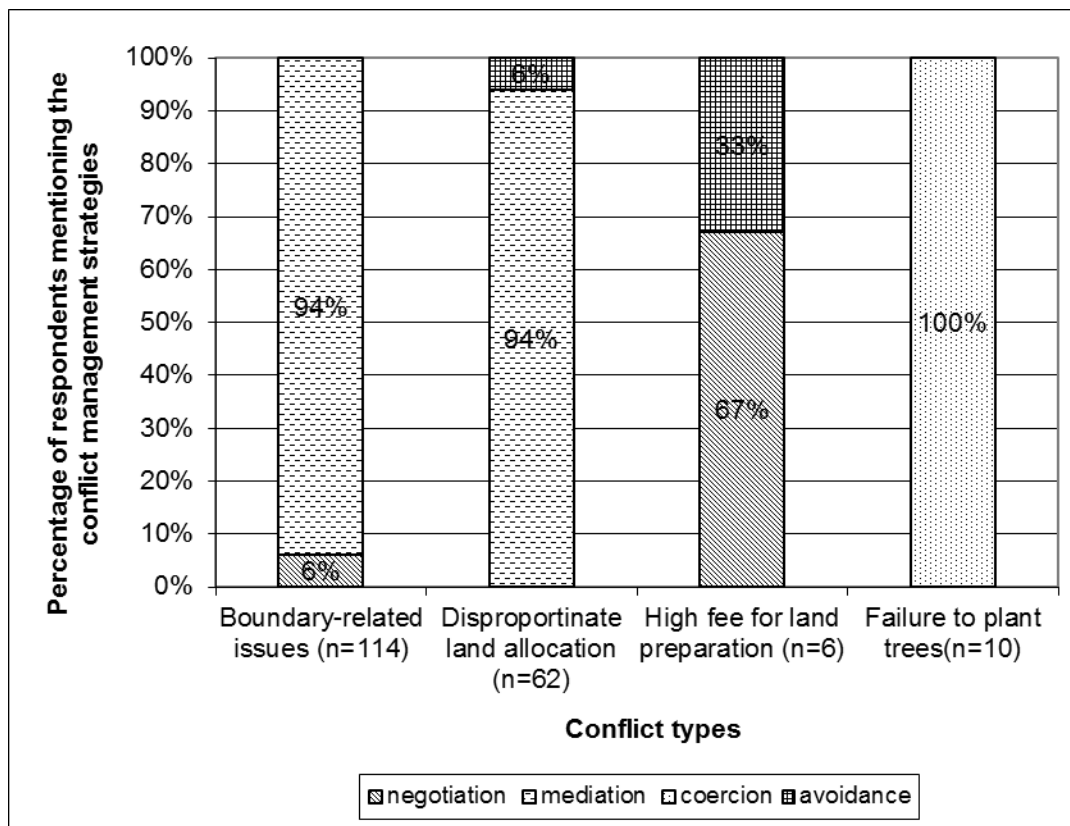
<sup>b</sup> The number of people who did not get access to the plots is 51 instead of 54 as indicated in the minutes due to a wrong calculation.

*Source:* Minutes of the conflict management committee at Chirayaso (2009).

In Chirayaso, for example, the denial of plots despite fee payment resulted in a demonstration that led to extra demarcation of land to the aggrieved farmers.

Within the conflict category of institutional and operational conflict, the actors involved use a blend of conflict management approaches to manage the conflict incidences (Figure 8.5), with mediation preventing boundary-related conflicts and conflicts about the disproportionate allocation of MTS plots by MTS executives (94% of the respondents referred to the respective conflict categories). Mediation was also used to resolve non-payment of fees for land preparation (67% of the respondents referred to this conflict category). Dialogues, the re-demarcation of plots to clarify boundary lines or plot re-allocation were often used to complement mediation. The most frequent approach is for taungya leaders to resolve conflicts that involve two ordinary farmers. However, in the case of conflicts that involve aggrieved farmers and taungya leaders, mediation parties like the chief and elders and the range supervisor(s) are called in.

Figure 8.5 Conflict management strategies employed in the institutional and operational conflict category (N =192)



Source: Field survey 2010.

Negotiation was reported to be used in boundary-related issues where farmers agree to mutually resolve their differences amicably (referred to by 6% of the respondents reporting on this conflict category). Coercion was mentioned exclusively in relation to conflicts arising from farmers refusing to plant trees and as the sole strategy to ‘solve’ these conflicts, and referred to the force applied by the FSD when it destroys crops of the disobedient farmers.

#### *Conflicts resulting from competing claims*

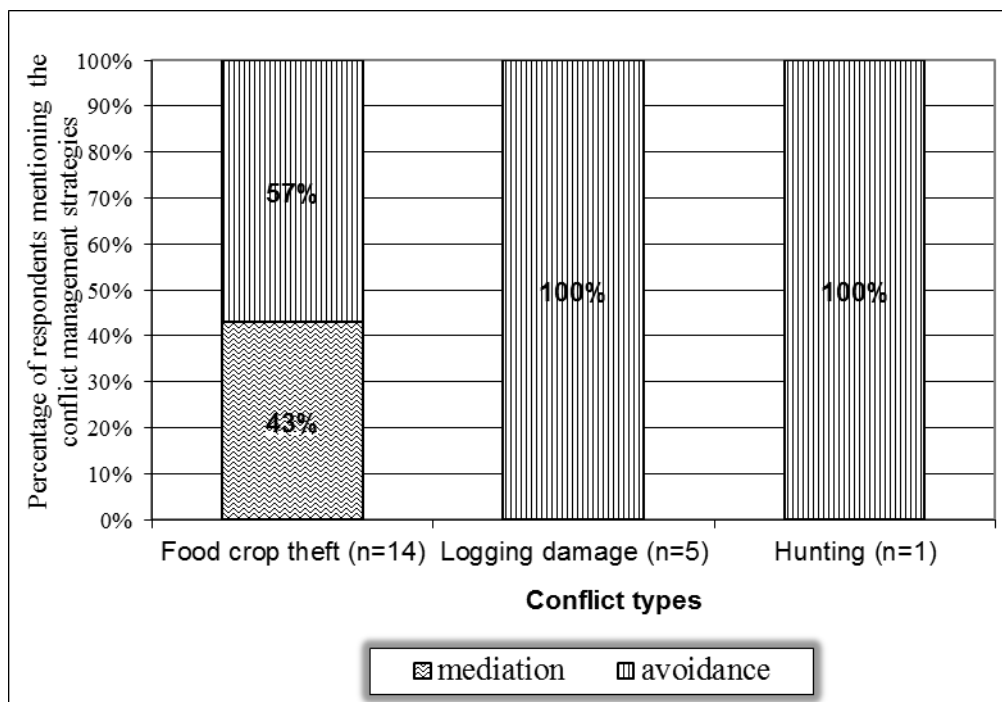
Twenty respondents (9% of the total of 212 respondents) mentioned three conflict issues in this category. The issues are food crop theft, the destruction of crops and trees through the use of fire for hunting<sup>9</sup> and crop and tree damage by chainsaw operators. All these issues are inter-group conflicts that occur between farmers and actors outside the group. Within this category, the majority of the respondents (70%) mentioned food crop theft, while 25% of the respondents reported logging damage by chainsaw millers. Only one person reported the conflict between farmers and hunters. Crop damage by chainsaw millers occurs during the illegal felling of trees, especially when the farmer is absent from the field for some time. Respondents perceived the motives behind the actions

<sup>9</sup> Hunters light firewood and leave it at the entrance of holes where games like rats hide. The smoke from the firewood prevents the animals from escaping.

of the chainsaw millers to be greed, but with a manifest cause of refusal to pay compensation. In most instances, the offenders are not found but, when identified, the parties employ negotiation with compensation paid to the farmer to resolve the conflict.

Conflicts emanating from food crop theft prevail among farmers or between farmers and other community members. Poverty or greed is perceived as the underlying causes of such conflicts, which are characterised by agitation and suspicion, especially when the offenders are not caught. The respondents revealed that such incidences are often reported to the chief and his elders or to the Unit Committee members. In the case of the offender not being identified, the chief issues a warning to the citizenry to desist from the act through a public announcement (the beating of the local gong-gong). If the offender is arrested, the chief and elders in the company of the Unit Committee try to resolve the problem through mediation (Figure 8.6).

Figure 8.6 Conflict management strategies employed in the competing claims category (n=20)



Source: Fieldwork 2010.

In this conflict category, avoidance was reported to occur in all the three issues, with the result being that some conflicts were never resolved because disputants pretended not to recognise their existence or offenders were not seen. These kinds of conflicts were all characterised as non-violent.

*Anticipated conflicts resulting from uncertainty about the future and means of overcoming them*

Even though the above conflict categories are mostly managed amicably, the local people anticipated potential conflicts in the near future. The first issue is how to share the 40% of the timber revenue among individual farmers when the trees mature. The basis of this concern is that the 40% share benefit is assigned to the group as a whole despite

the farmers establishing their tree plots with different degrees of success which means that it will be extremely difficult to identify individual farmers' planted trees and measure their exact contribution to the scheme at the end of the rotation period. In other words, the farmers are going to be entitled to an equal share, which they consider to be unfair. The second issue mentioned is the slow pace of signing the agreement between the FC and the MTS farmers, as a result of which farmers are concerned about the legal status of their benefit-sharing rights. The third issue of concern is the litigation among families or some group members when the original beneficiary passes away. Finally, farmers are concerned about the lack of security against the incidence of wildfires, theft or illegal felling and about the continuity of the MTS, since forestland was not released to farmers in the 2009 and 2010 planting seasons. In trying to deal with these anticipated conflicts, discussions were held with farmers and FC officials on different platforms to identify possible interventions to minimise or prevent these anticipated conflicts.

From the farmers' perspective, they have been registered by the FSD but have no copies of the registration forms to serve as evidence. According to the farmers the availability of such documents would enable them to know the area that has been cultivated by each participating farmer as the registration form contains the personal data of the farmer and a description of the plantations established. Furthermore, the form includes passport-size pictures of the beneficiary farmer, the beneficiary's name, how many plots / blocks of land each farmer has cultivated, as well as who is the next of kin in the event of a beneficiary's demise. As such records facilitate the benefit-sharing procedure, copies of the registered forms should be kept with the farmers. Farmers also requested a share in the tree benefits before maturity to be realised through thinning or other means. Farmers argued that some of them will be old by the time the tree benefits are shared and that they therefore need intermediate tree benefits because they may not live long enough to see the end of the rotation period when the trees are harvested. Finally, the farmers urged the government to reconsider the decision of not continuing the MTS if indeed that was the government's intention. They asserted that the absence of MTS in about a year or two would result in food scarcity and poverty. According to the respondents, such a scenario would have serious implications for their children's education and family harmony and lead to lawlessness, including forest encroachment.

In response to the complaints about the slow pace of the registration process, the FC respondents revealed that the key challenge is the amount of work involved in getting all the MTS farmers registered across the country. The FC does not have enough personnel to undertake the activity. Coupled with the amount of work, the FC is also grappling with the design of an efficient database system to capture and store all the data about the farmers. Several processes of designing and redesigning have indeed taken place which have all been aimed at ensuring efficiency in capturing, recording and retrieving the data. The third challenge referred to relates to the funds needed to undertake the registration process. In 2010, as a means to overcome this, the FC sourced funds from the National Forestry Facility (NFF) of the United Nations Food and Agriculture Organization (FAO) to help address some of these problems. The FC officials believe that the endorsement and acceptance of the MTS agreement by the Government of Ghana, which is enshrined in various laws, provides some assurance of security for farmers. The officials revealed that the benefit-sharing agreement recognises thinning as a potential means of providing intermediate benefits to stakeholders. However, the first thinning has yet to take place, despite it being long overdue for the older stands. Offi-

cials were reluctant to discuss the issue of scheme continuity but disclosed that, from the legal perspective, the government (FC) cannot easily abrogate such an agreement.

### *Actions*

Farmers involved in the study made some suggestions for further improvements of the MTS co-management arrangement. As a strategy to minimise coercive action, the respondents asked for periodic education of farmers on the principles (do's and don'ts) of the MTS, backed by regular monitoring by both MTS leaders and FSD officials to help check on farmers who decline to plant trees at the specified times. They also proposed the development of mechanisms for the early detection and resolution of misunderstandings among farmers before they escalate into conflict situations. In order to improve the prospects for the food crop component of the scheme, the farmers called for a wider tree planting distance of 6 m x 6 m instead of the present 3 m x 3 m spacing. This would allow them to cultivate food crops on their tree farm for more than the usual three years until canopy closure, after which they cannot cultivate light-demanding food crops anymore. The wider the spacing, the longer it takes for the tree canopy to close, thereby extending the period during which food crops can be cultivated.<sup>10</sup> This enables them stay longer on a piece of forestland and derive more benefits from it, while also creating an incentive to maintain the trees, with positive effects on the quality of the timber stand. The rolling out strategy of the MTS scheme proposed by the FC is presented in Box 8.3. Under this scheme, the MTS generates income from food crops in years 1-4, from tree thinning in years five, somewhere between year ten and twelve and in year eighteen, and from tree harvesting in year twenty-five.

#### **Box 8.3** *Rolling-out strategy of the modified taungya system scheme (mostly for exotic species such as teak)*

Years 0-4	: Food cropping and tending of timber tree plantations
Year 5	: First timber tree thinning
Years 5-10	: Tending of tree plantations
Years 10-12	: Second timber tree thinning
Years 13-17	: Tending of plantations
Years 18	: Third timber tree thinning
Years 19-24	: Tending of tree plantations
Years 25	: Clear felling of trees plantations (final harvest)

*Source:* Adapted from Forestry Commission agreement schedule C (2002).

## Conflict outcomes and their effects on governance arrangements

Some of the conflict outcomes analysed in the previous sections influenced the functioning of the MTS in a positive manner. Concerning the disproportionate allocation of forestland by the taungya leaders to themselves, farmers from one community (Chirayaso) reported on some lessons learnt that had led to the improvement of the system

<sup>10</sup> Productivity will, however, decrease when trees mature, also with wider spacing, due to shading effects (Thomas Insaadoo, KNUST, pers. comm. October 2011).

during the 2009 planting season. Because of the demonstration by the aggrieved farmers, the conflict management process started with field verification by a field team consisting of FSD officials, representatives of chiefs and elders, the aggrieved farmers and the taungya farmers, to ascertain the alleged accusation against the leaders. The field team findings confirmed the alleged malpractice. This resulted in four decisions being taken by the conflict management actors in the presence of the entire community. First, the 58 aggrieved farmers were promised new plots of degraded land. Second, it was agreed that the executives should have four plots of land instead of one received by ordinary members to compensate for their leadership. Third, old taungya executives who were involved in the disproportionate allocation were replaced with newly elected ones and, finally, the chief and elders tasked the FSD officials to investigate the alleged exorbitant fees as made clear in Box 8.2.

The outcome of the coercive action taken by FSD officials against disobedient farmers who failed to plant timber trees on their plots resulted in the exclusion of uncooperative farmers. Respondents did not clarify whether the FSD officials also learnt to supply the seedlings at the onset of the planting season. Respondents disclosed that it is difficult to ascertain the impacts of conflicts associated with food crop theft, destruction of crops and trees through the use of fire for hunting and illegal chainsaw operations, because more often than not the offenders abscond and hence the resolution processes does not take place. However, the public announcements to warn offenders sometimes result in a temporary reduction of theft incidences. Disputes concerning farm boundaries are settled by Taungya heads, sometimes in collaboration with village chiefs and elders as well as FSD officials. However, this process does not help to solve the underlying problem because boundary-related conflicts resurface every year. The FSD regarded the solution proposed by the farmers to prepare the land before allocation as being unacceptable due to the labour and other costs involved. This has therefore become an unresolved conflict that will resurface in the near future.

Regarding the anticipated conflicts arising from tenure security and uncertainties, the FC has secured donor funds to register all farmers and address outstanding issues concerning the agreement.

## Discussion

Through the Forestry Commission the government of Ghana embarked on a co-management approach to restore degraded forestlands under the modified taungya system after having drawn lessons from the old taungya system, in relation to which several problems and conflicts had surfaced. It is the first collaborative arrangement between farming communities and the FC with legal backing, clearly defined institutions and a benefit-sharing scheme. Echoing Marfo (2009), the MTS represents a significant tenure reform in which, for the first time in Ghana, local communities and individuals have direct ownership rights over trees in state forest reserves and specifically prescribed benefits through mutual agreement.

The institutional framework shows a partnership of stakeholders ranging from state and non-state actors to the international community which indicates the diversity of actors and the multi-faceted character of the arrangement. The contractual agreements between the FC and MTS groups offer the taungya farmers some formal powers in terms of leasehold over land and access to the forest reserve to farm, with the decision-

making responsibilities of the taungya committees as well as the farmers being quite circumscribed.

The MTS operations are not devoid of conflicts but the outcome of most of these conflicts helped to continue shaping the system. This confirms the notion that conflicts are a means of social learning to improve a situation, and therefore serve as positive capabilities (Burgess & Burgess 1996, Glasl 1999).

The institutional and operational conflict type was the prevalent conflict category mentioned by most (91%) of the respondents in the survey. The conflicts mostly occur either among the farmers or between farmers and the MTS committee members because of unclear boundary issues, the disproportionate allocation of forestland by the MTS committee members and fees charged for land preparations which were perceived as exorbitant. These may have roots in the institutional framework of the MTS that mandates the taungya leaders to allocate the demarcated lands into plots to the farmers. These leaders sometimes abuse this power, resulting in the reported conflicts. As a learning process, local communities, traditional leaders and district level FSD officials have learnt to use the conflict management process to bring fairness to the system, as seen in Chirayaso. The only unresolved conflict issue that occurs between the FSD and the MTS farmers is the failure of disobedient farmers who refuse to cultivate timber trees alongside their crops, on which the FSD responded by destroying the crops of these farmers. Both antecedent conditions and manifest behaviour prevail as conflict causes with varied effects such as fighting, quarrels, verbal exchanges and demonstration issues. Nevertheless, apart from a few indications of violent incidences reported in boundary-related conflicts and conflicts about the disproportionate allocation of plots to taungya leaders, most of the respondents viewed all the four conflict issues as non-violent. Mediation was the lead strategy employed in almost all the conflict issues mentioned and involves mediators such as chiefs and elders, Unit Committee members and FSD officials. The fact that mediation is the key strategy employed indicates that the conflict issues were difficult to resolve among the parties on their own and required a third party to intervene. Coercive actions by the FSD officials, resulting in the destruction of crops of farmers who failed to plant trees even after several warnings, are not in conformity with the dispute resolution mechanism stipulated in the benefit sharing agreement, which calls for arbitration (FC 2005). Such action by the FSD must not become standard in the MTS programme since it creates hostility between the FSD and the local communities. Instead, regular education and monitoring by the officials may have a more positive effect on the attitude of the recalcitrant farmers. In the case of avoidance, which occurs when the party who is demonstrating manifest behaviour disappears, both parties lose without them coming together to decide on a resolution.

The second conflict category (i.e. competing claims) occurs mostly between the farmers and people outside the group due to different actors claiming different or similar resources from the scheme based on need, interests, power positions or greed. This confirms the notion that different claimants with perceived or actual incompatible goals or limited resources are behind every claim (van Oosten 2011). The key actors in this conflict category are the farmers on the one hand and hunters, chainsaw millers and mostly unknown food crop thieves on the other. In this conflict category, incidences are often non-violent and the resolution process occurs through negotiation, mediation or avoidance. Interestingly, the majority of the respondents perceived the current intensity of conflict in the scheme as non-violent. This indeed indicates that the conflicts are manageable. Nevertheless, non-violence does not automatically mean an absence of



conflicts. It just shows the different ways the respondents perceive conflicts and through which lens they see the conflict incidences. In almost all the current conflict issues, the local traditional leaders (*'Odikros'*) were involved in the conflict management process despite the low profile role given to them in forest management in Ghana (Ghana Constitution of 1992, Mayers & Kotey 1996). For instance, the public announcement through the beating of the gong-gong has positive effects on food crop thefts. This clearly indicates that the role of the customary governing structure in forest management cannot only be enshrined in a benefit sharing arrangement for the paramount chiefs, but that traditional authorities must be actively involved in aspects of forest management with legal recognition.

The last conflict category is the anticipated conflict issues, such as the sharing of 40% of the tree revenues among the farmers once the trees have been harvested, the slow process towards signing of MTS agreement, the security of the trees until maturity and uncertainty surrounding the continuity of the scheme. These anticipated conflicts by the farmers can be minimised if the FC proactively engages in the registration process and educates the farmers, especially in the adoption of the drafted constitution. This would resolve most of the anticipated conflicts as some intervention strategies are already outlined in the drafted constitution, but are unknown to the communities. Joint decision making is a key component of co-management arrangements (Singleton 1998). The FC should use the sourced funds not only to redress the institutional inefficiencies regarding the MTS registration process and data management system, but also to strengthen its partnership with the communities using an adaptive co-management approach. Folke *et al.* (2002: 20) define adaptive co-management as 'a process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, ongoing, self-organized process of learning-by-doing'. Adaptive management and co-management have been evolving towards a common perspective because adaptive management without collaboration lacks legitimacy, and co-management without learning-by-doing does not develop the ability to address emerging problems. Maturing co-management arrangements become adaptive co-management in time, through successive rounds of learning-by-doing (Olsson *et al.* 2004, Armitage *et al.* 2007). An equally important element is to address farmers' uncertainties about the continuity of the MTS. Although there is no official announcement that the MTS will be discontinued, farmers believe that the scheme is gradually dying out because no new plots have been allocated to them for two consecutive years. Due to uncertainty on the part of the local communities regarding the continuity of the scheme, there is a high level of speculation which, in itself, could be a basis of new conflicts. Such a situation creates multiple frames that undermine the co-management arrangement. The fact that the farmers have not officially complained in writing to the FC about their concerns not only indicates the low capacity of the farmers to engage in a constructive dialogue with the FC but is also a sign of weak local forest governance in which hierarchical governance dominates. It is also evidence of the unlevel playing field for both actors in the partnership, with the community level partner tending to lose out because of a lack of 'voice' and power to express its concerns. As asserted by Carlsson & Berkes (2005: 64) a command-and-control kind of resource management is a recipe for ecological uncertainty. The abrupt discontinuity of the scheme means that one key syndrome of ecological uncertainty that may occur in the forest reserve could be the proliferation of illegal farming.

The analysis in this chapter has shown that the current system which is in operation has not entirely been a continuous problem-solving process (Carlsson & Berkes 2005). This is because, in terms of decision making, it portrays features of a fixed state system which is meant to serve the interests of the FC rather than of a process that embraces joint decision making for the benefit of both parties. However, at operational level, the MTS arrangement has indeed been a learning process during which problem solving helped to improve the scheme. Similarly, at policy level, the FC's ability to secure funds to address some key institutional challenges is a development in the right direction. However, the lack of clarity regarding the possible discontinuity of the scheme may undermine the potential of the MTS as an effective co-management arrangement where lessons are learnt which can be used to continue improving forest governance.

## Conclusion

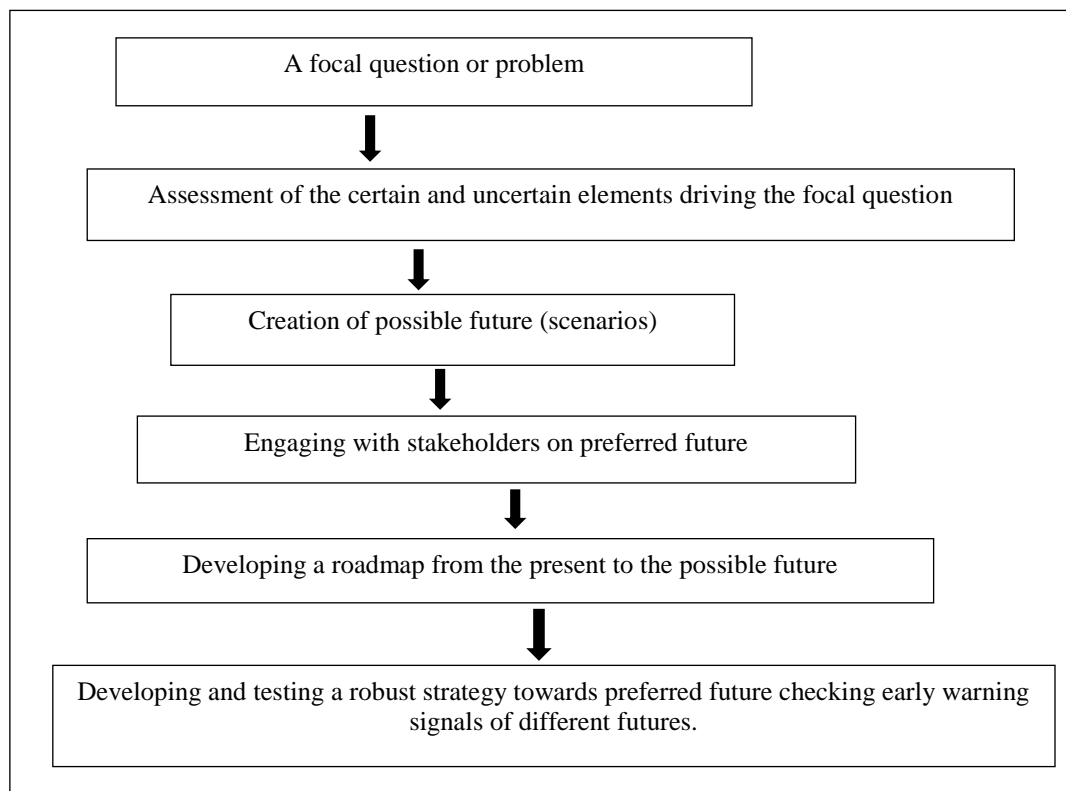
The MTS arrangement has legal backing, clearly defined institutions and a benefit sharing arrangement that involves multiple actors. The three conflict categories identified around the MTS relate to institutional and operational problems, competing claims and anticipated conflicts and these are managed with a blend of conflict management approaches with mediation prevailing. The chapter also revealed that the MTS has indeed been a learning process in which some conflict management outcomes have been able to improve the system. However, the inability of the FC to provide a clear direction for the future of the scheme tends to undermine the MTS as an effective co-management arrangement by which lessons are learnt for further governance improvement. At present farmers are unable to engage effectively in a constructive dialogue with the FC as equal partners in a co-management scheme. It is therefore necessary to strengthen their competencies, since this will enable them to articulate their concerns and negotiate their rights.

With a view to the future, recommendations have been presented for consideration in connection with the implementation of the MTS.

### *MTS implementation*

1. Weak consultations with local people result in conflicts which add to the insecurity about the sharing of timber benefits in the future. In view of this, forest managers need to consider an adaptive co-management approach in which participatory scenario planning is employed to overcome the uncertainties within the co-management arrangement. Such an approach will help create a learning process to improve the system. Scenario planning (Figure 8.7) helps stakeholders to cope with uncertainty, not by eliminating it, but rather by framing it and by understanding the range of associated implications (Wollenberg *et al.* 2000: 71). Two key uncertainties and their driving forces with potential to weaken the MTS in the near future are presented in Box 8.4.

Figure 8.7 Outline of a scenario planning process (Source: Wollenberg *et al.* (2000).



**Box 8.4** *Uncertainties in the MTS that need to be addressed in scenario planning*

**Purpose one:** Forest fringe communities realise timber benefits in future

Why to be addressed?

- Higher survival chances of timber trees in the light of fire and theft
- Less doubt about whether MTS farmers will fully benefit from the 40% timber revenue distribution of the benefits share among individual farmers

**Purpose two:** Sustainability of the MTS co-management arrangement

Why to be addressed?

- Continuity of the MTS scheme
- Alternative to illegal farming
- Alternative to illegal logging and timber theft

2. The lack of income between canopy closure and timber harvesting needs to be addressed in three ways. First, plots should be regularly released to enable a farmer to cultivate food crops in the MTS over a longer period, without raising expectations that land will be released every year (which could create an incentive for forest destruction as it would make more degraded forest reserve land available for the scheme). Second, there is a need to assess the possibilities of enlarging the spacing of

timber trees in order to extend the period during which food crops can be planted. Third, suitable crops should be identified to develop the MTS into a genuine agroforestry system which generates cash and non-cash income during the entire twenty-five year rotation period.

3. The Forestry Commission needs to recognise that conflict is a phenomenon inherent in natural resource management. In view of that, conflict management needs to be an integral component of its programmes, especially of a co-management arrangement such as the MTS in which actors with partly diverging interests participate. This will help the early detection of signals of conflict and promote better communication to ensure sustainable forest management.
4. Non-governmental organisations can play a role as ‘watchdogs’ and help empower MTS farmers with a view to levelling the playing field and dealing with the FC on an equitable basis. This will enable them to articulate their concerns and have the competency to negotiate their rights.
5. The stool land owners are recognised in the MTS partnership as the provider of lands and, as such, share in the timber revenue benefits. However, attention should be paid to the role of traditional authorities in all aspects of forest management, particularly in strategies such as the MTS that are based in local community structures.

## Conflict and conflict management in production forests

### Introduction

Illegal exploitation of forest resources, especially illegal logging, has been the focus of global attention for the past decade (see Contreras–Hermosilla 2001, Kaimowitz 2003, Hansen & Treue 2008, Marfo 2010). The underlying drivers of illegal exploitation of forest resources are attributed to, for example, tenure insecurity, poor law enforcement, greed and corruption (Contreras–Hermosilla 2001, Kaimowitz 2003, Mukul 2010).

Global initiatives like the European Union Forest Law Enforcement Governance and Trade (EU-FLEGT) and Reducing Emissions from Deforestation and Forest Degradation (REDD+) have sought to minimise this problem in forest-resourced countries. Under the EU-FLEGT programme, an agreement exists to ensure a commitment to reducing illegal logging between EU and its partnering timber-producer countries through the Voluntary Partnership Agreements (VPAs) (Mayers *et al.* 2008, see also Chapter 5).

As discussed in Chapter 5, Ghana signed the VPA with the EU in 2009 to improve the governance process in legal timber trade and law enforcement by adapting the legality assurance system (Beeko 2009). One means of overcoming the illegal timber trade under the VPA is to ensure stricter law enforcement. However, studies in the country's forest sector on illegal chainsaw milling indicate ineffectiveness of the ban (Odoom 2005, Adam *et al.* 2007). Key socio-political constraints which are hampered by weak law enforcement include a high level of rural unemployment, corruption among law enforcement agencies and high elite influence in the forestry sector (Nutakor *et al.* 2011).

From the local arena, both legal and illegal means are used to access forest resources. These are often driven by need and greed, with antecedent conditions being poverty, limited livelihood options and a scarcity of farming land (see Chapter 7). The result is resource users facing conflicts among themselves and with the Forest Services Division (FSD) officials, the Military, and the Police (Amanor 2000, Ohene-Gyan 2004, Marfo 2006, Ros-Tonen *et al.* 2010, Wit *et al.* 2010). Conflicts therefore become inevitable, with institutions, mechanisms and competence to manage them being either weak or

absent. This poses challenges to forest governance, sustainable forest management and sustainable livelihoods (Ostrom 1999, Marfo 2006, Yasmi 2007, Derkyi *et al.* forthcoming).

Some authors have therefore questioned the efficacy of strict forest law enforcement (Kaimowitz 2003, Adimazoya *et al.* 2009, Wiersum 2010, Mukul 2010, Owusu *et al.* 2010). Wiersum's (2010) review of the FLEGT legal assurance system revealed the dominance of strict enforcement in the system, also referred to as 'hard enforcement'<sup>1</sup> or 'suppression enforcement'<sup>2</sup>, where stakeholders seek justice through legal courts. According to the author, a system governed by such an approach does not fit in with the shift towards a decentralised forest governance regime, where the attention focuses on improving the livelihoods of forest-dependent people (*Ibid.* 2010). Some are therefore keen to complement a strict law enforcement approach with a soft law enforcement approach with the three inter-related operational strategies of prevention, detection and suppression to ensure effective law enforcement (see Contreras-Hermosilla 2001, Wiersum 2010). The rationale underlying the call is that forest fringe communities and the labourers in the timber industry are the first and hardest to be hit by the hard law enforcement approach (Kaimowitz 2003, Inoguchi *et al.* 2005, Owusu *et al.* 2010).

This chapter contributes to this topical debate by analysing conflicts in a production forest in the Tano-Offin forest reserve. The specific sub-questions addressed in this chapter are:

1. What are the characteristics of the production forest in the Tano-Offin forest reserve as a system-to-be-governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?
2. What governing system (i.e. institutions and policy instruments) function in the production regime?
3. What are the perspectives of the inhabitants of the communities at the production forest fringe regarding the nature of forest and tree-related conflicts in the production regime?
4. What are the implications of the findings for law enforcement under VPA?

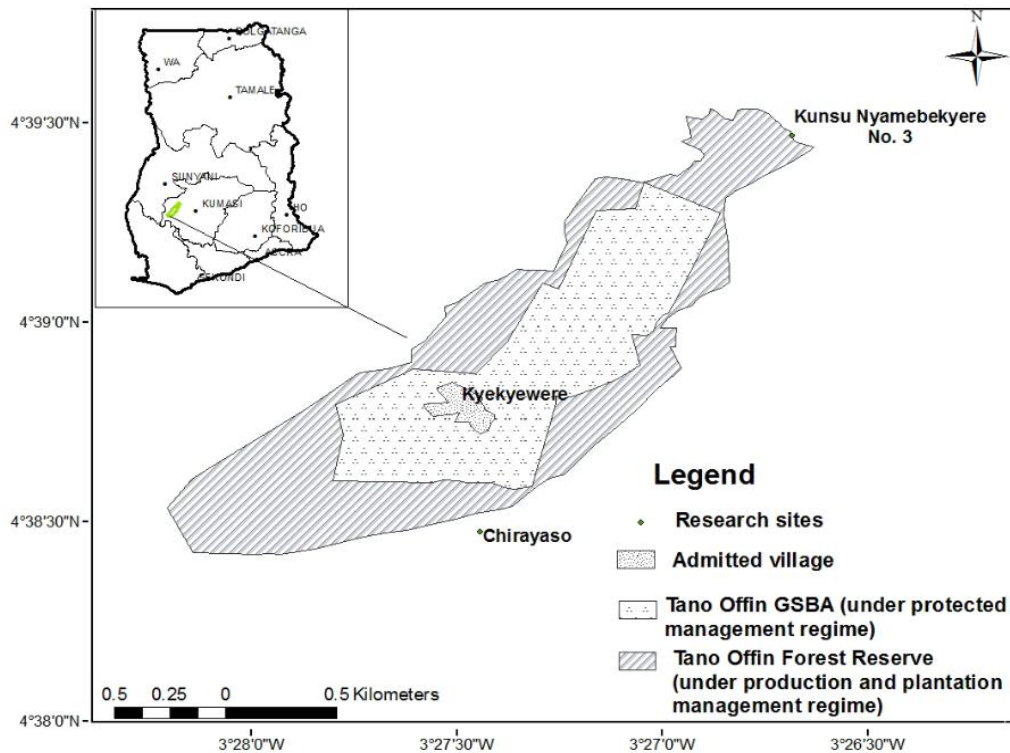
The chapter is based on document analysis, a semi-structured questionnaire survey among 137 inhabitants of Chirayaso and Kunsu Nyamebekyere No. 3, which are two villages bordering the production regime in the Tano-Offin forest reserve. Furthermore, data was collected during community and validation meetings (see Chapter 3). Secondary data and the respondents' views on the subject matter were analysed along the lines of interactive governance theory, i.e. in terms of the system-to-be-governed, the governing system, and governance interactions (Kooiman *et al.* 2005, see also Chapter 2). Additionally, the elements of day-to-day conflict management – images, instruments and actions (*Ibid.* 2005) – were blended with the conflict wheel developed by Mason & Rychard (2005) (Chapter 2) for a more in-depth understanding of the nature of conflicts and conflict management prevailing in the study area from the perspective of the local

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<sup>1</sup> Hard enforcement comes in the form of legal enforcement of existing forestry laws, including the criminalisation of violators through arrest, the filing of charges, court judgements and the imposition of punishment (see Colchester *et al.* 2006).

<sup>2</sup> According to Contreras-Hermosilla (2002: 22), suppression enforcement of illegal forest acts involves the use of physical and legal force (arrest and imprisonment) and/or financial (fines) penalties to impose the law.

Figure 9.1 Map of the Tano-Offin forest reserve indicating the two study communities



people. Subsequently, the conflict outcomes were analysed and their implications assessed for law enforcement under the VPA between Ghana and the EU to combat illegal logging.

The next section presents the natural system (i.e. the Tano-Offin production regime) and the socio-economic system of the two communities and their dependence on forest resources. Then the governing system is presented from legislation and institutional perspectives. After that, the respondents' images, instruments and actions concerning conflict and conflict management are presented. The discussion section synthesises the findings and assesses the implications of the outcomes on law enforcement under the VPA. The chapter ends with a conclusion.

### The system-to-be-governed (SG)

The system-to-be-governed is analysed from the natural and human system perspectives. The natural system provides brief description of the production system of Tano-Offin forest reserve (see Chapter 4 for details on the characteristics of the natural system). The characteristics of the inhabitants of Chirayaso and Kunsu-Nyamebekyere No. 3 and the contributions of forest resources to their livelihoods represent the socio-economic sub-system.

#### *The natural system*

The description of the natural system in terms of diversity, complexity, dynamics and scale is given in Chapter 4, where the characteristics of the high forest zone and the Tano-Offin forest reserve are described. Here, the focus is on the production regime in

on-reserve forests. A production forest is divided into compartments of approximately 128 hectares each (1,600 m x 800 m). A group of such compartments constitute a concession or timber utilisation contract (TUC) area. Each concession or TUC area has a harvesting schedule, which is a timeline for logging individual compartments (ITTO 2005). According to the manual of procedures (MoPs)<sup>3</sup> (see Chapter 5) that guides the Forestry Commission timber exploitation activities, the timber contractor prepares the logging plans. The TUC ranges from one to forty years, during which trees must be felled according to a harvesting schedule. Timber felling also occurs in the off-reserve areas, but the management system differs from the on-reserve regime (see Chapters 4 and 10). Both commercial timber harvesting and non-timber forest products (NTFPs) are exploited in the on-reserve production areas and the off-reserve areas. Figure 9.1 shows the areas in the Tano-Offin reserve under production and plantation regimes and the location of the two study villages where data was collected for this chapter.

### *The human system*

This section deals with the human system of the Tano-Offin off-reserve area, paying attention to the socio-economic characteristics of the inhabitants and the contribution of forest and tree resources to their livelihoods.

#### – The socio-economic characteristics of the inhabitants

Chirayaso and Kunsu-Nyamebekyere No. 3 have an estimated adult population of 770 and 240 respectively (see Chapter 3). Generally, the inhabitants of the study communities engage in crop farming as their major occupation. Export and cash crops like cocoa, pineapple and oil palm are commonly grown on family or individual farmlands, whilst short-rotation food crops are cultivated in the forest reserve using the modified taungya system (MTS) scheme (see Chapter 8) or integrated with cocoa and other perennial crops on farmlands. Of the 212 respondents from Chapter 8, one hundred and thirty-seven (n=137) individuals responded to the questions in this chapter, of which 56% (n=77) were males and 44% (n=60) females. The literacy level among the respondents is high (88%). The majority of the respondents (68%) have a Middle or Junior Secondary School education certificate. The majority of the respondents (47%) were aged between 18-35, followed by the age range of 36-53. Christianity is the main religion among the respondents (93%) with only 1% of respondents in Chirayaso being traditionalists (Table 9.1).

Generally, the migrants (53%) outnumbered the indigenes (47%), with relatively more migrants being recorded in Kunsu-Nyamebekyere No. 3 (n=40 or 74%) than in Chirayaso (n=33 or 40%). The number of years that migrants have already lived in the village ranges from a minimum of one year to a maximum of sixty years. The study revealed that 37% of the respondents have a single occupation whereas 60% have multiple occupations and 3% reported that they were not engaged in any occupation. Among those with a single occupation, crop farming in the off and on-reserve areas under the MTS (Chapter 8) is the leading occupation. Three per cent of the respondents are fulltime chainsaw millers. The multiple occupation respondents also combined food

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<sup>3</sup> The FC uses manuals for production, management and planning such as the 1998 Manual of Procedures for Forest Resource Management Planning in the High-Forest Zone, the Manual of Procedures for Stock Survey and Yield Allocation (1995), and the 1998/2003 timber resources management regulations (ITTO 2005).



crop farming (on farm and under the MTS) with jobs such as chainsaw milling, civil service and other artisanal occupations such as electrician, masonry and hairdressing.

Table 9.1 Socio-economic characteristics of respondents (n=137)

Variables	Observed frequency (n) and percentage of respondents			
	Chirayaso	Kunsu-Nyamebekyere No. 3	Total	Percentage (%)
<b>Gender</b>				
Male	44	33	77	56
Female	39	21	60	44
<b>Age range</b>				
18-35	42	23	65	47
36-53	26	26	52	38
53+	15	5	20	15
<b>Religion</b>				
Christianity	77	50	127	93
Islam	4	2	6	4
Traditionalist	1	0	1	1
Free Thinker	1	2	3	2
<b>Education</b>				
SSS/Secondary	12	2	14	10
Middle/JSS	59	34	93	68
Primary	6	8	14	10
None	6	10	16	12
<b>Origin</b>				
Indigenes	50	14	64	47
Migrants	33	40	73	53
<b>Occupation</b>				
<i>Single Occupation</i>				
Farming in off-reserve area	10	6	16	12
Modified taungya system (MTS)	16	9	25	18
Chainsaw milling	3	1	4	3
Others <sup>1</sup>	4	1	5	4
<i>Multiple occupations</i>				
MTS and off-reserve farming	38	32	70	51
MTS and others <sup>2</sup>	9	4	13	9
No occupation	3	1	4	3

Key: SSS = Senior Secondary School; JSS = Junior Secondary School

<sup>1</sup>Trading, hairdressing, pastoral job, farm labourer, worker in timber firm.

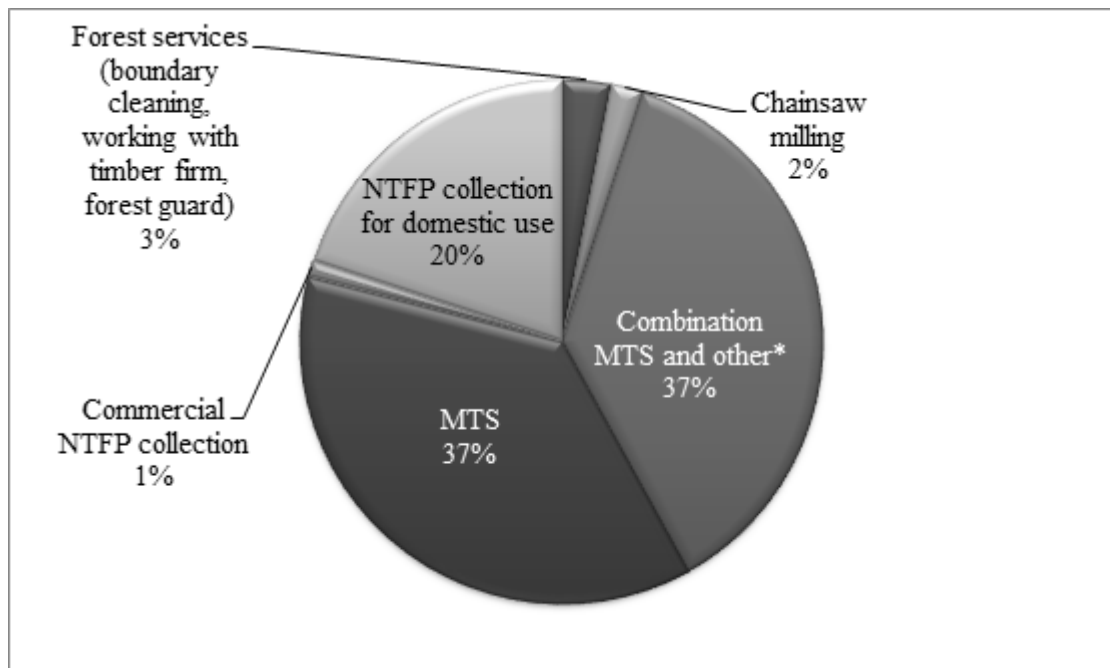
<sup>2</sup>Chainsaw miller, teacher, artisan, prison official.

– Contributions of forest and tree resources to people's livelihoods

One hundred and thirty-two (132) of the 137 responded that forest and tree resources do contribute to their livelihoods. The inhabitants of the two communities access the forest resources in the form of land under the MTS, chainsaw milling, NTFPs for domestic use and trade, forest services (i.e. boundary clearing, working with timber firms and as forest guards) (Figure 9.2).

Most respondents (74%) are engaged in the MTS in the forest reserve. For 37% of the respondents, this is the only way they make use of the forest reserve, and for the other 37% it is one of the ways in which resources from the forest reserve contribute to

Figure 9.2 Use of the forest reserve by inhabitants of Chirayaso and Kunsu-Nyamebkyere No. 3



\* Includes a collection of NTFPs for domestic and commercial use, with those involved being employees of a timber firm, and chainsaw mills.

Source: Field survey 2009-2010.

their livelihoods. Other forest-based livelihoods include the collection of NTFPs for domestic and commercial use, involving employees of timber firms, and chainsaw milling. In addition, 20% of the inhabitants make use of NTFPs for domestic use, which includes the collection of mushrooms and snails, harvesting of pestles, medicinal plants and chewing sticks and hunting for game. However, respondents mentioned that some of these resources are becoming extinct, while some are seasonal. Moreover, the reserve contributes to people's livelihood through forest services such as being recruited as a boundary clearer for which the Forest Services Division occasionally pays a wage, and as employees of timber firms and forest guards (3%). A minor proportion (2%) engaged in illegal chainsaw milling.

According to the respondents, forest and tree-based livelihoods are not without challenges. Problems related to the MTS include boundary disputes, illegal farming, food crop theft and the unfair distribution of taungya land (elaborated in Chapter 8). Problems associated with chainsaw milling include the confiscation of lumber and machines by the FSD-military task force. With respect to access to NTFPs for domestic and commercial use, problems are more related to denial of access to the resources by the forest guards in addition to the long distance to be covered to gather these products.

### The governing system (GS)

This section presents the institutional framework by looking at institutions as a structure and as a rule and strategies governing the production regime.

### *Institutional structure*

Four governing structures were identified under the production regime, belonging to the statutory, market, customary and hybrid governing systems respectively.

#### – District Forest Services Division (FSD)

The District FSD of the Forestry Commission (FC) is responsible for the management of forest reserves at the micro level, headed by a manager and assistants. The range supervisors and forest guards are the frontline officials in frequent contact with the local communities and the timber operators. Within the production regime, the mandates of the forest guards are to clear the reserve boundary and to patrol the reserve in order to prevent illegal activities. The range supervisors are also in charge of timber exploitation in a certain forest area, conduct stock surveys and measure felled trees to estimate tree volume using the tree information form (TIF). Additional responsibilities include the issuance of log conveyance certificates to contractors and conducting post-harvesting inspection.

#### – TUC holders and chainsaw millers

The TUC or concession holders are based in the market governing structure, but their operations are subject to statutory law. They have the legal right to operate in the on and off-forest reserves for a specified period. The TUC holders in the reserve obtain their contract through competitive bidding and are allowed to operate for a period of one cycle, which corresponds to forty years whereas in the off reserve TUC holders operate for a period of five years. Another actor in the marketing structure is the chainsaw miller. However, this category belongs to the informal private sector because of the criminalisation associated with their operations since the adoption of LI 1649 (see Chapter 5).

#### – Chiefs and elders at local level

The traditional authority at village level comprises the chief, queen mother and elders. As in Kyekyewere village, the two communities studied in this chapter also have sub-chiefs who support the chief to take care of the communities. They perform the same functions as discussed in Chapter 7, including the administration of stool lands on behalf of the stool landowners who do not reside close to the resource base, but delegate their authorities along the hierarchical ladder to the village chiefs (*locally referred as 'Odikro'*). The Chirayaso chief owes allegiance to the Nyinahin stool, while the Kunsu-Nyamebekyere No. 3 chieftaincy owes allegiance to the Hia stool.

#### – Unit Committee, Community Forest Committees (CFCs) and Community Biodiversity Advisory Groups (CBAGs)

The three actors within the hybrid governing structure also play a pivotal role in the production regime. These are the Unit Committee, the Community Biodiversity Advisory Groups (CBAGs) and Community Forest Committees (CFCs) (see Chapter 7 for a description of the Unit Committees and the CBAGs). The CFCs, just like the CBAGs, were established to serve as a channel through which the FSD could implement its collaborative forest management activities.

#### – Judiciary and the Police

The roles of judiciary and the police with regards to law enforcement are discussed in Chapters 5, 7 and 11.

#### *Legislative instruments, benefit arrangement and strategies*

This section presents the legislation regarding the exploitation of timber resources in Ghana, the benefit-sharing arrangements in place and the Voluntary Partnership Agreement with the EU to combat illegal logging and enhance good forest governance.

#### – The legal framework governing timber exploitation and sanctions

The Forestry Commission (FC) is responsible for the management and regulation of the forestry sector in Ghana. There are laws that govern the management, allocation and use of forest resources as well as sanctions. The enactment of the Forest Ordinance (Cap 157) of 1927 gave the then Forestry Department the authority to select land suitable for reservation and declare them forest reserves (see Chapter 5). Access to timber for commercial purposes is regulated through the Timber Resources Management Act (547) and amended Act 617 (Chapter 5). The granting of timber harvesting rights stipulates that it is illegal for any person to harvest timber from any land without a TUC. A TUC can be issued on any land, with the exception of land subject to alienation holding or land with farms. On such lands, prior authorisation in writing from groups or individuals involved is required before harvesting can begin. The amended Act 617 also specifies the right of harvesting timber from private plantations. Section 3 (a) & (b) of this act indicates that: ‘The right to harvest trees and extract timber from a specified area of land shall not be granted if (i) there is a private forest plantation already on the land and (ii) there is timber already grown or owned by any individual or group of individuals on the land (Act 617: 3).

Act 547 (amended 617) also indicates that, when a TUC is to be issued in off-reserve areas, including on farmlands, an inspection of the proposed land and written authorisation from the landowners is required before any harvesting operations can begin. The granting of timber in off-reserve areas, especially where cocoa cultivation exists, contradicts the Economic Plants Protection Act which states that felling rights with respect to timber ‘shall not be granted where the timber trees stand in farms where specified plants [cocoa] are cultivated’. It further stipulates that, ‘if timber is felled, the farmer should be compensated for his/her losses at a rate determined by the Minister’ (AFRCD 47 1979). The relevant legislations, which ensure law enforcement, include:

- Forest Protection Decree 1974 (N.R.C.D. 234). This Act defines forest offences and prescribes sanctions and/or penalties for such offences.
- The Forest Protection (Amendment) Act 2002 (Act 624). This Act repealed the Forest Protection (Amendment) Law 1986 (P.N.D.C.L.142), revised forest offences fines in an upward direction and introduced joint liability in the commitment and prosecution of forest offences (see Chapter 7).

#### – Benefit sharing schemes in the production regime

Below the three benefit-sharing arrangements in production forests are explained, which include royalties, social responsibility agreements and crop damage compensation.

##### *1. Timber royalties*

The concept of royalties in Ghana forest management can be traced back to the 1927 Forest Ordinance Act. It was a period when stool landowners were given a role in forest

management under colonial rule with a percentage of the revenues generated. The current benefit sharing arrangement is enshrined in Article 267 (6) of the constitution of Ghana, complemented by Act 547. The benefit-sharing scheme as stipulated in the constitution still holds for the on-reserve forest, while a forest policy reform in 2002 modified the proportion in the off-reserve areas (see Table 9.2). The distribution among beneficiary stakeholders occurs when the FC has taken its share<sup>4</sup> of 60% and 40% management fees from the royalties accrued from the on-reserve and off-reserve forest areas respectively.

Table 9.2 Current benefit-sharing schemes for royalties from timber resources in on and off-reserve areas

Stakeholder beneficiaries	Reserve (%)	Off-reserve (%)
Forestry Commission	50.0	50.0
Administrator of stool lands	5.0	5.0
District Assembly	24.8	24.7
Traditional council & Stool landowner	20.2	20.3

Source: OASL/FC (2010).

## 2. Social responsibility agreement

The social responsibility agreement (SRA) was introduced into Ghana's forest management system as part of the TUC procedure in the late 1990s. It is an agreement between a TUC holder in both on and off-reserve production areas and the land-owning communities (forest fringe communities) (FC 2004). The legal instruments governing this arrangement are Act 547 and the Timber Resource Management Regulations (L.I. 1649) of 1998. The agreement is made up of two parts. The first is the code of conduct that entails the contractors' role to ensure that all timber operations are conducted with due respect for the rights of the communities in terms of their customs, beliefs, infrastructure and livelihoods. The second part concerns the social obligations, i.e. a specific agreement drawn up between the community and the contractor based on the stumpage or the monetary value of the trees removed from the TUC area. The financial value of this social obligation is stipulated in the L.I. 1649 Section 13(1b) stating that:

*'a social responsibility agreement should be entered into with the landowner 'to assist the inhabitants within the contract area with such amenities as specified in the agreement at a cost of not less than 5% of the annual stumpage from the operations under the TUC.'*

The SRA negotiation team in a community consists of the local chief, representatives of the community and the FSD, and the District Chief Executive of the District Assembly. Besides being a witness, the guidelines mandate the FC to play key negotiation role in (i) informing community representatives about the new TUC allocation procedures, (ii) advise communities about the SRA, (iii) educate communities on the procedure for developing SRAs, and (iv) assist communities to prioritise their development programmes (FC 2004). Section 6 of the SRA guidelines spells out compliance and sanctions of SRA to the communities, the FC official at the district level and the TUC holder. Section 6.1 states that *'the demand of the communities should be specific, time bound and realistic and for them to be able to access how much constitute 5%, there is the need for the District forest manager or representative to play a key role to guide in calculating the value of the 5%'*.

<sup>4</sup> The Forestry Commission has decreased its on-reserve benefit share to 50% and increased the off-reserve benefit share to 50% (OASL/FC 2010).

Similarly, in the event that the contractor fails to fulfil the agreed SRA, the sanctions stipulated in Act 547 (amended 617) Section 15 (1) authorises the suspension or termination of the contractor's activities on the following grounds:

- Failing to observe taboo days (see Chapter 7);
- Destruction of social infrastructure without taking steps to replace or repair it immediately; and
- Failing to pay compensation for crops damaged.

### *3. Crop damage compensation*

The concept of crop damage compensation is stipulated in Act 547. The Act gives power to farmers regarding tree felling on farmlands. The act indicates that a TUC holder needs the permission of the farmer before harvesting. In addition, the farmer has the right to negotiate 'fair compensation for crop damage', and when disputes occur between the contractor and the farmer, there will be delay in the issuance of the conveyance certificate until the dispute has been resolved.

### *4. The Voluntary Partnership Agreement (VPA) and law enforcement*

The VPA as discussed in Chapters 5 and 7 is intended to improve the governance process in legal timber trade and law enforcement. The agreement outlines stages to promote legal trading in timber while ensuring social safeguards for vulnerable groups during implementation. A key part of the document of relevance to this chapter is Annex V of the agreement, which indicates how Ghana will implement its Legality Assurance System (LAS). It outlines twelve steps to track and control the timber flow critically from the resource base to its place of final destination. One of the twelve steps of interest to this chapter refers to the source of the timber. The agreement states that '*wood products coming from Ghana will be derived from legally designated areas and will be allocated according to legal prescription. Such products will come from designated areas within forest reserves, plantations, off-reserve areas and sub-merged forests*'.

As a means to ensure that Ghana fulfils its VPA commitments, several studies, activities and meetings have been undertaken. One of these meetings was the international workshop held in 2010 as part of the 'Illegal or Incompatible' project coordination by the Forest and Nature Policy group of Wageningen University, which generated six mechanisms to minimise illegal logging in Ghana (see Chapter 5). One of the mechanisms of relevance to this chapter is the introduction of soft law enforcement, i.e. creating incentives for people to adapt in the long term to the VPA system (IOI Project team 2010).

## From images to action: Forest fringe communities' perspectives of conflicts and conflict management in the production forests

This section examines the governance elements i.e. the images, instruments and actions in day-to-day conflict management (first order governance), using the dimensions of the conflict wheel developed by Mason & Rychard (2005) (see Chapter 3). It discusses the respondents' images (of conflict issues, actors involved and 'culprits', causes and conflict dynamics) and the instruments (i.e. conflict management strategies they identified) for each of the conflict types identified. The actions proposed by the respondents in relation to the three conflict categories are also discussed.

### *Conflict issues*

Based on the survey and focus group discussions in the study villages, nine livelihood issues were identified from which conflicts evolved. These were grouped into three main categories. The first category encompasses conflicts related to access to forest resources and includes conflicts related to chainsaw milling, commercial NTFP extraction, the gathering of NTFPs for domestic use and hunting. The second category concerns operational conflicts within TUC areas (on and off-reserve areas) which evolve around SRAs, log theft and crop damage compensation. The third category encompasses conflicts related to land use (i.e. boundary disputes and illegal farming) in both on and off-reserve areas. Table 9.3 indicates the number of respondents who mentioned each conflict type when they were asked whether they are aware of any forest and tree-related conflict in the Tano-Offin production regime. The most frequently mentioned conflicts are those relating to chainsaw milling (76%) followed by access to NTFPs for commercial use (25%).

*Table 9.3* Livelihood components around which conflicts evolve

<b>Conflict category**</b>	<b>Livelihood component</b>	<b>Number of respondents (n /%) who mentioned the conflict type*</b>
Category 1 (resource-based)	Chainsaw milling	104 (76%)
	NTFPs for domestic use (plants)	6 (4%)
	NTFPs for commercial use (plants)	34 (25%)
	Hunting	14 (10%)
Category 2 (operational)	Social Responsibility Agreement	15 (11%)
	Log theft	15 (11%)
	Crop damage compensation	2 (1%)
Category 3 (land-based)	Boundary disputes	11 (8%)
	Illegal farming	9 (7%)

\* N = 137; respondents were allowed to refer to more than one conflict type. \*\*the number of respondents is based on each conflict type and not on a category. The nine conflict types were arranged into three categories for easy analysis. *Source:* Field survey 2009-2010.

Behind each category are a number of actors competing for different or the same resources in the production forest. Failure for one to attain a claim usually results in conflict and these are either managed or not. The outcomes of the management strategies have the potential to improve the regime management or negatively result in more conflicts, as shown in Figure 9.3 (i.e. the vicious cycle of forest livelihoods conflicts in this regime).

### *Respondents' images and instruments regarding conflicts over access to forest resources*

Conflicts related to competition for access to forest resources has four conflict types: those relating to chainsaw milling (n=104), plant NTFPs for domestic (n=6) and commercial uses (n=34) and hunting (n=14). Chainsaw milling conflicts were mentioned by 76% of the respondents from Chirayaso and Kunsu-Nyamebikyere No. 3. The issues within this conflict type evolve in relation to felling trees without a permit, theft among millers for lumber and fuel, and the confiscation of logs and crop damage. Within this conflict type, various actors operate at different socio-political levels. Confrontations occur between chainsaw millers and either FSD field staff or FSD/Military task force (reported by 63% of the respondents) or between chainsaw millers and TUC holders (15%) and chainsaw millers and farmers (8%). The rest of the respondents (14%) re-

ported that the conflicts occur among chainsaw millers themselves, surrounding the stealing of logs/lumber and fuel. With respect to who to blame for the start of the conflicts, according to the perception of the respondents each of the actors may have started the conflict, especially those actors who were offended during the course of the confrontation. In some instances, some respondents blamed the chainsaw millers, while others blamed the TUC holders, farmers or the FSD for initiating the conflicts.

The collection of NTFPs for commercial purposes without a permit is mentioned as a source of conflict by 25% of the respondents. The actors include forest guards, NTFP collectors (traders), community members employed by NTFPs traders to access the resources in the forest reserve) and NTFP traders.

In the perceptions of the respondents, conflicts relating to NTFPs for domestic use occur between the forest guard and a community member. However, such confrontations do not occur often, provided inhabitants ask permission from a forest guard. Hunting conflicts mostly occur during the closed season (i.e. August-December when hunting is prohibited<sup>5</sup>) and involve hunters and forest guards. There are instances where the confrontation is between two hunters over the theft of a trap. Depending on the causes of the conflict, different actors are perceived as initiating the conflict incidences. Overall, the majority of the respondents from Chirayaso and Kunsu-Nyamebekyere No. 3 particularly blamed the hunters in the case of conflicts concerning hunting during the closed season.

The antecedent and manifest causes of conflicts in this category are presented in Table 9.4. Except for chainsaw milling conflicts, which thirty-six respondents perceived to be violent, the respondents reported the conflict incidences to be non-violent. In terms of seasonality, chainsaw milling conflicts occur all year round provided an illegal chainsaw activity takes place and the offenders are arrested, or there is confrontation between the chainsaw millers and the TUC holders or among themselves. Confrontations relating to access to plant NTFPs and animal NTFPs (hunting) for commercial and domestic use were reported to be non-violent.

Within this conflict category, the study revealed that the actors employed a blend of conflict management strategies to manage the conflict incidences. The analysis also revealed that some of these conflict incidences are not managed since the offenders often escape (avoidance) (see Chapter 2 for the various conflict management strategies).

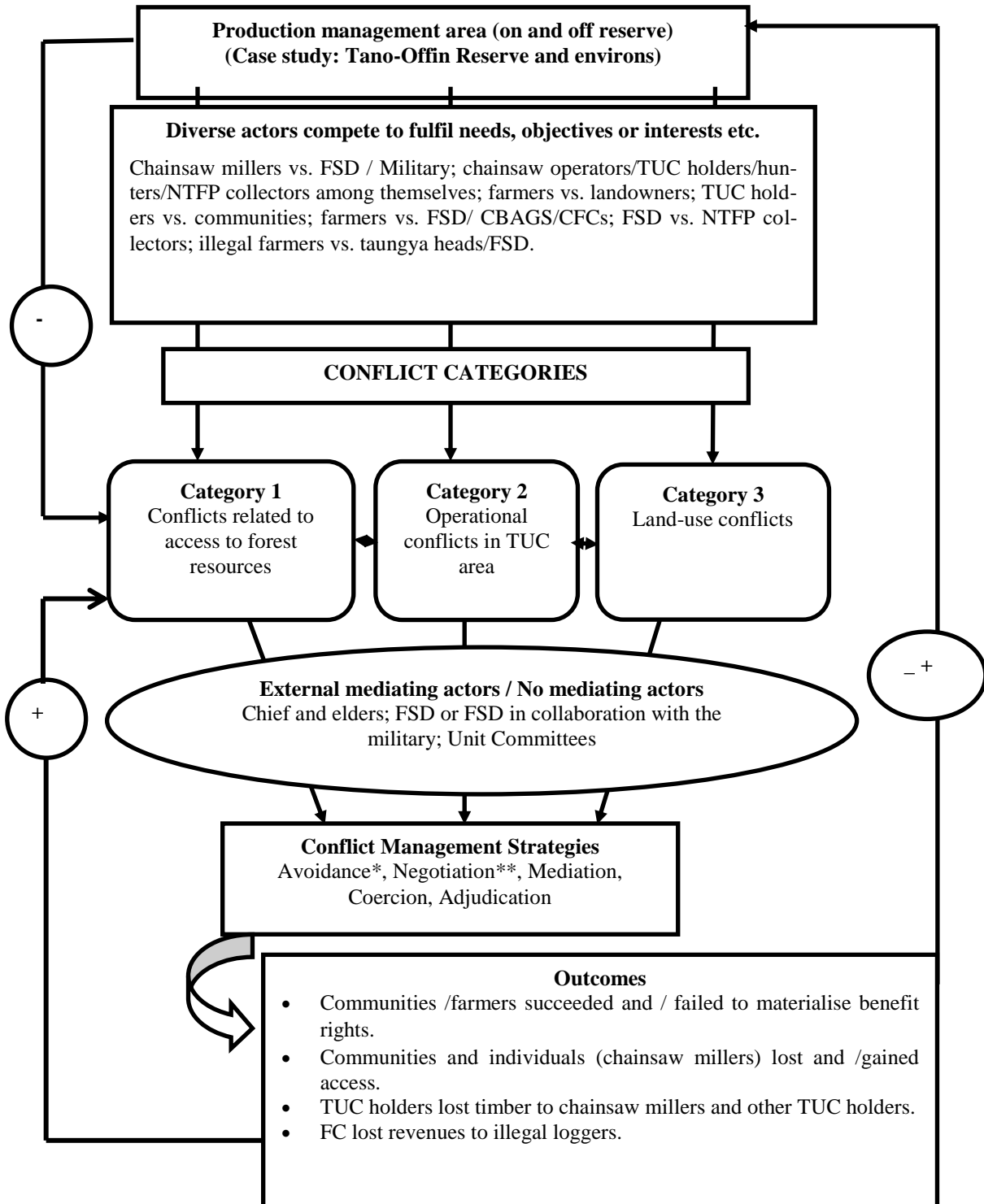
With respect to the chainsaw milling conflicts, respondents mentioned negotiation as being the lead approach. This is often accompanied by dialogue (e.g. between chainsaw millers and TUC holders) or bribery (of FSD/military officials). Negotiation was found to occur in all the other conflict types as shown in Figure 9.4 where it becomes the lead strategy used during conflicts related to access to NTFPs for domestic use. In the case of hunting conflicts, negotiation based on pleading also occurs when the victim has genuine reasons for the offence such as living close to the reserve and if the meat is intended for family consumption. Here, the FSD official (forest guard) uses this opportunity

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<sup>5</sup> The closed season is a seasonal restriction to hunting regulated through the Wildlife Conservation Regulation of 1971 (LI 685) and its amendments (LI 1284, LI 1357 and LI 1452). It is a four-month period from 1 August to 1 December during which it is not allowed to hunt for any animal, except grasscutters (*Thryonomys swinderianus*), which are so abundant that they do not need any protection. The closed season roughly overlaps with the breeding period of most target animals, thus allowing them to reproduce (Bokhorst 2010).



Figure 9.3 The vicious cycle of forest and tree livelihood conflicts in the production forest regime



Key: (+) Conflict outcomes could improve system; (+ -) = Some conflict outcomes may help improve the management area whereas others do not; (-) = Conflicts outcome escalates.

\* Avoidance: culprits escape so no conflict management occurs.

\*\* Negotiation: conflict parties resolve problems among themselves.

CBAG = Community Biodiversity Advisory Committee; CFC = Community Forestry Committee; FC= Forestry Commission; FSD = Forest Services Division of the FC; NTFP = Non-timber forest product; TUC = Timber utilisation contract.

Table 9.4 Multiple antecedent conditions and manifest behaviour of resource-based conflict types in production forest

Activity / forest resource involved	Antecedent conditions	Manifest behaviour	Consequences
Chainsaw milling	<ul style="list-style-type: none"> <li>• Inadequate jobs because of economic hardship and poverty</li> <li>• Forest law that forbids chainsaw milling</li> <li>• Greed and desire to get rich quickly</li> <li>• Prevailing corruption (as a result of which conflicts arise when no bribes are paid to officials)</li> <li>• Betrayal to FSD officials, military or police out of jealousy or commitment to the rules</li> </ul>	<ul style="list-style-type: none"> <li>• Disobedience of the rules; logging without permit</li> <li>• Stealing of logs or fuel<sup>6</sup></li> <li>• Escape of offenders</li> </ul>	<ul style="list-style-type: none"> <li>• Confiscation of chainsaw and lumber without arrest of offender(s) or with arrest and fine or imprisonment</li> <li>• Injuries and occasional death</li> <li>• Mistrust and fighting among chainsaw millers</li> </ul>
Commercial plant NTFPs	<ul style="list-style-type: none"> <li>• Bureaucracy and long distance of accessing permit from the FSD District Office</li> <li>• Economic hardship and poverty and insufficient job opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Stealing among collectors</li> <li>• Quarrels with forestry authorities over restrictions</li> </ul>	<ul style="list-style-type: none"> <li>• Confiscation of forest products and occasionally the arrest of collectors</li> </ul>
Plant NTFPs for domestic use	<ul style="list-style-type: none"> <li>• Need for food, tools and medicinal plants</li> </ul>	<ul style="list-style-type: none"> <li>• Accessing resources without permission of forest guard</li> </ul>	<ul style="list-style-type: none"> <li>• Confiscation of products</li> </ul>
Hunting	<ul style="list-style-type: none"> <li>• Need for food and income</li> </ul>	<ul style="list-style-type: none"> <li>• Hunting during closed season and for endangered species</li> <li>• Stealing of game traps</li> </ul>	<ul style="list-style-type: none"> <li>• Arrest and confiscation of meat and payment of fines</li> <li>• Hatred among hunters</li> </ul>

to caution the offender that he should ask for permission prior to accessing the resources.

Mediation was reported to be used in chainsaw milling, NTFP collection for commercial purposes and hunting. In the case of chainsaw milling, chiefs and elders often mediate when conflicts occur between two chainsaw millers over theft of logs or fuel. Similarly, the chief mediates in the case of conflicts between two hunters.

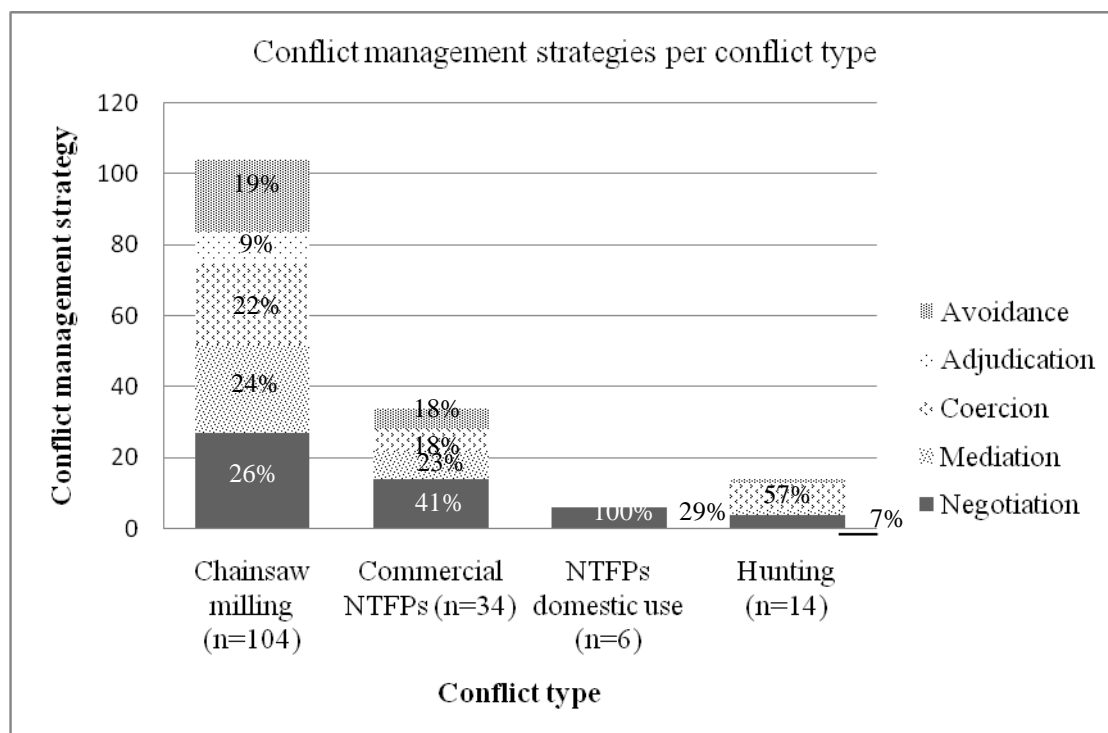
The use of force or coercion was reported to occur in all conflict types except those which evolve around the collection of NTFPs for domestic use. In this approach, offenders are often arrested, fined or prosecuted in the law court (mostly within the forest district) and the products confiscated.

The use of the adjudication procedure was reported in conflicts arising from chainsaw milling where the offenders are apprehended and prosecuted in the law courts.

The last approach employed in almost all the conflict types except those relating to NTFPs for domestic use is avoidance, meaning that offenders often abscond or escape, leaving behind the forest products as well as their work tools. In the case of chainsaw milling, the presence of FSD/Military task force often scares away the operators.

<sup>6</sup> Petroleum products (i.e. petrol and diesel used to operate the chainsaw machine).

Figure 9.4 Proportion of respondents who indicated which conflict management strategies prevail for each conflict type



*Respondents' images and instruments regarding operational conflicts within TUC areas*  
 This conflict category entails three conflict types. It evolves in relation to TUC holders operating in the on and off-reserve areas and their confrontation with chainsaw millers, local communities and among themselves. It was also reported to involve confrontations between TUC holders and chainsaw millers on the one hand, and FSD/military patrol teams and FSD officials on the other. A third type of confrontation in this category is between the farmers and either the chainsaw millers, or TUC holders in the off-reserve area. This conflict category is characterised by both antecedent conditions and manifest behaviours as shown in Table 9.5. The underlying causes mentioned with respect to on-reserve areas include a TUC holder's reluctance to adhere to SRA obligations and code of conducts and log theft among operators or by chainsaw millers.

The clashes between chainsaw millers on the one hand and TUC holders or the FSD/Military on the other come about because of chainsaw millers stealing logs from TUC concession areas. These incidences result in the destruction of harvesting tools and equipment of both parties, the confiscation of lumber or logs, and the arrest of the culprit (if he has not absconded), who is fined by the FSD or prosecuted in court, resulting in a fine or imprisonment. A conflict between two TUC holders may arise because of one stealing logs from the other, whereas a conflict between a TUC holder and the FSD mostly results from trespassing and the stealing of logs from the protected management area. In this instance, the conflict may end with a fine being imposed on the culprit by the FSD or the law court.

Only two respondents from Kunsu-Nyamebkyere No. 3 referred to a crop damage compensation conflict that occurred in the off-reserve area. The underlining cause of

this conflict is the reluctance of the contractor or the chainsaw miller to pay compensation for crops damaged during tree felling on farmlands.

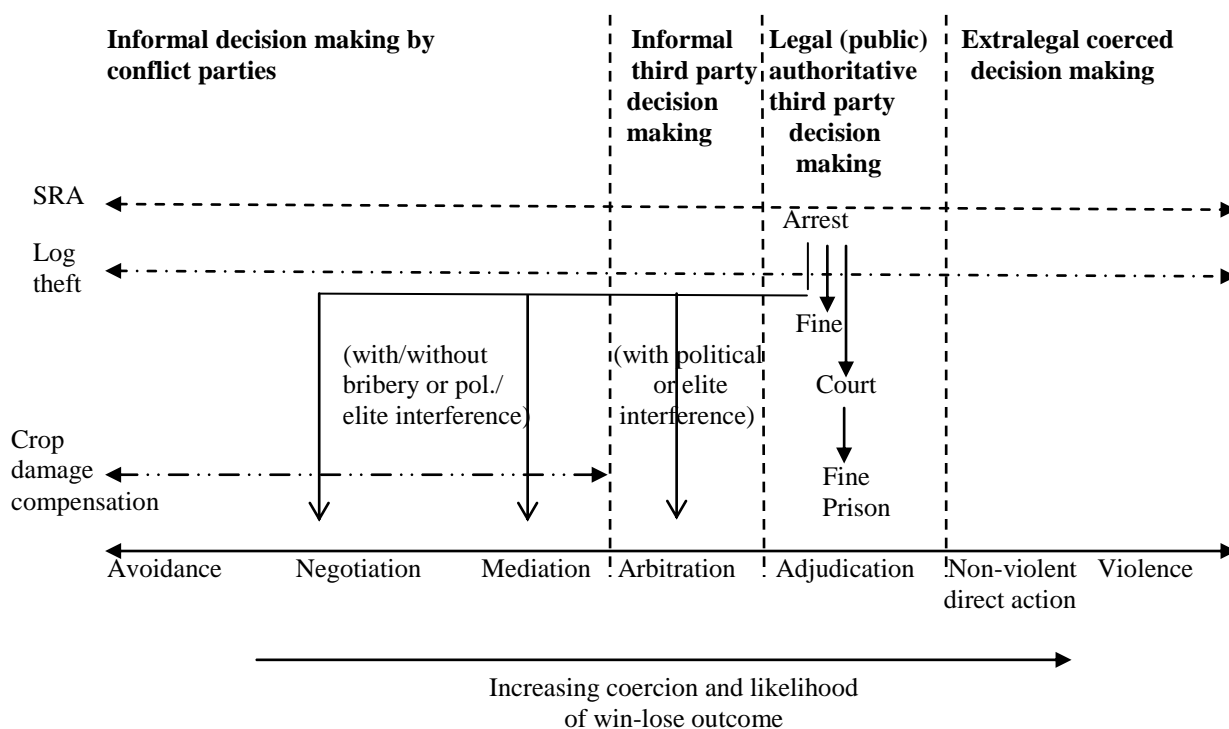
*Table 9.5* Multiple antecedent conditions and manifest behaviour of operational conflicts within TUC area

<b>Operational conflicts within TUC holding areas</b>	<b>Antecedent conditions</b>	<b>Manifest behaviour</b>	<b>Consequences</b>
Timber utilisation area (on reserve)	<ul style="list-style-type: none"> <li>• Reluctance to fulfil SRA obligations</li> <li>• Reluctance to fulfil SRA code of conduct (<i>e.g.</i> repair of bridges etc.)</li> <li>• Greed</li> </ul>	<ul style="list-style-type: none"> <li>• Log theft</li> <li>• Barricade of road to prevent TUC holder transport logs</li> <li>• Providing employees with guns to confront chainsaw millers</li> </ul>	<ul style="list-style-type: none"> <li>• Bad state of communities' infrastructures such as schools</li> <li>• Destruction of properties</li> <li>• Confiscation of chainsaw and lumber /logs with or without the arrest of the offender(s) resulting in a fine or imprisonment</li> <li>• Fighting and loss of lives</li> </ul>
Timber utilisation area (off reserve)	<ul style="list-style-type: none"> <li>• Reluctance to pay compensation</li> </ul>	<ul style="list-style-type: none"> <li>• Crop destruction during tree felling</li> </ul>	<ul style="list-style-type: none"> <li>• Argument</li> </ul>

From the perspectives of the respondents, most of the confrontations related to log thefts end up in violence. With respect to the SRA, peace prevails when there is mutual understanding between the TUC holder and the community during the negotiation process. However, violence occurs when the contractor or his workers refuse to fulfil their legal obligations. The incidences in the off-reserve area become violent only when the permit holder or chainsaw operator refuses to pay compensation. Chainsaw millers often abscond before a confrontation arises.

The actors in this conflict type use different conflict management strategies to deal with the conflict incidences. In relation to the SRAs, negotiation is the most frequently used approach, followed by mediation by the FSD or the District Chief Executive officials when negotiation fails. In conflicts that arise from the SRA code of conduct, for instance when a contractor fails to repair a damaged bridge, local community members sometimes resort to either non-violent directive action and or violent action. Various approaches were reported to be employed when there is a confrontation between chainsaw millers and TUC holders. This includes mediation in cases in which the chief and TUC holders settle the matter or coercion in cases in which the offender is arrested. Sometimes millers pay a bribe when arrested to escape punishment. Alternatively, the offenders are fined by the FSD or prosecuted in the law court. Stealing among TUC holders can also be resolved through FSD intervention, in the event that the culprit pays a fine or is summoned to appear in court. The study revealed that TUC holders and chainsaw millers in off-reserve areas compensate the farmers for damaging their crop after a negotiation process to settle the issue. In the case of a TUC holder, the issue is resolved through mediation by a Forestry Official if negotiation fails (Figure 9.5).

Figure 9.5 Perceived spectrum of conflict management strategies employed in SRA, log theft and crop damage compensation conflicts in TUC areas (on and off reserve)



Source: Author, in scheme adapted from Moore (2003).

#### *Respondents' images and instruments regarding land-use conflicts*

The conflict incidences in this category evolve in relation to boundary disputes and illegal farming. Boundary disputes occur in both on and off-reserve areas. Within the reserve, the actors include the CBAG members, farmers and forest guards. This conflict type arises because of unclear boundaries which make it difficult to distinguish between the forest boundary and people's farmlands. In such cases, farmers often take advantage of the situation by extending farms into forest reserves or illegal clearing of new areas. It only becomes an issue when FSD officials or CBAGs/CFCs confront the farmer(s) with the illegal nature of their action. Associated with this is illegal farming within the reserve with underlying causes attributed to greed, hardship and poverty and lack of farmland. All the respondents reported that these conflicts are non-violent except one respondent from Kunsu-Nyamebekyere No. 3 who reported that the destruction of the crops of an unauthorised farmer within the reserve resulted in a violent confrontation between the farmer and the FSD official. As far as seasonality is concerned, conflicts between CBAG members or forest guards and illegal farmers occur mainly at the onset of the farming season between February and March when land preparation begins. The prevailing mode in managing illegal farming or extension of farms into the reserve is crop destruction, although some of the respondents mentioned that, in cases in which the chief or a respectable community elder intervenes, the farmer is allowed to harvest the crops and is warned not to engage in illegal farming again.

When official complaints about unclear boundary lines between the forest reserve and farmland are sent to the FSD, the CBAG members might be employed to clear the boundary for wages.

Boundary disputes in off-reserve areas occur when there is a (i) hostile land takeover by neighbouring farmers or neighbouring farmers shift boundaries to acquire more land, (ii) sale of farmer's land to a third party, or (iii) an inheritance problem with regard to land holding cocoa. Misunderstandings, arguments and the burning of farms were reported as being characteristics of this conflict type. Three respondents mentioned that the conflicts over land ownership and boundary-related conflicts are often difficult to resolve completely and may re-emerge when triggered by some personal misunderstanding among the parties. A conflict incidence related to farmland sold to another person in Kunsu-Nyamebekyere No. 3 could not be resolved at village level. The chief sent the case to the palace of the chief of Wioso, to whom he owes allegiance, with the request to mediate in the matter. According to the respondents the case was subsequently settled amicably, but it was a long time before a final decision was taken.

### *Proposed actions*

The respondents were asked how they perceived the effectiveness of the conflict management outcomes. The majority of the respondents (83%) perceived the conflict management actors as being able to resolve all aforementioned conflict types. According to the respondents, effectiveness depends on two factors: the culprit's acceptance of faults and the supremacy of the intervening actors. For the first factor, a common understanding among the conflict parties requires patience, the admission of fault and apologising to each other, as well as compensation for the affected party. Supremacy is vested in intervening actors such as the chief and elders, Unit Committee members, the court and the FSD, especially when the outcome is a fair verdict. However, 9% of the respondents felt that the conflicts they witnessed were not completely resolved and 8% of the respondents were not sure whether the conflicts had been resolved or not.

Among the factors that hinder effective conflict management outcomes, respondents mentioned inflexible and recalcitrant behaviour exhibited by some people and bad judgment by a party due to favouritism. Respondents proposed several roles for different stakeholder groups that could minimise conflicts in the production regime. During the validation meeting, the opportunity was used to present the survey outcomes and create consensus on roles for the different actors. According to this consensus, the chiefs and elders at community level could play advisory, educating, mediating and monitoring roles. The hybrid actors' roles (i.e. those of the CBAGs and CFCs) should centre on collaboration with FC, traditional authorities and communities, as well as on education and advising on issues of forestry and support of preventing and mediating conflicts. The role for the FSD should include education, consultation and effective implementation of forestry activities such as the MTS and boundary clearing. Law enforcement agencies (i.e. the FSD, police and military) must ensure efficient and fair enforcement and judgement. The local arm of government (i.e. the District Assembly) needs to engage the communities in education and support them by mediating in SRA negotiations (Box 9.1).

## Discussion

The discussion is divided into two sections. The first section examines the challenges and opportunities in the production forest regime and the second section analyses the implications of the conflict outcomes for law enforcement under the VPA.

### *Challenges and opportunities within the production forest regime*

Governance outcomes in a system (either desirable or undesirable or a blend thereof) depend on the interaction between the system-to-be-governed and the governing system. That is to say, the way society manages or allocates access to forest resources based on prevailing laws and the impact thereof on society determine how society responds to these arrangements and their impacts. Such an analysis of governance interactions between the system-to-be-governed and the governing system help to assess how and why governance implementation sometimes falls short of desirable outcomes (Chuenpagdee & Jentoft 2009).

The first challenge in the Tano-Offin production forest regime is what Peluso (1992 cited in Amanor 2005) termed the '*progressive criminalisation of customary rights of forest access*'. The Tano-Offin production forest contributes to the livelihoods of local people by providing plant and animal NTFPs for domestic use and cash, providing access to degraded forestland for farming under the MTS, engaging in chainsaw milling and earning wages by providing forest services (i.e. boundary clearing or working as a forest guard). This finding corroborates previous studies (e.g. Falconer 1992, World Bank 2001, Ros-Tonen & Wiersum 2005, Sunderlin *et al.* 2005) that indicate the various benefits local people derive from the forest to build their livelihoods. However, in Ghana's forest reserves, most of these resources are accessed illegally, with the exception of collecting NTFPs for domestic use, which is considered a communal right in management plans (Kyereh *et al.* 2006). In such cases there is a clash between the system-to-be governed (i.e. the natural system and the human system) at local level and the governing system, due to issues of legality. However, local people do not acknowledge their actions as being a crime as defined by outside individuals or institutions and they violate state laws either as an act of defiance or in a desperate attempt to achieve subsistence, thus defying the law as an act of resistance (*c.f.* Amanor 2005: 16).

The second challenge is that the prevailing governing system restricts the legal access of timber harvesting to TUC holders in accordance with Act 547 (amended 617). This is an example of what Ribot & Peluso (2003:154) conceptualised as 'bundles and webs of powers', meaning powers that enable some actors to gain control and maintain access, like in a production forest where access control and gaining access to commercial timber harvesting is limited to forest managers and TUC holders. Those who perceive the governing laws as being unfavourable for their survival start to become 'criminals' when they access the resources in violation of the law and are apprehended (even if they find ways to slip past forest managers and law enforcement agencies in one of the ways indicated in Figure 9.5, i.e. negotiation with or without bribery or mediation through elite intervention). According to Nketiah *et al.* (2004), such criminal act – chainsaw milling – has become a 'necessary evil' in Ghana's forestry sector, as it has become the main source of domestic wood supply in the country and a source of livelihood for many rural and urban households (Amanor 2005, Marfo 2010).

**Box 9.1** *Recommended roles for local level institutions*

**Local level: the traditional and hybrid governing structure**

**Chiefs and elders**

- Educate and advice community members to desist from illegal activities that will result in conflicts, especially during church services that are attended by most people.
- Avoid favouritism in settling disputes.
- Monitor the taungya heads to be fair in land distribution under the MTS.

**CBAGs /CFCs and Unit Committees**

- Strengthen patrolling and boundary clearing roles in order to protect the forest.
- Educate community members to abstain from restricted forest areas.
- Advise community members against illegal operations in the forest.
- Support in settling of disputes in the community.

**District Level: the formal (statutory) governing structure**

**Forest Services Division (FSD)**

- Provide regular community education on forestry issues.
- Provide regular clearing of forest boundary lines through employing the CBAGs and other community members.
- Should be proactive in their duties and avoid collecting gifts from operators.
- Cooperate with local community members and chiefs in the day-to-day management of forest resources.

**Police and judiciary**

- Must be professional in their dealings with issues and avoid favouritism and bribery.
- Control at checkpoints whether drivers transporting logs have a conveyance certificate
- Provide careful judgment and imprison defaulters with a view to deterring others.
- Avoid prolongation of court cases which discourages people from sending cases to court.

**District Assembly**

- Educate and advise community members on the relevance of the forest and on government policies.
- Ensure that TUC holders pay SRA benefits to the communities.
- Create jobs for the youths of the communities.

*Source:* Field survey (2009) and validation meeting (2010).

The third challenge relates to community benefits from forest resources, these can come from different sources. One of these ways is through community-based organisations such as CBAGs or CFCs (Chapter 5) that are given specific roles to play in forest management in exchange for an intermittent flow of wages. Unfortunately, the members of such organisations often receive no wages in the name of ‘voluntarism’. Benefits that trickle down as communal benefit mainly come from Social Responsibility Agreements



(SRAs) and crop damage compensation for individual farmers as stipulated in Act 547 (amended 617). The laws give *de jure* right of benefits to the above actors and reluctance on the part of the timber contractor to fulfil these rights can lead to the suspension or termination of their operations. Unfortunately, due to poor education on forestry issues the communities and the farmers are not aware of their legal rights as enshrined in the SRA and crop damage compensation arrangements. As noted by Asare (2006), the legislation lacks specific regulations on how to determine compensation and ensure that farmers are 'fairly compensated'. Similarly, determining what constitutes the 5% of stumpage fees to be given by the contractor to a community is unknown and hence the benefits are determined on the basis of discretionary assessment. This creates suspicion among the parties especially on the part of the local people. Although a study carried out in the late 1990s by Richards and Asare (1999)<sup>7</sup> recommended two types of crop damage compensation to be paid to the farmers (i.e. *physical damage to cocoa and /or crops by timber contractors and cocoa yield loss due to tree micro-environmental benefits*), these recommendations have not yet been considered in policies. Most reported conflict cases relating to forest resources stem from these benefits right (Amanor 2005, Marfo 2006).

The fourth challenge is related to the conflicts inherent in natural resource use. The nine conflict types identified in this chapter can be classified under three categories: (i) conflicts related to forest resources, (ii) operational conflicts in TUC areas and (iii) land-use conflicts. Such conflicts are inevitable in complex, diverse and dynamic environments, where actors operate at different levels of scale (Buckles & Rusnak 1999, Castro & Nielsen 2003, Kooiman 2008, Chuenpagdee & Jentoft 2009). Each of the conflict categories are driven by both manifest conditions (i.e. confiscation of forest resources, the arrest of offenders, crop destruction, road barricades, disobedience of rules, etc.) and antecedent conditions (i.e. greed, economic hardship and poverty, reluctance to fulfil the social responsibility agreement (SRA) obligations etc.). The multiple causes are related to the diversity of actors from different levels of geo-political scale, ranging from those at community level to actors such as chainsaw millers, TUC holders and the FSD/Military team, which all compete to fulfil their own needs, objectives and interests.

Amidst these challenges, there are different opportunities as far as conflict management is concerned. The results show that actors and institutions involved in conflict management and resolution processes use a combination of coping strategies (see Glasl 1999, Moore 2003, Engel & Korf, 2005, Wehrmann 2008, Chapter 2). For example, log theft can be resolved at reserve level through negotiation, mediation or coercion, with the latter possibly being converted into negotiation as shown in Figure 9.5. Among the actors, the local traditional authorities play a more important role in conflict management than is often assumed. Literature suggests that they no longer have a say in forest resource allocation and management since forest resources fall under the custody of the central state (Ghana Constitution of 1992, Mayers & Kotey 1996). However, this study reveals that traditional authorities at local level continue to play an important role in the management and resolution of conflicts over these resources.

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<sup>7</sup> See Richards & Asare (1999) for a detailed analysis of incentives for Ghanaian cocoa farmers to maintain timber trees and a calculation of the compensation rates that cocoa farmers in Ghana deserve. The compensation proposed refers to physical damage to cocoa and/or crops by timber contractors and compensation for cocoa yield loss due to loss of tree micro-environmental benefits such as nutrient recycling, soil and air temperature, loss of NTFPs etc. In addition to these two compensations comes 'additional positive incentive payment' to compensate the farmer for his skills in tree identification.

*Implications of the conflict management outcomes on law enforcement under the VPA*

Based on the analysis of survey results, four possible outcomes of conflicts and conflict management strategies were identified (see Figure 9.3). The first possible outcome is that *communities and farmers succeed and/or fail to materialise their benefits rights*. This is the case in the following situations:

- Communities fail to fulfil their benefit rights when TUC holders deny them their SRA or when illegal chainsaw operators log trees on farmlands and thereby negotiate benefits with individuals instead of the entire community.
- Communities only acquire benefit rights after effective negotiation about the SRA obligation between the communities and the TUC holders and if the latter adhere to the code of conduct related to the SRA. However, the regular occurrence of road blockades indicates that some negotiations fail. In such cases, local communities succeed in claiming their rights through mediation by either the FSD or the District Chief Executive or through coercive action until the TUC holders meet their demands.
- Farmers also fail to claim their crop damage compensation rights when chainsaw millers abscond.
- Compensation rights materialise when farmers are able to negotiate a ‘fair compensation’ with TUC holders. When negotiation fails, the FSD mediates.

The second possible outcome is that the communities and chainsaw millers’ gain and/or lose access to timber resources.

- *De facto* access is obtained by community members who illegally enter the forest reserve to gain access to farming land, NTFPs and, on a few occasions, to engage in chainsaw milling. Chainsaw millers beyond community settings gain access to timber resources. Both actors lose when they are arrested or confronted by forestry officials or law enforcement agencies.

The third possible outcome is that TUC holders lose timber to chainsaw millers and other TUC holders.

- Through theft, some of the logs within TUC areas are appropriated by chainsaw millers and sometimes by a neighbouring TUC holder with the excuse being unintentional trespassing.

The fourth possible outcome is that the FSD fails to materialise revenue rights due to illegal logging.

- In this case, the revenue intended for economic development and/or key stakeholders’ royalties go to individual pockets.

As indicated in Figure 9.3, the desirable outcome of conflict management is to improve the system-to-be-governed. However, among the identified outcomes only payment of SRA may have a positive impact on community development, while fines from illegal logging may help improve the management of the forest resources. In the latter case, however, there are so many escape routes (as indicated in Figure 9.5) that it may be difficult for the nation to generate sufficient revenue from fines to impact positively on the natural system. Furthermore, such revenues are probably insufficient to compensate for the damage done by illegal logging that escaped supervision by the FSD.

The outcomes indicate that stricter law enforcement under the VPA is urgently needed to save the forest resources. However, there is a risk that this will result in a temporary ‘pseudo-reduction’ of illegal forest activities. If the underlying factors as identified in this chapter and other studies are not addressed, the system may be reversed to its original state of illegalities. The situation may even escalate if local people, driven by need or greed, succeed in creating alternative routes to access the same resources despite stricter enforcement.

As asserted by Christy *et al.* (1997: 143), law enforcement plays an essential role in forest management, but is limited because of the complex nature of the forest and is therefore the last resort for obtaining compliance with the law. Several authors (Contreras–Hermosilla 2001, Kaimowitz 2003, Inoguchi *et al.* 2005, Owusu *et al.* 2010, Wiersum 2010) have therefore proposed complementing the hard or suppressive means of enforcement with ‘soft’ or ‘preventive and detection’ enforcement mechanisms. Based on the analysis in this chapter of the governability challenges within the production regime in Ghana’s forests, the aim is to contribute to this debate by presenting three issues for consideration in the design of strategies for soft law enforcement. First, develop the capacity of stakeholders (particularly resource managers and FSD frontline staff) in conflict management and integrate conflict management into the VPA system just as REDD+ has initiated (see Chapter 5). Second, enhance forestry extension by strengthening forestry education at local level. Lastly, engage inhabitants of forest fringe communities in forest management on a remunerated basis. To this end, the FC and other institutions should make efforts to secure funds from REDD+ and other climate-related financial mechanisms to enhance the budget available for such measures. The rationale behind this recommendation to align VPA and REDD+ mechanisms is that the factors that drive illegal logging are very much the same as those that drive deforestation. Access to climate-related funds will enable Ghana put into practice some of the actions proposed above, and thus tackle both VPA and REDD issues related to ensuring good forest governance.

## Conclusion

Ghana derives most of its timber revenues from the production regime. This chapter revealed that interaction between the prevailing governing system and the human system poses challenges to the governability of the natural system. Local people and individuals from other levels of scale often access forest resources illegally and this is characterised by conflicts. Law enforcement as envisaged under the VPA is therefore essential. However, strict law enforcement has to be combined with an efficient strategy of soft law enforcement in the form of building conflict management capacity, promoting extension on forestry issues at local level and creating income-generating activities in forest management. The suggestion is that VPA and REDD+ processes should be aligned because the drivers of illegal logging and deforestation are very much the same, as are the objectives of both processes to improve forest governance.

## Social capital construction between a timber operator and local community in the Tano-Offin off-reserve forest: Interactive governance at micro level

### Introduction

Over the past two decades, the concept of social capital has been evolving in various academic disciplines. In the early 1990s, it became one of the key assets of the sustainability livelihood framework (DFID 1999). The concept of social capital has also been employed in literature on natural resources and environmental governance (see Pretty & Ward 2001, Trimble & Berkes 2010). There are different definitions for social capital. However, the central tenet of the concept is the ‘interaction’ between or ‘relations’ among individuals or institutions which are bonded by trust, reciprocity, common rules, norms and networks among other features developed in an iterative process (Portes 1998, Pretty & Ward 2001, Woolcock & Narayan 2002). This general principle of social capital aligns with interactive governance theory through the concept of ‘interaction’ (between stakeholders in the system-to-be-governed, between governing actors and between the governing system and the system-to-be-governed (Kooiman *et al.* 2005, see Chapter 2). These interactions are analysed with a view to assessing governability (i.e. the overall capacity for governance, which is understood as being the interaction between public and private actors to find solutions for societal problems and create opportunities, see Chapter 2). If the ‘societal goal’ is the sustainable management of natural resources, this comes close to the focus in studies that relate social capital to environmental governance. For example, Pretty & Ward (2001) analysed social capital as social action for sustainable resource management (incl. watershed management, integrated pest management and forest management). Drawing from a study of artisanal fisheries in Uruguay, Trimble & Berkes (2010) propose a social capital framework as a basis for creating synergy between the concepts of interactive governance and social capital in fisheries management. They argue that social capital can foster our understanding of the socio-economic system (i.e. the system-to-be-governed), the governing system, and the

system of governing interactions and therewith help to assess governability. In this chapter, the social capital concept is used to analyse the interaction between actors in Ghana's off-reserve areas.

Ghana's off-reserve area is a mosaic of patches of forest, fallow and farmlands (Bih 2006). Over the years, it has been a major contributor to timber harvesting for domestic and exports markets despite its sharp decline by the turn of the millennium. Between 2003 and 2006, has generated between 19% and 27% respectively of the annual timber revenues in Ghana (Affum-Baffoe 2009, Hansen & Treue 2009). Nonetheless, stakeholders in the sector are uncertain of its sustainability in view of the rapid deforestation and lapses in the current legislation, which has a disincentive effect on farmers' who tend and nurture the naturally grown timber trees during farming (TBI 2009).

The inequitable sharing of timber resource benefits and restricted access to timber for commercial purposes for actors such as chainsaw operators have become sources of conflict and contestation. These are between the timber operators (both illegal and illegal) and the farmers, among legal and illegal timber operators and between the Forestry Commission and the timber operators (i.e. legal and illegal) (see Chapter 9, Amanor 2005, Asare 2006, Marfo 2006, TBI 2009, Ros-Tonen *et al.* 2010). Payment of crop damage compensation and social responsibility agreement (SRA) to farmers and local communities respectively are often the focus of these conflicts.

The initial objective of this chapter was to understand the nature of forest and tree livelihood conflicts and conflict management strategies in the Tano-Offin off reserve. This would enable me to contribute to the off-reserve conflict debate on crop damage compensation and SRA. However, when the first meeting with the inhabitants of the study area – the Awisasu community – was held in June 2009, the initial objective had to be changed since there was an indication of cooperation between the inhabitants, farmers and the timber contractor operating in the off-reserve area. The research question was therefore redefined to read 'What factors facilitated the cooperation between the local community and the timber operator in Tano-Offin off-reserve area?' This central question was further split into four sub-questions:

1. What are the characteristics of the Tano-Offin off-reserve area as a system-to-be-governed in terms of the natural and socio-economic sub-systems and the interaction between the two?
2. What governing systems (i.e. challenges and opportunities, access to farming lands, customary and statutory arrangements) operate within the Tano-Offin off-reserve area?
3. What are the perceptions of the inhabitants and the timber operator on why crop damage compensation and SRA conflicts are minimal or absent?
4. What are the views of government officials with regard to crop damage compensation and recommended actions for improvement?

The chapter is based on document analysis, a community meeting with 45 inhabitants, a semi-structured questionnaire with seventeen farmers, and a telephone interview with the timber contractor. Prior to this, a focus group meeting was held with three off-reserve timber operators in the environs of the Tano-Offin forest reserve. The views of the off-reserve issues that emerged from this meeting are also presented in this chapter. Another community meeting was conducted in 2010 to validate the findings. Even though there were no conflicts between the timber operator and the farmers, decisions had to be made regarding the issue of how much compensation should be paid and who should mediate during compensation payment negotiation emerged. Informal interviews

were therefore organised with officials of the District Forest Services Division, the District Ministry of Food and Agriculture (MOFA) and the Land Valuation Division of the Land Commission of Ghana (see Chapter 3 for a more detailed description of the methodology).

As in the previous chapters, the data and the respondents' views on the subject matters are analysed from an interactive governance perspective (Kooiman *et al.* 2005). Furthermore, elements of interactive governance theory (images, instruments and actions) are used for an in-depth understanding of the cooperation that resulted between the timber operator and the local people from their respective perspectives.

*Table 10.1* Stakeholder groupings who participated in the TBI workshop in 2007

<b>Governing structure</b>	<b>Organisation</b>
Statutory	Ministry of Lands, Forestry and Mines Forestry Commission (Wildlife Division and Forest Services Division) Office of the Administrator of Stool Lands Local government (District Assemblies)
Civil society	NGOs - TBI Ghana, Ricerca e Cooperazione, Forest Watch Ghana, Care International
Market	Timber industry – Abor Nova Chainsaw operators Sawn lumber sellers
Customary	Land owner
National supportive structure	Resource Management Support Centre Forestry Research Institute of Ghana, Kwame Nkrumah University of Science and Technology University of Ghana
International supportive structure	Danish Centre for Forest, Landscape and Planning Proforest Ltd FAO Tropenbos international ITC Netherlands

The next section presents the natural sub-system (i.e. Tano-Offin off-reserve) and the socio-economic sub-system of the study community and their dependence on the off-reserve area. After that the governing system is presented. With respect to the statutory governing system, a timeline of legislations dealing with timber revenue benefits for local communities and farmers is presented. Also the customary governing system that regulates access to farming land is addressed. Next, the various stakeholders' images (i.e. those of the local community, farmers, the timber operators and government officials) are presented, as well as their views of the instruments guiding off-reserve timber operations, benefit sharing and cooperation and the proposed actions. When doing so, first the key challenges and opportunities in the off-reserve areas are analysed based on a multi-stakeholder workshop organised by Tropenbos International Ghana in 2007<sup>1</sup>, which involved actors from several constituencies (see Table 10.1). Then the results of a focus group meeting held with off-reserve timber operators in 2008 are presented. Next, the images, instruments and actions from a community perspective, based on a commu-

<sup>1</sup> The workshop was organised by Tropenbos International-Ghana in collaboration with the Danish Centre for Forest, Landscape and Planning and with financial support from CARE International-Ghana in 2007. The workshop outputs were published in 2009 and proceedings are available on URL: <http://www.tropenbos.org/publications/strengthening+off-reserve+timber+management+in+ghana> (accessed on 10 November 2011).

nity meeting, the results of the questionnaire survey and a validation meeting are presented. Finally, the outcomes of semi-structured interviews with government officials are presented, these focus on their roles in negotiating social responsibility agreements (SRAs) and crop damage compensation. The penultimate section discusses the governance interactions and the features of social capital (see Pretty & Ward 2001) that contribute to the absence of conflicts about timber benefit sharing between the contractor and the local community (including farmers). The chapter ends with a conclusion.

## The system-to-be-governed

In line with the previous chapters, the system-to-be-governed is analysed in terms of both the natural and human sub-systems. The subsection on the natural system provides a brief description of the off-reserve in the environs of Tano-Offin forest reserve (see Chapters 4 and 9 for a more detailed description). The social characteristics of the inhabitants of Awisasu and the contribution of off-reserve forest resources and agricultural products to their livelihoods are analysed in the section on the socio-economic sub-system.

### *The natural system: The Tano-Offin off-reserve area*

Generally, there was no delineation of forest estates in Ghana before the reservation in the early 1900s. The reservation processes brought about a physical demarcation of what is termed ‘forest reserves’ and any forest land that falls outside the forest reserves is termed ‘outside forest reserves’ or ‘off-reserve forest area’. The off-reserve forest area represents about 5,482 million hectares out of the 7.5 million hectares of the high forest zone (Affum-Baffoe 2009). Table 10.2 presents the distribution of off-reserve areas according to vegetation zones.

*Table 10.2* Total off-reserve within the high forest zone of Ghana according to vegetation zones

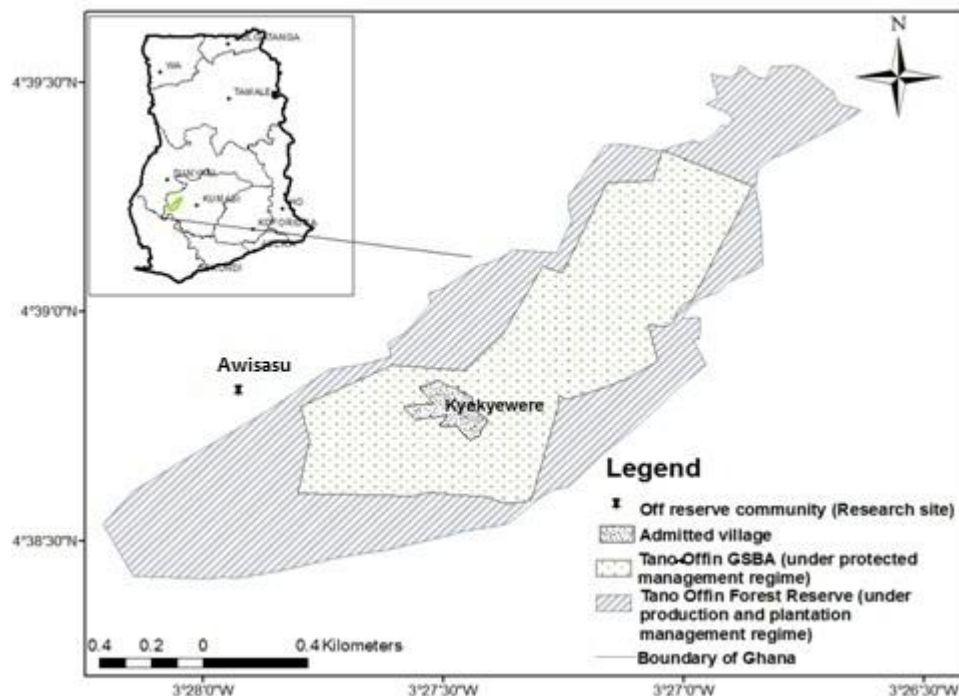
<b>Vegetation zone</b>	<b>Total area off-reserve (ha)</b>
Wet /moist evergreen (ME/WE)	1,618,738
Moist semi-deciduous South East (MSSE)	1,559,236
Moist Semi-deciduous North West (MSNW)	1,071,758
Dry semi-deciduous (DS)	1,232,446

*Source:* Affum Baffoe 2009.

The off-reserve timber resources encompass naturally regenerated trees on farms and agricultural fallow lands and patches of natural forest stands. The fallow lands are secondary growth on abandoned farms, with high potential for producing timber trees, whilst the farm areas are lands used for active farming under various cropping systems (TBI 2009, Bih 2006). According to Kyereh *et al.* (2006), a national botanical survey conducted in the area between 2001/2 by the Forestry Commission of Ghana recorded three rare species in some farmlands around Tano-Offin. The three species were two Black Star species (*Guibotia dinklagei* and *Aubregrinia tainsis*) (see note to Table 10.3 for Ghana’s star rating of timber species) and one Blue Star species (*Pterocarpus mildbraedii*), which are widespread internationally but rare in Ghana. Within the Tano-Offin forest reserve environs, the Akyikon range is one of the seven off-reserve ranges in the Nkawie Forest District where a timber utilisation contract (TUC) has been issued for a period of five years.

This reserve area is an important component of the natural resource base of the country, which contributes to the timber trade and provides agricultural livelihood sources for local people and sites for private plantations development (TBI 2009). For Stools and District Assemblies without on-reserve production forest or minerals, revenues from off-reserve timber constitute a significant funding source (*Ibid.*: viii). Nonetheless, the farmers in this area who nurture naturally generated timber trees on their farms do not have a monetary share in the royalties derived from the timber trees nurtured and only receive negotiated money from the contractor in the event that their food or cash crops are damaged during the timber operation (OASL/FC 2010, Act 547).

Figure 10.1 Map of Awisasu community bordering Tano-Offin Forest Reserve



### *The socio-economic system*

This section deals with the socio-economic system, addressing respectively the socio-economic characteristics of the Awisasu community and their dependence on forest and tree resources.

#### – Socio-economic characteristics

Awisasu community is located about 40 km from the capital town Nyinahin of Atwima Mponua District in the Ashanti Region (see Figure 10.1). The community falls within Akyikon off-reserve range. The estimated population aged over eighteen years is 435 (AMD Electoral Office 2010). In terms of infrastructure, the community has a school from the kindergarten to primary level and three boreholes, of which only one actually serves as a source of drinking water for the population. The inhabitants complement this water source with streams from which they draw water for other uses. In addition to the aforementioned infrastructure, there is a pit latrine, which serves both males and females in the community. The community is without electricity.



As an agrarian community, the inhabitants are involved in the cultivation of food crops (e.g. plantation, cassava, vegetables, and rice), cash crops (e.g. cocoa) and live-stock rearing for both domestic and commercial purposes. Just like Kyekyewere admitted village (Chapter 7), the Awisasu community pays allegiance to the stools to which it belongs, in this case Nyinahin and Nkawie Panin. The community therefore has two chiefs known called as ‘*Odikro*’ who represent each of the stool landowners (see also the section on the customary governing system). Like a typical community in the southern part of Ghana, Christianity dominates with other religions such as Islam and traditionalists.

– Contribution of forest resources to the local people’s livelihoods

During the community meeting, the inhabitants revealed that about fifty-six of the inhabitants were engaged in the modified taungya system in 2006 (see Chapter 8 for more information on the MTS). According to the inhabitants, in the past, they used to extract NTFPs from the forest reserve such as snails, mushrooms and game from the forest reserve, but currently do not use these resources anymore because they hardly ever access the reserve since they are no longer engaged in the MTS. People still extract NTFPs such as pestles, mushrooms and snails from the off-reserve area, especially from the fallow lands. These resources contribute to the households’ cash and non-cash income on a seasonal basis. With regard to tree planting in off-reserve area, only a few farmers have planted timber trees such as *Cedrella odorata* (cedrella) and *Tectona grandis* (teak) on their farmlands, albeit on very low scale. However they reported that they tended and nurtured different types of indigenous timber species when farming. According to the farmers, some of these trees (e.g. *Ceiba pentandra*) serve as shade for them to rest when tired during farming, while others (e.g. *Terminalia ivorensis* (emire) and *Terminalia superba* (ofram) serve as shade for some crops especially cocoa.

## The governing system

Most of the issues (i.e. the social responsibility agreement (SRA), crop damage compensation and legislations) related to the off-reserves have been discussed in Chapters 5 and 9. This section first presents the trends and status of legislations regarding timber revenue benefits for local communities and farmers, and then looks at the management roles of various actors and their respective benefits derived from timber resources. Next, it examines the customary governing structure at local level to gain a better understanding of why social capital is strong in this case and as a further background to the complexities of separation between land and tree tenure arrangements.

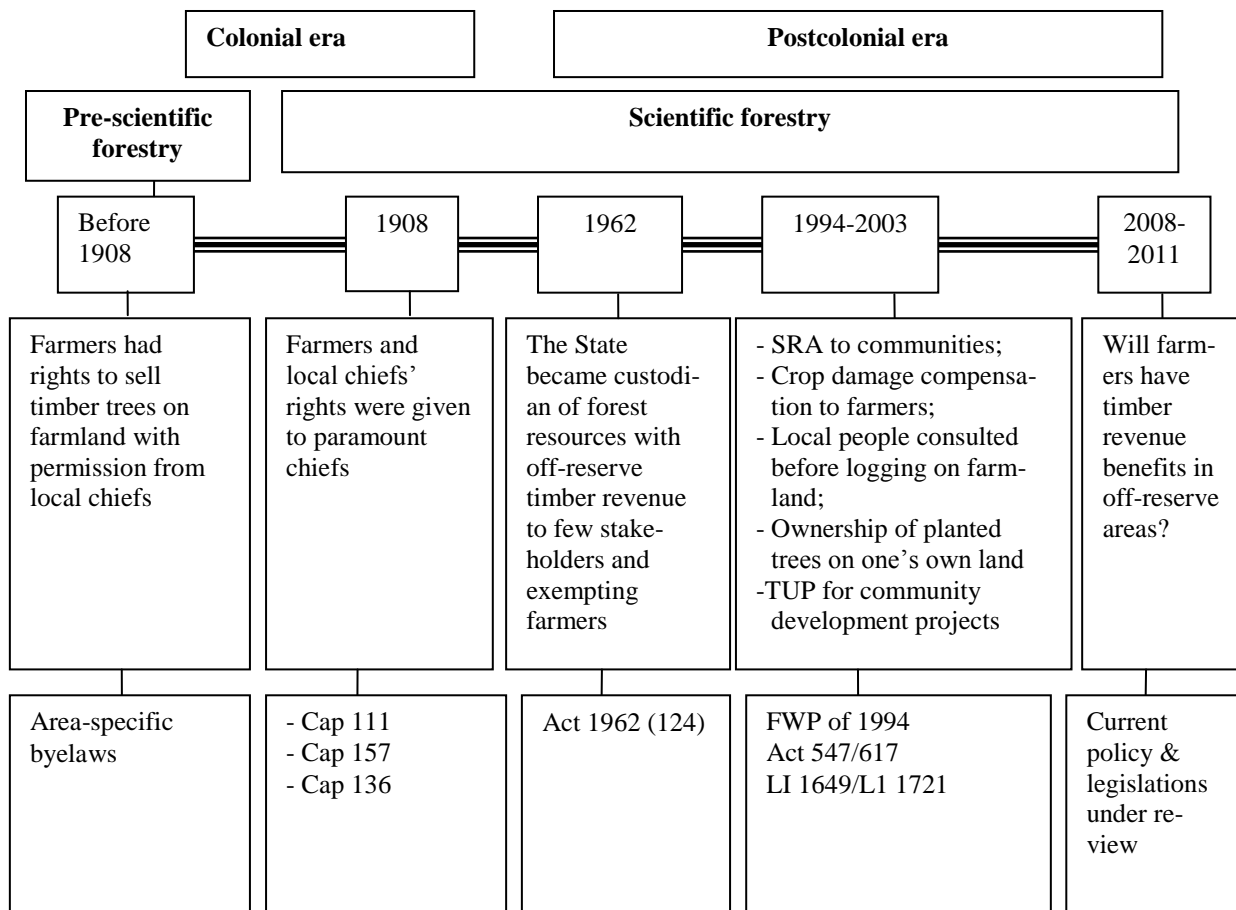
### *The statutory governing structure*

Farmers and local communities’ current rights to timber resources and revenue benefits can be traced back to the colonial and post-colonial era (Figure 10.2).

Prior to the introduction of scientific forestry in 1908, farmers had the right to sell timber trees on farmlands with permission from the local town chief based on specific byelaws (Amanor 2005). The introduction of scientific forestry brought about changes in tree tenure rights through which the rights of farmers and their local chiefs were assigned to the paramount chiefs governed by statutory and customary laws. In 1962, during the post-colonial area, the state became (and still is) the custodian of forest resources with timber revenue (royalties) benefits shared among a few stakeholders while exempting others (see Figure 10.3). Between 1994 and 2003, policy reforms and new

legislations resulted in improved recognition of the rights of local communities and farmers to a share in the benefits and revenues from timber resources. Local communities began to enjoy the SRA (see Chapters 5 and 9) and were also able to apply for a timber utilisation permit (TUP) to access timber resources for community development projects. Since then, farmers in off-reserve areas have also benefited from crop damage compensation by the timber contractor based on negotiation. Other benefits for local communities and farmers established in this period are shown in Figure 10.2. Since 2008, the 1994 Forest and Wildlife Policy and legislations have been under review with one of the issues to be addressed being related to the question of whether farmers will have a monetary share in the royalties from trees that they tend and nurture on the off-reserve farmlands.

Figure 10.2 Timeline of changes in legislations recognition of farmers/local communities' benefits in timber resources



Based on a review of literature on the subject matter (notably OASL/FC 2010) and the results of the questionnaire survey and interviews, the actors involved in off-reserve timber management, their roles and their shares in timber revenues were reconstructed as presented in Figure 10.3.

Figure 10.3 Actors and their roles in, and benefits from, off-reserve timber resource management

Actor	Actor's role in managing off-reserve timber resources	Actor's benefit from the timber resource/revenue*
FSD	Allocate timber felling right to TUC holders; occasionally mediate in crop damage/SRA disputes; no silvicultural management responsibilities.	Receives 50% of royalties.
Farmers (both tenant farmers and landowners)	Tend and nurture saplings of economically valuable timber species when farming.	Fairly negotiate compensation (no fixed amount given).
TUC holders	Fell trees and pay stumpage for the trees to be harvested.	Access to timber trees.
District Assembly	Mediate in SRA negotiation (in some districts).	Receives 24.75% of royalties.
Office of Administrator of Stool Land (OASL)	Disburse timber royalties among beneficiaries.	Receives 5% of royalties.
Traditional council and stool land owners	Providing access to farming land.	Receives 20.25% of royalties.
Community	No specific role unless the need arises to protect timber trees against fire outbreaks	Receives 5% of stumpage fee as SRA from the timber contractor.
Chainsaw operator	No formal role; accesses timber resources illegally, sometimes pay a moderate compensation for the farmers	Free rider access to timber unless arrested.

\* Stakeholders' royalty benefits were calculated on the basis of the FC's new disbursement arrangement: 50% of any shareable revenue from forest reserves and off-reserve areas is retained by the FC as a management fee, whilst 50% is disbursed to stakeholders. The disbursement is based on Section 267 (Sub-Section 6) of the 1992 Constitution of the Republic of Ghana, which stipulates that the net revenue accruing from stumpage/rent after providing for FC's management fees and 10% for the OASL is to be distributed among the stakeholders as follows: 25% to the Stool, 55% to the District Assembly and 20% to the Traditional Council (OASL/FC 2010).

Legally, the FSD of the FC is mandated to manage the off-reserve forests resources. Through the FSD the FC allocates timber-felling rights to TUC holders for a period of five years in return for stumpage fees. Occasionally the FSD mediates in SRA and crop damage compensation negotiations when a contractor fails to come to an agreement with a local community or a farmer. Nonetheless, this mediation occurs when the aggrieved party (i.e. the contractor, community or farmer) reports the matter to the FSD. Unlike the situation in on-reserve areas, the FSD has no silvicultural management responsibilities such as site preparation, firebreaks establishment, enrichment planting, etc. Nonetheless the FC receives 50% of the revenues from the stumpage fees (royalties) paid by the contractor. The farmer, who can be a tenant or landowner, often tends and nurtures economic timber species while farming, either to provide shade for resting or to facilitate the growth of some crops such as cocoa. By law (Act 547) the farmer is entitled to negotiate his/her right to a monetary benefit from the contractor. The chainsaw operator has no formal role in terms of timber management, but illegally accesses the timber in return for a moderate compensation amount to the farmer on the condition that he will not be arrested. The active and passive roles of other actors in the management of off-reserve timber resources and the benefits they derive from the resources can be found in Figure 10.3.

Figure 10.3 does not include the Ministry of Food and Agriculture (MOFA), which has no direct responsibility in off-reserve forest and timber resource management. However its work interferes with off-reserve forest and timber resource management due to poor coordination between the two agencies. An interview with two MOFA extension officers in Nyinahin highlighted the poor working relationship between the MOFA and the FSD regarding off-reserve forest management and poor communication about management and policy directions. A clear example is advice on how to deal with trees on cocoa farms. MOFA prefers a combination with gliricidia (*Gliricidia sepium*) (also referred to as ‘mother of cocoa’), which is a multi-purpose leguminous tree used for shading. This is, however, not a tree which is of interest to the FC. Timber species that MOFA considers compatible with cocoa farming are *Terminalia ivorensis* (emire) and *Terminalia superba* (ofram), but they discourage trees such as *Ceiba pentandra* (onyina), *Cola gigantea* (watapuo) and *Musanga smithi* (odwuma) that are not suitable for cocoa farms. They advise cocoa farmers to cut these trees because they carry diseases, require a lot of water and prevent sunlight from reaching the cocoa trees. According to the FC perspective, however, it would be preferable to tend such trees. In the field, confusion often arises because MOFA extension officers and forest guards of the FSD use identical uniforms.

#### *The customary and hybrid governing structure*

The strong social ties and connections within the village can be partly explained by the prevailing customary and hybrid governing structures. There are two traditional councils made up of the local chiefs, the queen mothers and the elders (including sub-chiefs) representing the stools of Nyinahin and Nkawie Panin respectively who are in charge of the general welfare of the community. These chiefs and their sub-chiefs have the same functions as outlined in Chapters 7, 8 and 9. The reason that the community has two chiefs and traditional councils is because the committee land belongs to two different stools. In practice this means that each of these local chiefs are caretakers of these lands and are responsible for the allocation of lands, collection of land rents and settling disputes on land issues in their domain. When it comes to general community welfare (that

is, community development projects, communal labour, etc.) both chiefs and their elders collaborate to facilitate such duties in order to ensure harmony within the community.

Embedded in the customary structure are community social groups such as the ‘Peace and Love’ and ‘*Odo ne kruye kuo*’ (Love and Unity), which are responsible for supporting community members during marriage, sickness or a funeral of family members and relatives.

In addition, there are two hybrid governing structures. One of these is the water and sanitation committee (WATSAN) formed by a government institution at district level (the Community Water and Sanitation Agency) that oversees water and sanitation activities in the village. The other one is the Community Biodiversity Advisory Group (CBAG) created by the FC to involve community members in clearing the boundaries of the protected area of the reserve and in serving as a watchdog against illegal activities in the forest.

As indicated before, trees on farming land fall under the custody of the state (FC/FSD), but land falls under the custody of the stool (see Chapter 5). Within the community setting, there are two ways a farmer can access farming land. The farmer within the community who calls her/himself a ‘landowner’ accesses the farmland through the stool, which in this case is the family of Nyinahin and Nkawie Panin. This is either by outright purchase or leasing, with the latter being the most common option. In both cases, the farmer pays an annual land rent known locally as ‘*ento*’ to the traditional council of Nyinahin or Nkawie-Panin depending on the stool from which the land was acquired. This generally amounts to GH¢ 8 (US\$ 5) per year for an acre of land.

The second category of farmer is the ‘tenant farmer’. This tenant farmer accesses land from a landowner through a leasehold or sharecropping system. Within the community, the leasehold of land in return for cash rent usually applies to land rented for a short period of three years, which is used for food crop cultivation. In the case of a sharecropping arrangement, a piece of land is given to the tenant in return for a share of the farm produce. In Ghana, the two most common sharecropping arrangements are ‘*abunu*’ and ‘*abusa*’. *Abuna* means ‘share in two parts, indicating that the crops are shared equally between the tenant farmer and landowner. *Abusa* means ‘share in three parts, which indicates that one party takes two-thirds of the crops whereas the other is entitled to the remaining one-third. Which party is entitled to the largest share depends on which party has invested more input. While food crops are generally cultivated under the ‘*abunu*’ system, cash crops are often cultivated under the ‘*abusa*’ system.

Based on Hill (1956, cited in Amanor & Dierutuah 2001)<sup>2</sup> a further distinction in the ‘*abusa*’ system can be made between the ‘*abusa* labourer, the ‘*abusa* tenant’ or ‘caretaker’ and the ‘*abusa* land tenant’ (Box 10.1). All the modalities occur within the study community. The third variant enables a farmer to become a landowner, provided the stool or family landowners acknowledge this. In this new status, the former tenant farmer pays the yearly land rent (‘*ento*’) to the respective traditional councils (i.e. Nyinahin or Nkawie-Panin).

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<sup>2</sup> Amanor & Dierutuah (2001) also provide an interesting analysis of the origin of the different sharing cropping systems in Ghana.

### Box 10.1 *The different 'abusa' relations in Ghana farming system*

1. The 'abusa labourer' works on an established cocoa plantation where s/he weeds, plucks the cocoa, ferments and dries the beans and markets them, for which s/he receives one third of the proceeds in return. The landlord provides the tools, clothing, and a plot of land on which to cultivate food crops, in return for which s/he receives two thirds of the proceeds.
2. The 'abusa tenant' is generally a migrant without land rights, who has contacted the stool (the chief) for land to cultivate cocoa. After being allocated a piece of forestland, the *abusa* tenant establishes a cocoa farm with his own labour and capital, without the landlord's assistance in the form of tools, food, seeds or other inputs. When the farm starts producing, the *abusa* tenant pays one third of the proceeds to the chief and is entitled to two thirds of the proceeds.
3. The 'abusa land tenant' is like the previous variant, with the difference being that the farmer is allowed to keep all the cocoa during the early years of fruit bearing and can keep one third of the cocoa plantation once the cocoa matures. The rest of the plantation then goes to the landowner. This system is sometimes used to cover a sale or grant of land.

*Source:* Hill (1956) cited in Amanor and Diderutuah (2001: 1-2).

## From images to action

This section focuses on the images, instruments and actions regarding timber management in off-reserve areas from the perspectives of various stakeholders. The first subsection presents a multi-stakeholder perspective, based on the outcomes of a national multi-stakeholder workshop held by Tropenbos International Ghana in 2007. As these outcomes were presented as a collective outcome, irrespective of diverging perspectives between different stakeholder groups, the subsequent subsections present the images, instruments and actions from the perspectives of timber operators, community members and government officials respectively. The timber operators' perspective is based on the outcomes of a focus group meeting, which was held with three off-reserve timber operators in 2008 and a telephone interview with the timber operator active in the study area. The community perspective is based mainly on a community meeting with 45 villagers. These three analyses show that, despite being generally depicted as a contested battlefield, Ghana's off-reserve forest areas also include scenarios of cooperation instead of conflict. The last subsection examines more specifically the images, instruments, actions regarding benefit sharing and damage compensation from the perspective of governance officials.

### *A multi-stakeholder perspective of challenges and opportunities regarding off-reserve timber resources*

Past studies in Ghana's off-reserve areas have revealed two prevailing key issues in off-reserve tree harvesting: the SRA and crop damage compensation payments and the conflicts that these generate between timber operators (both legal and illegal) and local

communities and farmers (Amanor 2005, Marfo 2006, Hansen 2011, see also Chapter 9). A study by Lambini (2010) revealed that these conflicts, particularly those related to crop damage compensation, affect the social, natural and financial capitals of the farmers negatively.

The participants in the multi-stakeholder workshop identified several problems in the off-reserve area and formulated several recommendations for policy and research. These are presented in Box 10.2 as images, instruments and actions. Generally, the participants asserted that off-reserve timber resources are dwindling because of (i) inequitable benefit sharing between state agencies and timber operators on the one hand, and local communities and farmers on the other, (ii) inappropriate financial incentives for farmers who tend naturally generated timber trees resulting in the destruction and illegal harvesting of trees, and (iii) failure on the part of the FC to manage off-reserve forests and tree resources sustainably.

#### *The perspective of timber operators*

In November 2008, a focus group meeting was held with some timber operators working in the off-reserve areas of the Tano-Offin forest reserve. The discussion centred on problems they encounter in their operations, how they overcome them and how they should be addressed. Similarly to the outcomes of the multi-stakeholder workshop, the timber operators' views are presented in Box 10.3 according to the three elements (i.e. images, instruments, actions) of first order governance (i.e. day-to-day management). When interviewed, the timber contractor active in the study area narrated how he managed to establish a good relationship with the residents of the study community. He had previously worked in the Akikyon range in the early 2000s. During that period, he encountered some problems with farmers with regard to compensation payments. Having learned from this experience, he planned to establish a good relationship with the residents once he had obtained a TUC that granted him legal right to work again in the study area, in order to enable a smooth operation this time. To that end, he fulfilled his SRA and employed some young community members during his second term, including one active tree hunter. The task of this young man is not only to identify timber trees but also to lobby and negotiate with the farmers on a compensation rate. As the contractor he or any of his workers engages in the negotiation process only when difficulties arise. According to him, this has not occurred as yet, as social ties play an important role in the negotiations because the young man is a citizen of the village. He also narrated that the SRA has been effective because, in addition to providing the farmers with money for crop damage compensation, he also provides a token of money as an incentive and compensation for tending and nurturing the trees. When asked why he does not pay outright when the trees are felled, he reported that he originally intended to do so in order to commit the farmers to caring for the standing tree and not having to compete with chainsaw millers who only pay for a felled tree. He also said that conflicts between farmers and timber operators could be minimised if the operators deal directly with the community members rather than with the chief and elders only, and if they fulfil their legal obligations. In addition, he recommends the involvement of some young people from the local community who are willing to work during the timber operation. The lessons learned from this experience are summarised in Box 10.4.

Box 10.2 *Images, instruments and actions: multi-stakeholder perspectives of off-reserve management in Ghana's high forest zone*

**Images**

***Inequity in benefit sharing:*** The current benefit-sharing scheme favours state agencies and landowners but denies local people access to timber resources. Farmers who care for trees on farmlands do not receive any benefit when these trees are harvested. Neither do farmers receive adequate compensation from timber companies for crop damage resulting from logging activities on their farms. This has prompted farmers to neglect, and in some cases, deliberately kill off trees on farms. This is also a primary cause of illegal chainsaw operations, which directly and promptly reward the farmer, but have contributed greatly to the degradation of off-reserve forests.

***Unclear definition of roles and responsibilities in the management of off-reserve timber:*** Currently, not all stakeholders identified for the sustainable management of off-reserve timber resources have clearly defined roles and responsibilities that correspond with their individual territorial and functional interests in the resource. This does not provide a good basis for negotiating an equitable distribution of timber revenues.

***Absence of a platform to engage in a dialogue about off-reserve problems:*** There is no multi-stakeholder platform for continuous discussion and dialogue on long-term solutions to current and potential off-reserve timber management problems.

***Deficient legislation:*** The current forest legislations Act 547 and 617 do not provide enough financial benefits to farmers who manage the resources.

***Royalties' disbursement problems:*** The disbursement of timber revenues by the FC or the Office of Administrator of stool land is often late and characterised by a lack of transparency.

**Instruments (proposed)**

- Equitable benefit sharing and additional incentives to boost farmers' motivation to cater for trees on farmland.
- Improved allocation procedures of logging rights, resource pricing (timber rights fees, stumpage fees and other fees) and documentation of the distribution and the use of timber revenues by beneficiaries to increase accountability of the financial management of timber revenues.
- A platform for dialogue about off-reserve problems.

**Actions**

***Policy review:*** The current socio-economic context within which off-reserve timber trees are grown potentially creates tree tenure and benefit sharing conflicts, discourages farmers from raising and nurturing the trees because they receive no reward for these efforts and poses a problem for sustainable management. This calls for a review of current forest policies, particularly with regard to tree tenure and benefit sharing and eventual devolution of management to the farmer.

- ***Review of institutional roles:*** The present complexities of off-reserve timber resource management, institutional and communication means reforms are necessary. This includes the need to establish a platform for information sharing, sensitization and creating a common understanding between landowners and land users in terms of land and tree tenure.
- ***Improvement in techniques for managing off-reserve trees:*** More research is needed on options to improve the management of naturally regenerated trees in off-reserve areas, with a view to enabling farmers to respond appropriately to changes in agricultural technology.

Source: TBI Ghana, 2009: ix-x.



**Box 10.3** *From images to action: The views of off-reserve timber operators*

**Images**

The operators revealed that in their operations they constantly interact with actors such as the FSD, chiefs, farmers, local communities, chainsaw operators and the FSD/Military task force. In such interactions, they face problems regarding:

- SRA negotiation with local communities;
- Negotiation of compensation for destroying farm produce during the felling of trees;
- Tree theft by chainsaw operators;
- Low pricing of the logs by saw millers who buy the logs.

According to the timber operators, the first two problems arise because there is a lack of education on SRA and compensation negotiation on the part of the FC to the local communities. As regards the third problem, farmers instruct chainsaw operators to fell trees on lands given to contractors because this enables them to gain more directly from the trees on their farmland. The last problem that relates to the pricing of logs arises because saw millers who are supposed to buy the logs from the operators have large concession areas and hence control timber pricing. In the views of these respondents, these problems affect their operations because they reduce their profit margin, delay the operation and result in additional costs.

**Instruments**

In dealing with problems of SRA and crop damage compensation with local communities and farmers respectively, the participants' indicated the use of negotiation as the first means of dealing with the problems. According to them, these are often successful but sometimes require mediation by the District Chief Executives (DCE) and the FSD as well as by an opinion leader in the community in which they operate.

As far as tree theft by the chainsaw operators is concerned, arrest with the support of the FSD/military task force or the police was indicated as the most appropriate instrument. However, this is only feasible if the person is actually met during the operation.

The low pricing of logs could best be dealt with by negotiating with prospective buyers to access the price before logging. However, since the logging process takes so long, the buyer could change the proposed price for that particular species and timber operators would then have no other option but to sell to the buyer.

**Actions**

- The operators mentioned the following strategies to minimise off-reserve problems that result in conflicts:
- The DCE and FC representatives must educate the local communities on the SRA negotiations to explain the 5% of the annual royalties as their social right.
- The MOFA must educate the farmers about the need to grow trees on the boundaries of their farmland rather than inter-mixing them with their farm products, since felling destroys food crops and the trees compete for nutrients in their farms.
- The FC must go beyond granting timber permits and must also include educating the stakeholders, including the timber operators.
- The Ministry of Lands and Natural Resources should make it a priority to open negotiations between sawmillers and timber contractors on the issue of wood pricing.

*Source:* Focus group meeting with timber operators, November 2008.

**Box 10.4** *Strategies used by the timber contractor and the local people to achieve a good relationship during tree felling in the off-reserve area*

***Drawing lessons from past working experience:*** The timber contractor had previously worked with the local community and during that time he had experienced some problems. He therefore drew lessons to enable him to establish a better relationship during another term of timber operation in the area.

***Networking:*** At the onset of the operation, the contractor established a network not only with the chiefs and elders but also with the youths in the community by providing some with employment in relation to his operations. He also employed one of the youngsters as his spokesperson to communicate and engage in dialogue with farmers from his own village, therefore making use of existing social ties.

***Fulfilment of SRA and other benefits:*** the contractor adhered to the legal benefits that local communities are entitled to in the form of SRA and paid promptly and made sure that the negotiation process was properly documented. He also assisted the community in a number of ways and this earned him trust and respect from the local people.

***Social ties:*** The tree hunter used the existing social ties with his people (*i.e.* farmers) to facilitate conflict-free negotiations

***Monetary incentive in addition to crop damage compensation payment:*** Besides paying compensation for cash and food crop damage, the contractor gave a token amount of money to the farmers as an incentive for tending and nurturing timber species.

***Shared responsibility:*** The contractor avoided outright payment of an agreed amount of money for harvested trees because he wanted the farmers to share the responsibility of protecting the logs from chainsaw millers.

***Reciprocity evolved:*** The contractor enjoyed an atmosphere of peace in his timber harvesting operation, which was bereft of conflicts. On the other hand the local community enjoyed some investment in community development in addition to a cash incentive from the SRA. The farmers received a payment for crops destroyed in addition to cash for nurturing the timber trees, whereas some youths gained access to employment.

*Local community and farmers' perspectives for cooperation in off-reserve timber management*

Images, instruments and actions from a community perspective were discussed during a community meeting attended by forty-five inhabitants. In addition, a survey questionnaire was employed and a focus group held with seventeen farmers on whose land trees had been harvested.

– Images

The inhabitants reported that the timber felling process begins with FSD range supervisors visiting the village to inform them about the allocation of off-reserve timber trees to a timber contractor for a certain period. The officials then briefly inform the inhabitants about the SRA and crop damage compensation arrangements. During pre-felling, the FSD official, accompanied by Unit Committee representatives and some farmers, visits farm and fallow lands to mark the trees that qualify for possible allocation under a TUC. The inhabitants confirmed that the current contractor employed a local ‘tree hunter’ – a person who searches and negotiates for trees – as well as several youths to work in the timber harvesting process.

According to the inhabitants, the timber operator supported the construction of the primary school in the village with cement and a cash contribution of GH¢ 700 (US\$ 467) during his previous work in the area in 2001. For this current operation, he provided the community with ten bags of cement for renovation of the school building. He had yet to fulfil the SRA at the time of data collection in 2009. However, during the validation meeting in 2011, the inhabitants (n=36) revealed that the contractor had fulfilled the SRA obligation in the meantime. To this end, the two chiefs and the contractor had signed an agreement with two community members serving as witnesses and then sealed it in the presence of the Unit Committee chairperson. The elders were, however, reluctant to mention the amount of money the contractor paid. The inhabitants were unanimous in praising the contractor for fulfilling his SRA and reported that he had previously supported community development by repairing equipment used to spray their farms and for boreholes. As far as the villagers are concerned, the timber contractor is welcome to work in their village again when the current term of operation has ended.

On the question of why farmers usually destroy naturally grown timber trees on their farmland, they collectively responded that they do so because they do not benefit from timber like they benefit from cocoa. In their view, it is therefore a waste of time to nurture and protect the trees. They referred to a former contractor who operated in the area and did not completely fulfil his SRA obligations. This further undermined the incentives to care for the trees. The reasons are summarised in Box 10.5.

**Box 10.5** *Why farmers destroy naturally grown timber trees on farmlands*

- Timber contractors destroy the crops when harvesting the timber trees.
- They do not pay crop damage compensation as required.
- Sometimes farmers are not even informed that the trees on their farmlands or fallow lands have been made available to a timber contractor.
- If the farmer is absent, some timber operators log timber on farmlands without the farmer’s consent. These farmers only have an opportunity negotiate informally if they meet the contractor in person.
- Farmers receive no benefits from timber trees, except compensation for crop damage. Farmers consider this to be for ‘survival’ when compared to cocoa, which is for posterity.
- Cocoa is affected by the black pod disease because of being shaded by large timber trees.

*Source:* Community meeting held in Awisasu, 2009.

Table 10.3 Species available on farmers' (n=17) fallow and farmlands

Trade name/local name	Scientific name	Star rating*
African mahogany	<i>Khaya</i> spp.	Scarlet
Akata	<i>Rhodognaphalon buonopozense</i>	Pink
Asanfina	<i>Aningeria robusta</i>	Pink
Bako	<i>Tieghemella heckelii</i>	Scarlet
Danta	<i>Nesogordonia papaverifera</i>	Pink
Edinam	<i>Entandrophragma angolense</i>	Red
Emire	<i>Terminalia ivorensis</i>	Scarlet
Esia	<i>Petersianthus macrocarpus</i>	Green
Kyenkyen	<i>Antiaris toxicaria / Antiaris Africana</i>	Pink
Kyereye (koto)	<i>Pterygota macrocarpa</i>	Red
Odum	<i>Milicia excels</i>	Scarlet
Ofram	<i>Terminalia superba</i>	Pink
Onyina	<i>Ceiba pentandra</i>	Pink
Otie	<i>Pycnanthus angolensis</i>	Pink
Penkwa (Sapele)	<i>Entandrophragma cylindricum</i>	Scarlet
Sapele	<i>Entandrophragma cylindricum</i>	Scarlet
Wawa	<i>Triplochiton scleroxylon</i>	Scarlet

\* Green = no threat of extinction; pink = significantly exploited, but no threats yet to their economic future; red = current rates of exploitation present a significant danger of economic extinction; scarlet = under imminent threat of economic extinction. For an explanation of Ghana's star rating of conservation priority for timber species see Chapters 5 and 7. Source: Field survey 2009.

Additional data on off-reserve tree harvesting was gathered through survey and focus group meetings attended by five women and twelve men who had trees on their farms or fallow lands. Only two of the males claimed to be tenants with the rest being landowners. The crops normally grown on their farms are cocoa, maize, oil palm and plantain, with cocoa being the lead cash crop. The respondents stated that they had cultivated various timber tree species on their farm and fallow lands (Table 10.3), to which the botanical names and their star rating (based on Hawthorne & Abu-Juam 1995, see also Chapter 4 and 7) were added. The individual combinations of timber trees and crops are presented in Table 10.4.

Of the seventeen farmers who mentioned that they have trees on their farm/fallow lands, thirteen indicated that the contractor had felled some of the trees between 2005 and 2009. The rest reported that their trees has been earmarked but had not been harvested yet. The most common species harvested was *Ceiba pentandra* (onyina) followed by *Antiaris toxicaria* (kyenkyen) and *Terminalia superba* (ofram). The farmers confirmed the timber operator's account that they received compensation payment as compensation for crop damage and as a cash incentive for nurturing the trees. They received no compensation for crop damage on fallow land, as these are not considered to be actively cultivated, hence the timber operator feels there is no need to pay for crop damage. However, farmers do receive the incentive payment for nurturing trees on fallow land. The amount received by seven of the farmers during the time of data collection ranged from GH¢ 20 to GH¢ 160 (US\$ 13 to US\$ 107) (Table 10.5). The maximum compensation paid by the contractor as at the time of data collection included both compensation for damaged crops and a cash incentive for nurturing trees and involved the removal of 11 timber trees including *Antiaris toxicaria* (kyenkyen), *Terminalia superba* (ofram), *Ceiba pentandra* (onyina) and *Pycnanthus angolensis* (otie) (Table 10.5). Four of the respondents had received a partial payment of the negotiated amount, whereas two farmers reported that they had not received any money for the trees that were harvested.

Table 10.4 Crop and tree combinations on farm and fallow lands (n=17)

Ownership of land		Types of crops grown	Types of timber trees nurtured in local names
Tenant	Landowner		
Yes	Yes	Cocoa, maize	Wawa, onyina, African mahogany, ofram, asanfina
		Cocoa	Otie, African mahogany
	Yes	Cocoyam, cocoa	Ofram, emire
	Yes	Cocoa, plantain	Onyina, odum
	Yes	Cocoa, plantain	Ofram, onyina, wawa
Yes	Yes	Cocoa, plantain, vegetables	Onyina, ofram, kyenkyen*, otie
	Yes	Cocoa, plantain	Onyina, otie, ofram, akata, esia
		Cocoa, cassava, vegetables	Onyina, edinam, wawa, kyenkyen, emire, danta
	Yes	Cocoa, oil palm, Cocoyam	Kyenkyen, ofram, onyina
	Yes	Cocoa, plantain, orange	Wawa, odum, bako, edinam
	Yes	Cocoa, oil palm, orange, mango	Sapele, African mahogany, onyina, odum, wawa
	Yes	Cocoa, plantain	Onyina, kyenkyen, ofram, wawa
	Yes	Cocoa, plantain	Onyina, ofram
		Cocoa, plantain	Ceiba, ofram
	Yes	Cocoa, plantain, cocoyam	Odum, bako, ceiba, kyenkyen
Yes	Cocoa, plantain, yam	Ceiba, koto, kyenkyen	
Yes	Cocoa	Wawa, ceiba, koto, kyenkyen	

\* Kyenkyen (*Antiaris africana*) is also known as chenchen and ako.

Table 10.5 Compensation paid for harvesting trees from farm and fallow land

Area where trees were harvested	Year of harvest	Number of trees harvested	Kind of tree harvested (vernacular names)	Compensation paid (GH¢)
Farmland	2009	12	Wawa, onyina, edinam, ofram, kyenkyen, asanfina	GH¢ 20 for cocoa destroyed
Fallow land	2008	6	Kyenkyen, ofram, koto, onyina	No payment because trees were fell on fallow land
Farmland	2009	3	Onyina	GH¢ 50
Farmland	2009	8	Onyina	Not paid yet since logs have not been transported
Farmland	2007	13	Ofram, wawa, onyina	GH¢ 60
Farmland	2009	11	Kyenkyen, ofram, otie, onyina	GH¢ 160 including cocoa compensation
Fallow land	2009	8	Onyina, akata, otie	GH¢ 60
Farmland	2009	3	Kyenkyen, onyina, ofram	Not yet paid
Farmland	2009	2	Onyina	Partial payment made
Farmland	2009	15	Onyina, ofram	GH¢ 30 partial payment
Farmland	2009	12	Odum, bako, onyina, kyenkyen	GH¢ 40
Farmland	2009	4	Onyina, koto, kyenkyen	GH¢ 20
Farmland	2009	17	Wawa, onyina koto, kyenkyen	No payment

#### – Instruments

According to the farmers, negotiation begins between the tree hunter and the farmer. First they negotiate on the trees that the farmer will allow the contractor to fell and the timing. When the crops are almost ready to be harvested, the farmer proposes postponing tree felling until after the crops have been harvested. If negotiations are successful, there will be no need for the contractor to intervene. The tree hunter then pays the agreed amount to the farmer. The amount of incentive payment for nurturing trees depends on the species to be harvested, with a higher amount generally being paid for tree species with a high market value such as those with a scarlet star rating. However, the amount to be paid is determined at the discretion of the timber contractor (through the tree hunter).

The procedure for establishing crop damage is more subjective, but generally the amount paid for cocoa is higher than that for food crops. Since the farmers receive a lump sum for crop damage compensation and tree nurturing, it was difficult to ascertain what prices are paid for individual timber species or crops. During assessments of crop damage between them and the tree hunter there are no government officials (e.g. MOFA or FSD) to help them assess the actual cost of the damage. They therefore receive a payment at the discretion of the tree hunter and the contractor. However, the farmers reported that the negotiation process with the tree hunter and, occasionally, the contractor, does not generate any conflicts and that they are satisfied with the current arrangements. However, they do not know what would happen with another contractor. The only problem they experience is the mode of payment. Farmers would prefer the contractor to pay the agreed amount outright instead of receiving a partial payment at the onset of harvesting and the rest when the logs are loaded onto the truck. As it takes some time before the logs are actually loaded, the small amount of money agreed upon will have lost value by the time it is actually paid.

During the validation meeting with some of the inhabitants of Awisasu, a discussion was held to decide what, in the inhabitants' view, would constitute a 'fairly negotiated' compensation as stipulated by law. The inhabitants felt it would be fair for them to receive a 30% share of the royalties from the forest reserve (instead of 5%) as they live closest to the forest and help to maintain it. Regarding the benefits from naturally generated trees on farm and fallow lands they advocated 10% of the stumpage fee for the farmer in addition to the crop damage compensation which they felt should be GH¢ 10 for a cassava plant and GH¢ 20 for a cocoa tree. Some of the participants felt the benefit should go to the farmer (i.e. local landowner) who received the land directly from the chief of Nyinahin or Nkawie-Panin and not to the tenant farmer, as the 'landowners' are the ones who have to pay the annual rent to the actual landowner in Nyinahin or Nkawie-panin. According to the inhabitants, the latter already receive a benefit in the form of their share in the royalties, so would not need to receive an additional stumpage fee.

#### – Actions

The final question discussed at the validation meeting centred on how to minimise problems and conflicts arising from off-reserve tree harvesting. The responses were as follows:

- Efforts should be made to create a common understanding between communities, farmers and timber contractors about the payment of compensation and SRA.
- Timber contractors should pay promptly for destroyed crops.

- Timber contractors should invest in a good relationship with communities and farmers and inform them properly when an area is allocated to them.
- Arrangements should be made for compensation payments for trees felled on fallow land.

*Government officials' perspectives of their role in the compensation negotiation process*  
This section presents the views of government officials on compensation payment procedures and how they could be improved.

#### – Images

An informal interview with an FSD district officer revealed that the FC mediates in SRA negotiations, but in compensation payment negotiations only when the contractor and farmer do not reach an agreement and one of the parties sends a petition letter. He admitted it would be better to mediate before any conflict arises. However, due to a limited number of staff and an already heavy workload for range supervisors adding the responsibility for mediation is not feasible. He thought that one possible solution would be the appointment of a customer services officer who could play a mediating role between the FC and stakeholders as well as among different stakeholders. The FC promoted the concept of a customer service officer in the early 2000s, but it has not been institutionalised thus far in all the forest districts.

#### – Instruments

Interviews held with two MOFA extension officers in Nyinahin centred on how they calculate compensation payments for farmers when invited to mediate. In the event of destruction by timber contractors, they take the following steps to determine:

- The economic lifespan of the crop destroyed (i.e. 30 years for a cocoa tree).
- The age of the crops and existing properties on the field.
- The number of plants or trees affected or the area destroyed.
- The average crop yield per plant/tree or per acre).
- The current market prices (excluding interest rates, inflation or bank charges).

Generally, the crop damage compensation for cocoa is calculated as follows:

$$\text{Crop damage compensation payment} = \frac{\text{Number of individual trees destroyed} \times \text{Average crop yield} \times \text{Current market price}}{\text{Relative lifespan of the crop}}$$

The Land Valuation Division<sup>3</sup> (LVD) of the Ministry of Lands and Natural Resources is also occasionally involved in crop damage compensation assessments. An interview with an LVD official in the Ashanti region revealed that the LVD has documented rates for crops and property for compensation purposes, but that these are not regularly reviewed as should be. When services are requested in compensation mediation, they use the Investment Method of Valuation (Box 10.6), through which they assess the following:

<sup>3</sup> The Land Valuation Division was established as part of the Land Administration Project in 1999 that was set up to implement the National Land Policy to establish an efficient land administration system with a view to solving land disputes, improving tenure security and resolving ambiguities as regards the demarcation of customary lands (<http://www.ghanalap.gov.gh/> (accessed on 10 November 2011)).

- Inputs used in the acquisition of the property;
- The prevailing price of the property;
- The interest rate;
- The lifespan of the property;
- Maturity at destruction;
- Characteristics of the crops, e.g. exotic or local species.

The LVD also occasionally advises on compensation assessments in the law court.

#### Box 10.6 *The investment method of valuation*

The investment method of valuation is used to convert a commercial property's income flow (rent) into an appropriate capital sum (value), thereby relating the capital value of a property to its income-producing power. The formula to value a property is:

Value = Market Rent (MR) x Years' Purchase (YP) perpetuity

The Years' Purchase (YP) perpetuity is a multiplier that corresponds with the investors' target rate of return. It allows converting a property's rent into value.

*Source: Wyatt 2007.*

#### – *Actions*

The officials interviewed made the following recommendations to minimise the confrontations between farmers and timber contractors:

- Appointment of a customer services officer at the FC who could play a mediating role between the parties.
- The timber contractors must meet with the community and village authorities and show them where their logging activities are going to take place.
- Those who are going to be affected should be identified.
- Logging plans should be shown to and discussed with affected farmers.
- Procedures for negotiating compensation should be discussed with farmers for peace to prevail.

## Discussion

This section discusses the results regarding off-reserve timber resource management, access and benefits from two perspectives. The first subsection examines them from an interactive governance perspective, i.e. in terms of governance interactions between the system-to-be-governed and the governing system. The second subsection assesses the results from the perspective of social capital and how different strategies employed by the contractor and the local people help to establish cooperation instead of conflict.

#### *Governance interactions between the system-to-be-governed and the governing system*

The system-to-be-governed that was analysed in this chapter are Ghana's off-reserve areas, which are endowed with timber resources in patches of forest, fallow and farm-lands. These areas are an important source of timber revenues for the country and some



of its stakeholders as they still hold some rare timber species (Kyereh *et al.* 2006, Afum-Baffoe 2009, Hansen & Treue 2009, TBI 2009). It is also the major source of agricultural livelihood for local people who cultivate cash and food crops for income and domestic use. This landscape therefore presents two competing land uses, which if not well managed, result in conflicts associated with loss of livelihoods and environmental degradation (Ohlsson 2000). The results revealed that, even though the local inhabitants of Awisasu live close to the Tano-Offin forest reserve, they collect NTFPs for domestic and commercial use mainly from fallow land in the off-reserve area due to restricted access to the reserve. In addition, the off-reserve area provides them with their major sources of income from cash crops (especially cocoa) and food crops.

The off-reserve landscape presents a complex governing system because of the multiple governing structures involved and the different governing rules for land and timber trees. Land for the cultivation of crops is accessed mostly through the stool or family, via a chain of hierarchy. A person who acquires land directly from the stool could also engage in different crop-sharing arrangements with other farmers. Through one of these arrangements, the 'abusa' land tenant farmer can also become a local landowner (Hill 1956 cited in Amanor & Diderutuah, 2001). On the positive side, this mode of land transfer enables a tenant to become a local landowner. However, the system also contributes to land fragmentation.

Prior to the introduction of scientific forestry in the early 20<sup>th</sup> century, the right to access and explore timber resources in off-reserve areas was in the hands of the farmer and the local town chief (Amanor 2005). Scientific forestry changed this pattern by vesting the custody of land in the paramount chiefs (see Chapter 5), which excluded local people and farmers from timber resource benefits. A general call for collaboration resulted in a policy that granted rights to benefits to local people and farmers. These benefits range from SRAs for local communities, to crop damage compensation to farmers in off-reserve areas, ownership of planted trees and consultation of local people before logging proceeds in off-reserve areas (see Figure 10.2). The implementation of these policy directions in practice is still a challenge, despite there not being any adequate policy response to the inequitable sharing of timber revenues. These problems, coupled with accelerating deforestation and lapses in current legislation that create disincentives to farmers who tend and nurture naturally grown trees on farmland, make stakeholders question the sustainability of off-reserve timber resource management (TBI 2009). Figure 10.3 depicts a situation in which current legislation still ignores the farmer in off-reserve areas who is actually the only actor to contribute to off-reserve timber tree management. As proposed by the participants in the multi-stakeholder workshop organised by Tropenbos International in 2007 and the timber contractors who engaged in the focus group meeting organised for this study in 2008, there is a need to review policy and institutions and promote community education to help ensure the sustainability of timber tree management in the off-reserve landscape. The core issue is that local communities in off-reserve areas, and farmers for that matter, must have an equitable share of the timber revenues generated. However, the complexity surrounding land ownership as analysed in this chapter, means that a clarification is required of what really constitutes a 'farmer' or 'landowner' within the context of Ghana and who of them should be entitled to benefit from the royalties.

In addition, it is important that government agencies assume a more active role in the negotiation of crop damage compensation payments, rather than waiting passively until they are called when negotiation fails. For negotiation to be effective, the parties in-

volved must have equal negotiation skills. However, those of the timber operator are larger thanks to his interaction with other actors in the market governing structure. As Asare (2006) has noted, the farmers' expectations are often not realistic, and legislation lacks specific regulations on how to determine compensation and ensure that farmers are 'fairly compensated'. What constitutes *'fairly compensated'* is still unknown, and this increases the likelihood of misunderstandings in the negotiations between farmers and timber contractor, with conflicts often being the result. As argued in Chapter 9, the study carried out by Richards & Asare (1999)<sup>4</sup> in the late 1990s needs to be re-visited and given due policy consideration for farmers to enjoy the timber benefits to which they are entitled. Similarly, community inhabitants are insufficiently aware of what constitutes the SRA equivalent to 5% of stumpage fees to which the community is entitled as compensation for logging in their area. As a result, the benefits are set at the discretion of the timber contractor, and this makes local people suspicious. As shown in this chapter, there are still some governability challenges that require policy attention. However, the discussion in the next section shows that a timber contractor's ability to construct social capital can change conflict situations into cooperation. This underpins Portes' (1998: 3) statement that 'social networks are not a natural given and must be constructed through investment strategies oriented around the institutionalisation of group relations, and usable as a reliable source of other benefits'.

*The role of social capital and its implications for interactive governance theory*

Within the Awisasu community, the diversity of governing structures (i.e. the statutory, customary and hybrid governing structures) creates an environment conducive to strong social ties and networks. The customary governing structure system portrays three of the five elements<sup>5</sup> of 'connectedness' identified by Pretty & Ward (2001), namely local connections – strong connections between individuals and within local groups and communities – and horizontal local-local connections between groups within communities. Examples of the first are social groups such as 'Peace and Love' and 'Odo ne krue kue' (Love and Unity) which are based in the customary governing structure, where members help each other when the need arises. Local-local connections emerge when different community groups become interconnected. An example is the different religious groups (i.e. Christianity, Islam and traditionalist). The hybrid governing structure generates local-external connections – vertical connections between local groups and external agencies or organisations, being one-way (usually top-down) or two-way (*Ibid.*: 212). Examples of the latter are WATSAN and the CBAGS, which constitute collaborations between the community and the Community Water and Sanitation Agency and the FC respectively. The different dimensions of social networks at the community level is what Boissevain (1974: 31 cited in Portes 1998) labels as 'multiplexity', referring to

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<sup>4</sup> Richards & Asare (1999) present a detailed analysis of incentives for Ghanaian cocoa farmers to maintain timber trees and a calculation of the compensation that cocoa farmers in Ghana deserve for their efforts. The compensation proposed takes account of physical damage to cocoa and/or other crops by timber contractors and a compensation for cocoa yield loss due to loss of tree micro-environmental benefits such as nutrient recycling, soil and air temperature, loss of NTFPs etc. In addition to these two forms of compensation there is what Richards & Asare termed the 'additional positive incentive payment' to compensate the farmer for his skills in tree identification.

<sup>5</sup> The other elements of connectedness identified by Pretty & Ward (2001) which are not dealt with here are i) external-external connections -horizontal connections between external agencies that could lead to collaborative partnerships; and iii) External connections-strong connections between individuals within external agencies.

overlapping social networks where the same people are linked together across different roles.

In trying to understand the concept of social capital, Portes (1998: 6) distinguishes between (a) the possessors of social capital (those making claims); (b) the sources of social capital (those agreeing to these demands) and (c) the resources themselves. In this study, this corresponds respectively with (a) the local inhabitants of Awisasu who claim SRA, and the farmers whose trees are felled who claim compensation from the timber contractor; (b) the timber contractor who established a network with the community through the appointment of a 'tree hunter' who negotiates compensation payments with his own kin; and (c) benefits from timber resources. This scenario represents an interpretation of social capital as a source of benefits through extra-familial networks<sup>6</sup> (Portes 1998): the timber contractor establishes relations with the local people not only for their benefit but also to his own advantage because it creates a conflict-free environment for him to conduct his timber harvesting operations in a smooth manner.

The timber contractor's previous experience with the inhabitants of Awisasu and the challenges he had faced enabled him to act in a more strategic manner during his second term. One key strategy was to establish a network with the chief and elders of the community as well as with the youths. In the latter case he selected one to function as a negotiator. Apparently, the timber contractor has taken a cue from the aphorism '*It is not what you know, it's who you know*' (Woolcock & Narayan 2000: 225), which enabled him to establish a better relationship with the local people. By employing a local tree hunter who was made responsible for damage compensation negotiation and incentive payment for nurturing timber trees, the contractor took advantage of existing social ties – local connections in the terminology of Pretty & Ward (2001) – between the tree hunter and his people, thereby facilitating the negotiation process. These social ties become evident in the expression, '*He is a child of ours*'. In a small village like Awisasu, the tree hunter could simultaneously be the son, the nephew or grandson or neighbour of the inhabitants and this intensity of ties helps create trust. Furthermore, the timber contractor fulfilled the SRA obligations and additionally supported the local people in other agricultural and infrastructure needs. These strategies created respect and trust on the part of the local people to the extent that they expressed their willingness to work with the timber contractor again, when his term of operation ends and he reapplies. According to Pretty & Ward (2001) the relations of trust facilitates cooperation, reduces transaction costs between people and frees up resources.

According to Kramer *et al.* (1993), negotiation – either formal or informal – plays an important role in regulating social and organisational life. In this case study, the tree hunter negotiated with the farmers before felling the trees, as a mechanism to develop consensus and compromise on the payment of crop damage and to avoid social and natural resource conflicts. This resulted in conflict-free outcomes for both the operator and the farmers, despite the fact that some farmers were aggrieved that the contractor did not pay for trees logged from fallow lands and that they would have preferred outright payment for the trees felled. This gap in communication could have been avoided if the farmers had been informed of the 'rules' of the game at the onset of the negotiations.

The fact that social capital is not a panacea for all social groupings is well illustrated in literature (see Portes 1998, Woolcock & Narayan, 2000; Pretty & Ward 2001). Nev-

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<sup>6</sup> Other functions of social capital distinguished by Portes (1998) are the source of social control and the source of family support.

ertheless, this particular case has shown that the strategic use of social capital can promote cooperation instead of conflict in the management of off-reserve timber resources. Other timber operators can learn from this case to build a collaborative relationship with local communities. Echoing Portes (1998: 3), *'such features are not natural but must be constructed through investment strategies oriented to the institutionalisation of group relations, usable as a reliable source of other benefits'*.

By analysing the interactions between stakeholders in the system-to-be-governed in terms of social capital, this chapter has confirmed the argument by Trimble & Berkes (2010) that synergy can exist between interactive governance theory and the social capital framework. As proposed by Trimble and Berkes (*Ibid.*) this can be taken a step further: the social capital framework can also be used to analyse the interactions within the governing system (i.e. the government social capital) and the interactions between those who govern and those who are governed (i.e. the system of governing interactions).

## Conclusion

Ghana's off-reserve forest landscape generates timber revenues for the country and individual stakeholders and is a major source of agricultural livelihood for local people. Inequitable sharing of timber resources and benefits in this landscape has turned the area into a contested battlefield. In literature and interviews, the conflicts are attributed to the prevailing legislation, which excludes farmers and local people who manage the timber resources from timber benefits. However, the case study of the Awisasu community presents a scenario of cooperation that contrasts the frequently cited conflict status of off-reserve areas. This cooperation could be achieved on the basis of the construction of social capital elements such as networking, shared responsibility, and the creation of social ties and trust by the timber contractor, which was reciprocated by the local people. Even though this case is not representative of Ghana's off reserves as a whole, it shows that there is a need for other contractors to facilitate social capital in their operational areas in order to foster cooperation and minimise conflicts. In substantive terms, the case showed that the concept of social capital aligns well with interactive governance theory.

## Forest offences and law enforcement in Nkawie Forest District

### Introduction

Ghana's forest sector has an extensive range of laws to govern the management of forest resources (see Chapter 5). In practice, however, it appears that the enforcement of such laws is compounded by political and institutional challenges which result in the prevalence of illicit forest activities that eventually lead to environmental damage, revenue loss and the destruction of livelihood sources of forest fringe communities (Larbi *et al.* 2011, Nutakor *et al.* 2011, Oduro *et al.* 2011). Oduro *et al.* (2011) mention three weaknesses that undermine the regulatory and legislative instruments of Ghana, namely (i) non-compliance with the regulations by the sector itself, (ii) too many regulations governing the forestry sector, and (iii) low penalties for default. Christy *et al.* (1997) attribute weak forest law enforcement to (i) the remoteness of forested areas, (ii) the absence of a road network, or a deficient road network which impedes movement, and (iii) a closed canopy that hinders direct observations. In 2008, when Ghana committed itself to the Non-Legally Binding Instrument on All Types of Forests (NLBI)<sup>1</sup>, one of the four key policy objectives stakeholders recommended for urgent policy consideration in order to start realising sustainable forest management was *strengthening law enforcement*. This was in line with the United Nations Forestry Forum (UNFF) NLBI policy measure resolution 6(n), which states, '*Review, and as needed, improve forest-related legislation, strengthen forest law enforcement and promote good governance at all levels in order to support sustainable forest management, to create an enabling environment for forest investment and to combat and eradicate illegal practices according to national legislation, in the forest and other related sectors*' (UNFF 2008). In an effort to achieve

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<sup>1</sup> The NLBI, also known as 'the Forest Instrument' is a voluntary agreement under the auspices of the United Nations Forum on Forests by which UN members commit themselves to develop policies and take measures to stimulate sustainable forest management. Ghana was the first developing country that is taking concrete steps to implement the NLBI with support of the FAO and the National Forest Programme Facility ([http://www.csir-forig.org.gh/nlbi/docs/implementation\\_nlbi.pdf](http://www.csir-forig.org.gh/nlbi/docs/implementation_nlbi.pdf), accessed on 15 December 2011).

this policy objective, one of the strategies used is to document forest offences in the NLBI monitoring and evaluation framework as a baseline for monitoring illegal forest activities and as a means of checking whether existing measures have led to a minimisation of these offences (FORIG 2010).

This chapter aims to contribute insights that may support the national objective to strengthen law enforcement by analysing forest offences and their judgments in law courts in Nkawie forest district and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means of overcoming them.

The specific questions addressed in this chapter are:

1. What are the characteristics of the Nkawie Forest District reserves as a system-to-be-governed?
2. What governing system (i.e. institutions and legislative framework) with regard to law enforcement is available in the forest district?
3. What governance interactions arise from the system-to-be-governed and the governing system and what are their outcomes?
4. How do officials of the Forestry Commission, the Ghana Police Services and the judiciary perceive their institutional roles in dealing with forest offences?

Law students<sup>2</sup> at the Kwame Nkrumah University of Science and Technology (KNUST) conducted research under my supervision into research questions 3 and 4 and it was partly on the basis of this research that they graduated with a Bachelor of Law (LLB) degree in 2011. Although the key findings from their research study are used in this chapter, they are presented here from a different analytical perspective.

The chapter is based on document analysis of forest laws, offence records at the Nkawie Forest District from 2005-2010 and court judgements on 12 accessible forest cases in the Nkawie, Nyinahin, Mankranso districts courts and Kumasi circuit court. These are so-called unreported judgements, which are cases heard in district courts or tribunals but not published in a series of law reports (see Box 11.1 for a difference between reported and unreported cases). Furthermore, semi-structured questionnaires were sent to 19 officials from the Forestry Commission, Ghana Police Services and the judiciary mostly in the Nkawie Forest District (see Chapter 3 for details on the methodology).

Both primary and secondary data were analysed from an interactive governance perspective (Kooiman *et al.* 2005) to obtain an in-depth understanding of the factors that facilitate or hinder forest law enforcement and sanctions in the law courts. The perceptions of officials belonging to the FC, police and judiciary with regard to these factors are analysed in terms of images, instruments and actions (see Chapter 2).

The next section, which is devoted to the system-to-be-governed, presents the natural sub-system (i.e. the forest reserves in Nkawie Forest District). Next, the governing system is presented with a focus on the actors in the governing structures, the mandates of the Nkawie Forest District, and the legislation and sanctions that govern forest offences. The subsequent section describes the governance interactions based on an analysis of

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<sup>2</sup> They are Larbi Esther, Yankson Joseph; Annang Edwin Sarfo; Koomson Faustina Abeka; Boakye Kwabena Akyeampong. The LLB thesis is titled 'Judicial attitude towards forest related offences in the Nkawie forest district of Ghana' (unpublished April 2011). The research was funded from my research budget.

### Box 11.1 *Reported and unreported cases in Ghana's judicial system*

This chapter is based on the analysis of twelve forest cases which were heard in court but not published in a series of law reports. By contrast, published cases or law reports are written accounts of a court proceedings and judicial decisions. In Ghana, reported cases can be described as a published volume of judicial decisions and it is related to the superior court of judicature (High courts, Court of Appeal and the Supreme Court) and not the District or Circuit Courts where illegal forest offences are prosecuted. The Circuit court and the District courts are lower courts (see Figure 11.3).

Sources: URL: <http://www.library.otago.ac.nz/pdf/userguide.pdf>, accessed on 18 November 2011 and Boakye Kwabena Akyeampong, pers.comm. 2012).

records on forest offences of Nkawie FSD and twelve unreported judgements of forest offences in the law courts. After that, the perceptions of officials affiliated with the FC, police and the judiciary regarding forest offences and ways of dealing with them are presented. The chapter ends with a discussion of the findings, conclusions and recommendations.

### The system-to-be-governed: Forest reserves in Nkawie Forest District

The natural and human sub-systems of the system-to-be-governed were analysed in Chapter 4. This section is limited to the natural sub-system, i.e. the forest reserves in Nkawie forest district and its environs to which the forest offences analysed in this chapter refer.

*Table 11.1* The forest reserves, total area, perimeter and stool land owners in Nkawie Forest District

Forest Reserve	Total area (km <sup>2</sup> )	Total perimeter (km)	Stool land owners (caretakers)
Asenanyo	227.92	100.26	Nkawie Panin, Nkawie Kuma, Nyinahin, Domi-Keniago, Manso Nkwanta and Akwamu
Desiri	150.95	63.46	Hia and Akwaboa
Jimira	62.85	49.78	Toase and Nkawie under Bantama
Offin Shelterbelt	60.23	40.26	Toase and Atwima Agogo
Tano-Offin	402.23	117.90	Kontri, Hia, Nkawie Panin and Nyinahin
Tinte Bepo	115.54	64.62	Afari, Akyempin and others*
<b>Total</b>	<b>1019.72</b>	<b>436.28</b>	

\* Others were not specified in the data source.

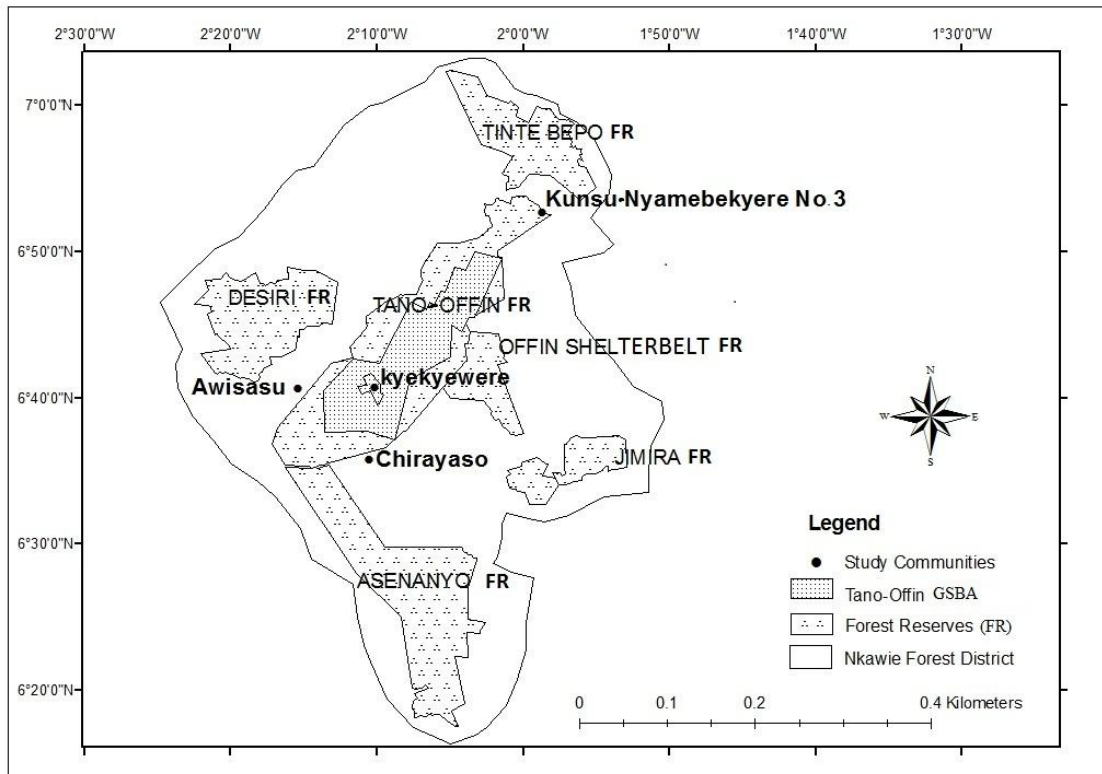
Source: Nkawie Forest information leaflet (2010).

The Nkawie Forest District is one of the seven forest districts in the Ashanti region under the jurisdiction of the FC/FSD (see Chapter 4). The Forest District headquarters are at Nkawie, about a forty-five minute drive from Kumasi, the capital of the Ashanti Region. The forest district covers six political districts, namely Atwima Nwabiagya, Atwima Mponua, Atwima Kwawoma, Bosomtwi, Ahafo-Ano South and Ahafo-Ano North. The Nkawie Forest District shares common boundaries with eight other forest districts, namely Bechem and Offinso Forest Districts in the north, Juaso Forest District

in the east, Kumawu Forest District in the northeast, Goaso, Bibiani and Sefwi Wioso Forest Districts in the west, and Bekwai Forest District in the southwest.

Six forest reserves are managed by the Nkawie Forest District covering a total area of 1,019.72 km<sup>2</sup>. These are Asenayo, Desiri, Jimira, Offin Shelter, Tano-Offin and Tinte Bepo forest reserves (see Figure 11.1). All the reserves are vested in the Golden Stool (*i.e.* the Asantehene) under the care of some stools who act as caretakers, as shown in Table 11.1.

Figure 11.1 Forest reserves in Nkawie Forest District

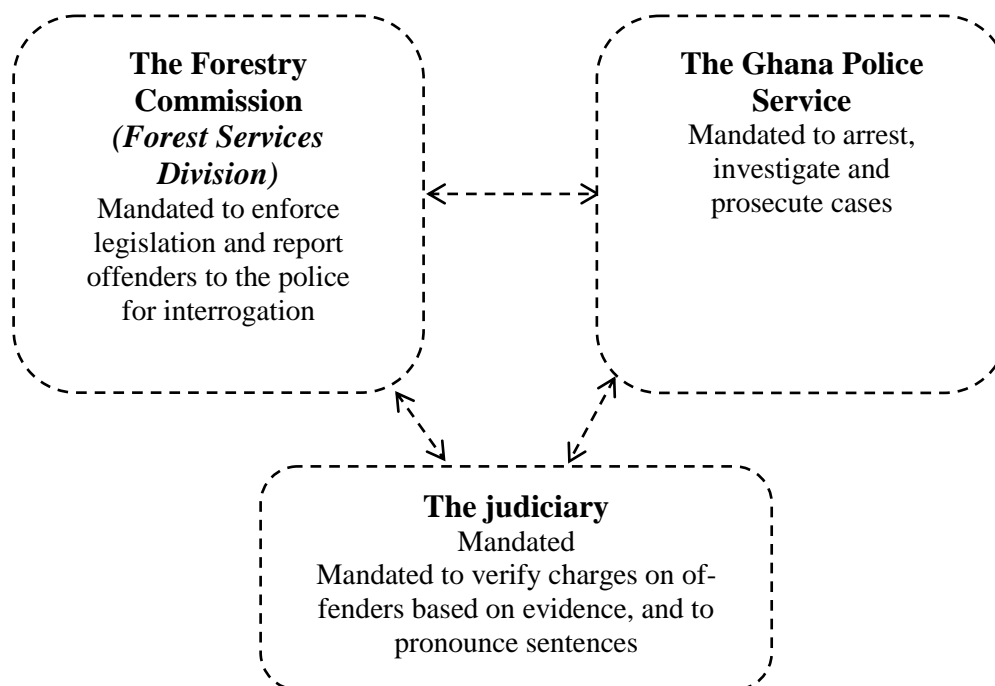


## The governing system

This section presents the institutional framework established to ensure law enforcement by looking at institutions as a structure and as legislations and rules that govern forest resources. First, the actors in the statutory governing structure and their roles in forest law enforcement are reviewed. This is followed by a detailed description of sections of two forest laws (*i.e.* Act 547 and L.I. 1649) and the associated sanctions, in order to clarify what are considered criminal offences in Ghanaian law. Most of the legislative issues regarding forest offences and their sanctions have been discussed in Chapters 5 and 7.



Figure 11.2 The institutions within the statutory governing structure involved in law enforcement



Key: <-.-.-> Governance interactions

#### *The statutory governing structure in forest law enforcement*

In the statutory governing structure three key governing actors play a role in forest law enforcement. These are the Forestry Commission (FC), the Ghana Police Service and the judiciary (Figure 11.2).

#### – The Forestry Commission

As discussed Chapter 5, the FC's responsibilities include ensuring effective implementation of the policies, laws and goals related to sustainable forest and wildlife management and the development of the timber industry. The FC is made up of three divisions and two centres that are responsible for the implementation of the functions of protection, management and regulation of forest and wildlife resources. The three divisions are the Forest Services Division (FSD), the Wildlife Division (WD) and the Timber Industry Development Division (TIDD). The two centres are the Wood Industries Training Centre (WITC) and a technical and research wing known as the Resource Management Support Centre (RMSC). The FC is the administrative body responsible for the management and enforcement of forestry legislation. Within the FC headquarters in Accra, a Legal Division is responsible for defending the FC on legal matters, for mediating between the FC and its stakeholders and for signing international contracts, agreements and memorandums of understanding. Internally, the Legal Division also advises the FC on issues relating to arbitration (Joseph Appiah, FC pers. comm. 2011). The Forest Services Division (FSD) is a public institution with responsibility for pro-

tecting, managing and developing the nation's forests resources for the benefit of all segments of society (FWP 1994).

– Nkawie Forest District officials and mandates

The District FSD of Nkawie Forest District, which is headed by a manager and two assistants, is responsible for the management of forest reserves at micro level. The range supervisors and forest guards are the frontline officials in direct and frequent contact with the local communities and the timber operators. Their core functions include:

1. Managing and protecting forest resources within the District in the national interest.
2. Maintenance of forest reserve boundaries.
3. Regulating the harvesting of on and off-forest reserve resources within the Forest District.
4. Collection and disbursement of stumpage revenues to stool land owners and other beneficiaries.
5. Facilitating the development of forest plantations.
6. Promoting awareness, understanding and support for forest resources conservation and protection.

As far as forest management is concerned, the District FSD monitors and regulates the harvesting of forest resources, especially timber, in reserve and off-reserve areas. With regard to protection, the District FSD protects the reserves by maintaining forest reserve boundaries, preventing wildfire and taking steps to keep out illegal loggers, chainsaw millers, farmers, etc. especially in hill sanctuaries, convalescence areas, globally significant biodiversity areas (GSBAs) and along river banks. It is the mandate of the forest guards to keep reserve boundaries clear and patrol the reserve in order to prevent illegal activities. In some of these activities, the District FSD collaborates with forest-fringe communities.

The range supervisors are in charge of regulating timber exploitation in a designated forest area. Using the tree information form (TIF), they conduct stock surveys and measure felled trees to estimate tree volume. Additional responsibilities are issuing log conveyance certificates to contractors and conducting post-harvesting timber inspections.

An important core activity of the District FSD is forest plantation development. This activity is carried out in collaboration with District Assemblies when plantations are established in the administrative districts, with local communities under the modified taungya system (Chapter 9) and with plantation developers under the commercial plantations scheme (NFSD 2010).

The last activity is forestry education, which encompasses public awareness creation. This is done in collaboration with other entities such as radio stations, district assemblies, the Ghana National Fire Service and some NGOs. Topics addressed in educational and sensitisation programmes include, but are not restricted to, wildfire prevention, afforestation and reforestation. The District FSD also provides technical advice to individuals or institutions who wish to engage in forestry activities such as tree nursery and plantation establishment.

The District FSD is currently involved in two projects, namely the Voluntary Partnership Agreement (VPA) with the EU to combat illegal logging (see Chapters 5, 7 and 9) and the Wildfire Management project. The Nkawie Forest District is one of the districts where the VPA is piloted, with a project being carried out in the Asenanyo forest

reserve that aims to ensure that timber trees taken from Asenanyo are legal. The rationale behind this project is to get ready for the EU market and to generate maximum revenue for the stakeholders involved. The Asenayo reserve has a productive area of 15,991.97 ha comprising 139 compartments. Since only one timber company has harvesting rights in this reserve, monitoring the extraction of logs from the reserve is relatively easy (NFSD 2010). The second project is the Wildfire Management project which is being undertaken in the Jimira forest reserve. The purpose of the project is to reduce and prevent wildfire incidences with the involvement of local communities. The project is supported by the wildfire component of the Natural Resources Environment and Governance Programme (NREG) that was discussed in Chapter 5. Under the project, the forest-fringe communities are contracted to clear the green fire belt established around the reserve in return for a wage payment (NFSD 2010).

Legislation is enforced through collaboration with the military and the police, with whom a timber monitoring taskforce has been formed. The taskforce arrests illegal timber operators and people engaged in other illicit activities such as illegal farming and mining.

#### – The Ghana Police Service<sup>3</sup>

British Colonial Authorities introduced professional policing in the former Gold Coast (now the Republic of Ghana) in 1821. Before that, maintaining law and order was the responsibility of traditional authorities that employed unpaid messengers to perform the executive and judicial tasks in their communities. In 1894, a civil police force was formed when the police ordinance was passed to formalise the institution of a Police Service. The functions of the Ghana Police Service, which are based on the Police Service Act, 1970 [Act 350] of Ghana are:

1. Crime detection and prevention;
2. Apprehension (arrest) and prosecution of offenders;
3. Maintenance of law and order; and
4. Due enforcement of the law.

#### – The judiciary<sup>4</sup>

As stated on its website ([www.judicial.gov.gh](http://www.judicial.gov.gh)), ‘The judiciary is the third arm<sup>5</sup> of government empowered by the Constitution and the laws of the Republic of Ghana, autonomous and vested with the Judicial Power of the nation’. According to the 1992 Constitution of Ghana, the Judicial Service is a public service institution responsible for the day-to-day administration of the country’s Courts and Tribunals. It is responsible for interpreting the Constitution and laws, administering justice and providing other related services. Figure 11.3 illustrates the hierarchy of structures, with the Supreme Court being the highest in rank and the so-called Inferior Courts (e.g. the juvenile court) at the lowest end of the hierarchy.

<sup>3</sup> Information derived from the website of the Ghana Police Service at <http://www.ghanapolice.info/history.htm> (accessed on 12 August 2011).

<sup>4</sup> Information based on the website of the Ghana Judicial Service at <http://www.judicial.gov.gh> (accessed on 5 November 2011).

<sup>5</sup> The other two arms of government are the executive and the legislative.

**Box 11.2** *The Timber Resources Management Act, 1997(Act 547), Section 17 stipulates that:*

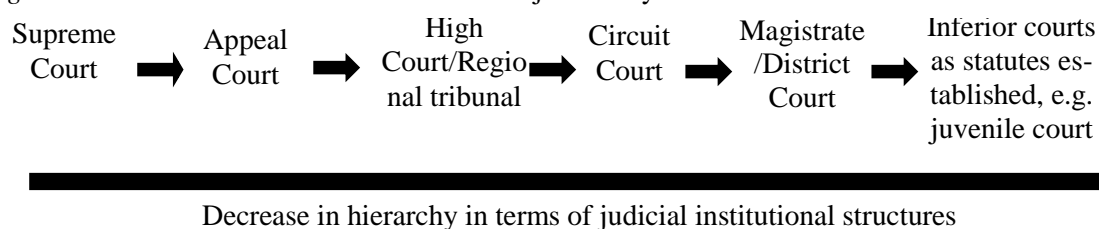
- (1) Any person charged with the management or protection of a forest resource by virtue of his employment in any institution of government who (a) By any act or omission in the performance of his duties facilitates the breach of any provision of this Act; or (b) condones or connives with any other person in breach of a provision of this Act, commits an offence and is liable on summary conviction to a term of imprisonment of not less than 6 months and not exceeding two years without the option of a fine.
- (2) Any person who (a) harvests timber to which this Act applies without a valid Timber Utilization Contract; or (b) operates a vehicle to carry, haul, evacuate or transport timber harvested in contravention of this Act\*, or (c) offers for sale, sells or buys timber harvested in contravention of this Act; or (d) stocks timber harvested in contravention of this Act; or (e) carries, hauls or evacuates by non-mechanical means any timber harvested in contravention of this Act, or (f) is the owner of a vehicle or not being the owner causes to be operated a vehicle to carry, haul, evacuate or transport timber harvested in contravention of this Act\*\*, commits an offence and is liable on summary conviction to imprisonment for a term of not less than 6 months and not exceeding 2 years.
- (3) Where a person is convicted under subsection (2) the court shall order the confiscation to the State of any tool, equipment and machinery involved in the commission of the offence; and the court shall order to be confiscated and sold any timber harvested in the commission of the offence.
- (4) Notwithstanding the right of the court to sentence a person convicted under subsection (2) of this section to imprisonment, the court may in lieu of sentence of imprisonment impose in respect of the offences specified in- (a) subsection (2) (a) or (b), a penalty in the sum of 1000% of the market value of the timber involved in the commission of the offence; or (b) subsection (2) (c) or (d), a penalty in the sum of 500% of the market value of the timber involved in the commission of the offence; or (c) subsection (2) (e), a penalty in the sum of 100% of the market value of the timber involved in the commission of the offence.'

\* As amended by the Timber Resources Management (Amendment) Act, 2002 (Act 671), s. 4(a).

\*\* As inserted by the Timber Resources Management (Amendment) Act, 2002 (Act 617), s. 4(b).

Source: Ghana Forestry Commission (undated) <http://76.12.220.51/library.php?id=15> (accessed 6 on October 2011)

**Figure 11.3** The hierarchical structure of the judicial system in Ghana



**Box 11.3** *Timber Resources Management Regulation, 1998, (L.I. 1649)*  
*Regulation (41) deals with the offences and declares that:*

‘(1) Any person who (a) obstructs an authorized person of the Forest Products Inspection Bureau or the Forestry Department in the exercise of his duties contrary to sub-regulation (2) of regulation 15; or (b) is found in possession of any timber product that is not properly marked or numbered contrary to sub-regulation (3) of regulation 20; or (c) is found moving or in possession of any timber without a conveyance certificate in respect of the product contrary to sub-regulation (1) of regulation 24; or (d) being the owner of a chainsaw fails to register the chainsaw with the relevant District Assembly contrary to regulation 28(1); or (e) uses a chainsaw not registered with the District Forest Officer to fell any tree or saw any timber contrary to regulation 29(1); or (f) fails to mark the stump of a tree he fells with the timber registration number contrary to regulation 33; or (g) sells or offers for sale lumber cut with a chainsaw contrary to regulation 32(2); or (h) being a landowner permits an unregistered chainsaw to be used on his land for felling trees or sawing timber contrary to regulation 34; or (i) fells or is found in possession of a restricted species of timber contrary to sub-regulation (1) of regulation 40, commits an offence and is liable on summary conviction to a fine not exceeding ₵5 million\* (equivalent to GH¢ 500 or US\$ 333) or to imprisonment for a term not exceeding twelve months or to both, and where the offence continues to a fine not exceeding ₵100,000.00 (GH¢ 10 or US\$ 7) for every day or part of a day during which the offence continues.

(2) Where a person fells any tree or saws any timber with an unregistered chainsaw the court shall, in addition to the punishment imposed under sub-regulation (1) of this regulation order that the chainsaw or the tree or timber products in respect of which the offence was committed be forfeited and disposed of as the court may direct. (3) Any officer who- (a) declares a false measurement of timber contrary to sub-regulation (1) of regulation 23; or (b) falsely calculates stumpage fees; or (c) assists a contractor to under declare tree volumes used in the calculation of stumpage fees; commits an offence and is liable on summary conviction to a fine not exceeding ₵5 million or imprisonment for a term not exceeding 12 months and shall be liable to be dismissed from the public services.’

\* The new Ghana cedi and US dollar equivalents of the old Ghana cedi were added by the author.

Source: Ghana Forestry Commission (undated) <http://76.12.220.51/library.php?id=15> (accessed 6 October 2011)

According to its mission statement,<sup>6</sup> the judiciary aims to fulfil its mandate by:

- upholding the independence of the judiciary;
- showing commitment to the true and proper interpretation of the Constitution and laws of Ghana;
- ensuring that speedy and unfettered administration of justice is brought to people’s doorsteps;
- providing other services for all manner of persons, groups and institutions without fear or favour; and
- maintaining a high standard of efficiency in the delivery of justice.

<sup>6</sup> [http://www.judicial.gov.gh/index.php?option=com\\_content&task=view&id=5&Itemid=6](http://www.judicial.gov.gh/index.php?option=com_content&task=view&id=5&Itemid=6) (accessed on 5 November 2011).

**Box 11.4** *Criminal Offences (sections) as stipulated in Article 19 of the 1992 Constitution of Ghana*

Article 19.

- (1) A person charged with a criminal offence shall be given a hearing within a reasonable time by a court.
- (2) A person charged with a criminal offence shall –
- (c) be presumed to be innocent until he is proven, or has pleaded, guilty;
  - (d) be informed immediately in a language he understands, and in detail, of the nature of the offence charged;
  - (e) be given adequate time and facilities for the preparation of his defence;
  - (f) be permitted to defend himself before the court in person or by a lawyer of his choice; and
  - (i) be permitted to have, without payment by him, the assistance of an interpreter if he cannot understand the language used at the trial.
- (10) No person who is tried for a criminal offence shall be compelled to give evidence at the trial.
- (11) No person shall be convicted of a criminal offence unless the offence is defined and the penalty for it is prescribed in a written law.
- (12) Clause (11) of this article shall not prevent a superior court from punishing a person for contempt of itself notwithstanding that the act or omission constituting the contempt is not defined in a written law and the penalty is not prescribed.
- (21) For the purposes of this article; 'criminal offence' means a criminal offence under the laws of Ghana.

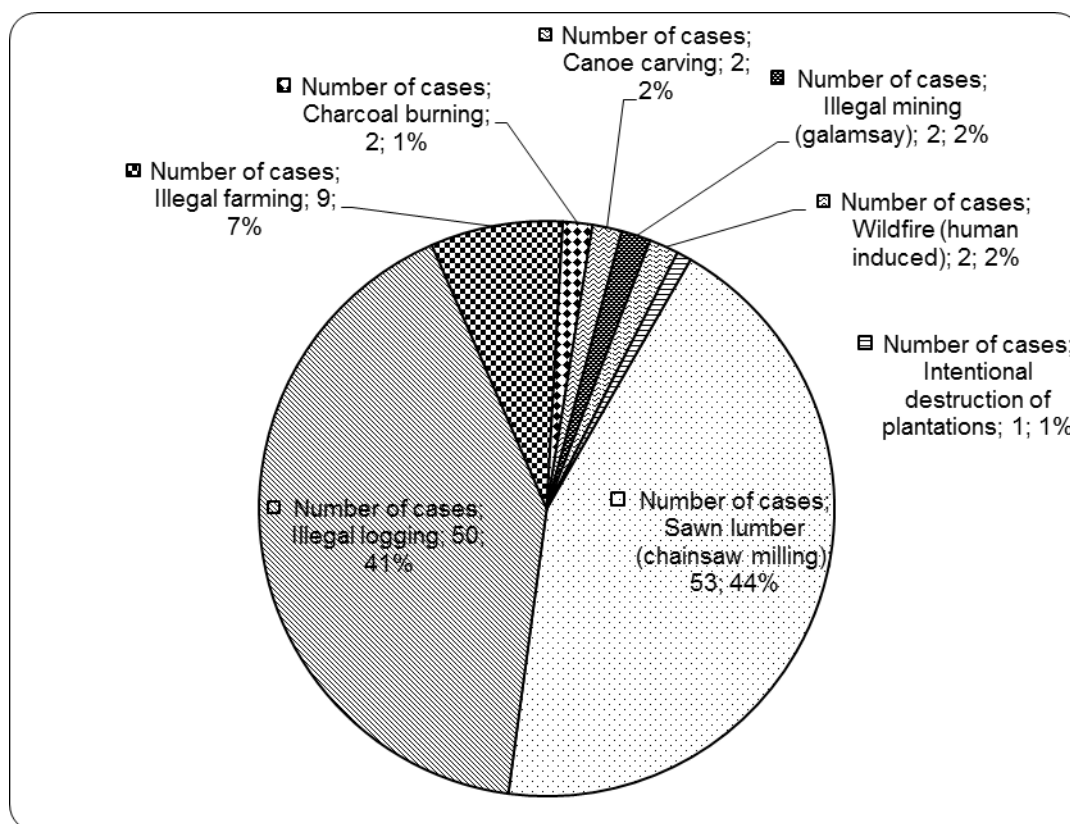
*Laws governing forest offences and their sanctions*

Three sets of legislation which are relevant to forest offences are: (i) the Timber Resources Management Act, 1997 (Act 547) and its amended Act 617; (ii) the Timber Resources Management Regulation, 1998, (L.I. 1649), and (iii) the Forest Protection Decree 1974 NRCD 243 as amended by the Protection Amendment Act 2002, Act 624. All these laws fall under the 1960 Ghana Criminal Offence Act. This section presents only two pieces of forest legislation and criminal offences as stipulated in Ghana Constitution of 1992 (see Boxes 11.2, 11.3 and 11.4). The Forest Act NRCD 243 (amended as Act 624) was presented in Chapter 7.

## Governance interactions

This section presents the outcomes of the interactions between the system-to-be-governed and the governing system which result in forest offences committed when people access the resources illegally. First, these outcomes are analysed on the basis of the FSD forest offence records in the period 2005-2010. Second, twelve unreported

Figure 11.4 Distribution of forest offence types in Nkawie Forest District (2005-2010)



judgements<sup>7</sup> in the law courts under the jurisdiction of the Nkawie Forest District and the Ashanti Region are presented, with a view to assessing how the legislation is applied in such judgements.

*Forest offence types and trends: An analysis of FSD offence records from 2005-2010*

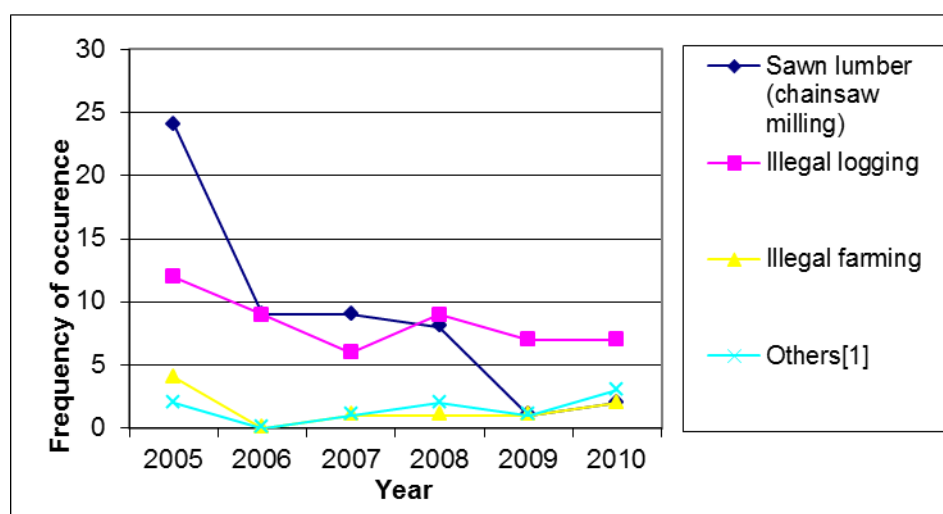
A review of the forest offences records in Nkawie Forest District indicated a total of 121 offence cases in the six forest reserves and the off-reserve areas from 2005-2010. Of these cases, twenty (17%) occurred in the off-reserve area, whereas 101 (83%) occurred in the six forest reserves. Figure 11.4 shows the different types of forest offence cases recorded. The most frequently recorded offence type was chainsaw milling (44%) followed by illegal logging (41%)<sup>8</sup> and illegal farming (7%). The other cases (8%) were charcoal burning, canoe carving, illegal mining, human induced wildfire and intentional destruction of established timber plantations.

Table 11.2 shows the various offences in the specific years. In 2005 Nkawie Forest District recorded 24 chainsaw milling cases. In subsequent years fewer offences were

<sup>7</sup> The twelve unreported judgements in the law courts that were accessible to the law students during data collection occurred in the period of 2001-2004 with only one which occurred in 2011. They therefore do not form part of the 121 offence cases accessed in the Nkawie FSD District office that occurred between 2005 and 2010.

<sup>8</sup> Illegal logging refers to the removal of trees from the forest without a Timber Utilization Contract or Timber Utilization Permit; chainsaw milling refers to the on-site conversion of logs into sawnwood for commercial purposes using chainsaws (Marfo 2010).

Figure 11.5 Trend in the number of recorded forest offences in Nkwawie Forest District



recorded, a trend that is also evident for the other offence types. In 2005, four cases of illegal farming were recorded, with no such incidences in 2006 and incidental incidences in subsequent years. The trend in recorded offences is presented in Figure 11.5. More specific details are provided below about the major forest offences and the means of dealing with them.

Table 11.2 Occurrence of forest of offence types in the district from 2005-2010

Offence type	Number of offence cases from 2005-2010					
	2005	2006	2007	2008	2009	2010
Sawn lumber (chainsaw milling)	24	9	9	8	1	2
Illegal logging	12	9	6	9	7	7
Illegal farming	4	0	1	1	1	2
Others*	2	0	1	2	1	3

\* Including charcoal burning, canoe carving, illegal mining (galamsey), human-induced wildfire and deliberate destruction of plantations.

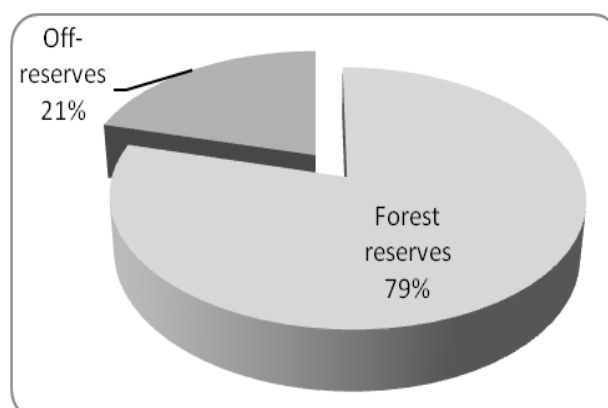
#### – Chainsaw milling (n=53)

Of the 53 recorded chainsaw milling offences, 79% occurred in the six forest reserves, with the Tano-Offin forest reserve recording the highest number of cases (n=17), and 21% were reported from the off-reserve area (Figure 11.6). Generally, those who were arrested were fined by the FSD, while the lumber, chainsaws and vehicles carrying the illegal lumber were confiscated. Confiscated lumber is generally auctioned. In some cases, offenders absconded while others were arrested by the police or the FSD military team.

The majority of cases (n=35) were dealt with through police investigation and administrative means available to the FSD. In sixteen of the recorded cases, the culprits absconded, although the FSD managed to confiscate the lumber and some of the chainsaws. Only two cases were sent to the district court for judgement, where the offenders were sentenced to a fine of GH¢ 250 and GH¢ 400 respectively in 2005. The records showed that cases related to chainsaw milling are charged under Act 547 sec 17 (2) (a) and (b) and its amended Act 624 Sec 1(a) (h) (Box 11.2).



Figure 11.6 Distribution of chainsaw milling offences in the on and off-reserve areas in Nkawie Forest District (2005-2010)



Source: FSD reports Nkawie Forest District (2005-2010).

Table 11.3 Types of tree species sawn into lumber (2005-2010) (n=40 cases)\*

Scientific name	Trade/local name	No. of trees/logs felled	Star rating**
<i>Triplochiton scleroxylon</i>	Wawa	40	Scarlet
<i>Piptadeniastrum africanum</i>	Dahoma	17	Red
<i>Khaya</i> spp.	African mahogany	9	Scarlet
<i>Mansonia altissima</i>	Oprono	8	Red
<i>Aningeria</i> spp.	Asenfena	6	Scarlet
<i>Milicia excels</i>	Odum	5	Scarlet
<i>Nesogordonia papaverifera</i>	Danta	5	Pink
<i>Chrysophyllum albidum</i>	Akasaa	3	Red
<i>Terminalia superba</i>	Ofram	3	Red
<i>Entandrophragma angolense</i>	Edinam	2	Scarlet
<i>Turraeanthus africanus</i>	Avodire	1	
<i>Ceiba pentandra</i>	Onyina	1	Red
<i>Terminalia ivorensis</i>	Emire	1	Scarlet
<i>Antiaris toxicaria</i>	Kyenkyen	1	Red
<i>Cola gigantea</i>	Waterpuo	1	Pink
<i>Entandrophragma cylindricum</i>	Sapele	1	Scarlet

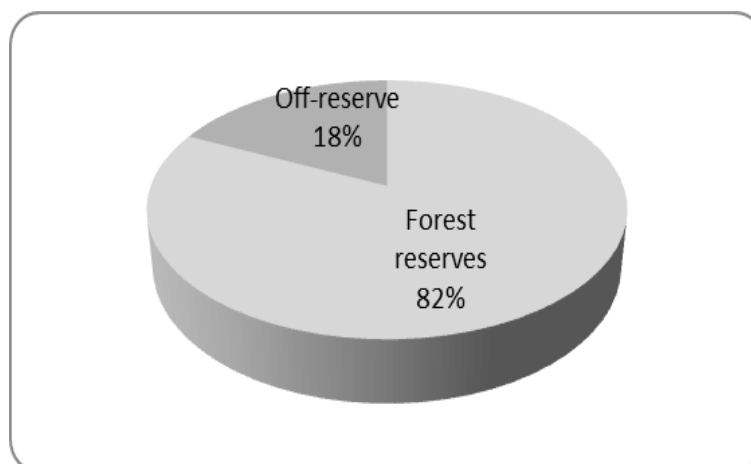
\* In 13 cases, the tree species types were not indicated in the records.

\*\* See Chapters 5 and 7 for an explanation of Ghana's star rating system, which indicates conservation priorities for timber species as follows: green = no threat of extinction; pink = significantly exploited but no threats yet to their economic future; red = current rates of exploitation present a significant danger of economic extinction; scarlet = under imminent threat of economic extinction.

Source FSD reports Nkawie Forest District (2005-2010).

The three most common trees felled by these offenders were *Triplochiton scleroxylon* (Wawa), *Piptadeniastrum africanum* (Dahoma) and *Khaya* spp. (African mahogany), which fall under the scarlet and red star rating respectively (Table 11.3). A total of 102 tree species were reported to be sawn during these periods. In thirteen cases, both on and off-reserve, records did not indicate the tree species types felled by the culprits.

Figure 11.7 Recorded occurrence of illegal timber logging in Nkawie Forest District (2005-2010)



Source: FSD reports Nkawie (2005-2010).

Table 11.4: Tree species exploited under illegal logging (2005-2010)

Scientific name	Trade name/ local name	No. of trees/logs felled	Star rating
<i>Triplochiton scleroxylon</i>	Wawa	168	Scarlet
<i>Milicia excels</i>	Odum	37	Scarlet
<i>Ceiba pentandra</i>	Onyina	28	Red
<i>Piptadeniastrum africanum</i>	Dahoma	22	Red
<i>Antiaris toxicaria</i>	Kyenkyen	21	Red
<i>Pterygota macrocarpa</i>	Koto	19	Scarlet
<i>Nesogordonia papaverifera</i>	Danta	15	Pink
<i>Terminalia superba</i>	Ofram	13	Red
<i>Khaya</i> spp.	African mahogany	13	Scarlet
<i>Entandrophragma utile</i>	Utile	11	Scarlet
<i>Tieghemella heckelii</i>	Bako	10	Scarlet
<i>Celtis mildbreadi</i>	Esa	9	Pink
<i>Aningeria</i> spp.	Asenfena	8	Scarlet
<i>Entandrophragma cylindricum</i>	Sapele/ Penkwa	9	Scarlet
<i>Mansonia altissima</i>	Oprono	5	Red
<i>Chrysophyllum albidum</i>	Akasaa	5	Red
<i>Albizia ferruginea</i>	Awiefosamna	4	Scarlet
<i>Daniella ogea</i>	Hyedua	4	Scarlet
<i>Petersianthus macrocarpus</i>	Esia	3	Pink
<i>Cylicodiscus gabunensis</i>	Denya	2	Pink
<i>Lovoa trichiliodes</i>	Dubinibiri	2	Red
<i>Azelia Africana</i>	Papao	2	Red
<i>Klainedoxa gabonensis</i>	Kroma	1	Green
<i>Distemonanthus bentamianus</i>	Bonsamdua	1	Pink
<i>Albizia zygia</i>	Okoro	1	Green

– Illegal logging (n=50)

From 2005-2010, fifty cases of illegal logging were reported. The majority of the cases (82%) were recorded in the on-reserve areas (Figure 11.7), with Tinte Bepo reserve recording most cases and Desiri forest reserve having no reported cases in this offence type.

Similarly to illegal chainsaw milling, Act 547 sec 17 (2) (a) and (b) is the main law which applies to the arresting, prosecuting and fining of perpetrators of this illicit activity (Box 11.2). In three of the cases, the offenders were arrested and prosecuted in the law courts. The records indicate that the two culprits attracted fines of between GH¢ 200 and GH¢ 300 (US\$ 133 and US\$ 200). The number of logs confiscated was three logs of kyenkyen (*Antiaris toxicaria*) in the Tano-Offin reserve and five logs (i.e. bako (*Tieghemella heckelii*), papao (*Afzelia Africana*) and African mahogany (*Khaya* spp.)) in the Offin Shelterbelt in 2005. The third case occurred in the Tano-Offin reserve which involved the exploitation of four logs of wawa (*Triplochiton scleroxylon*) (Table 11.4). The case was sent to court. The offence record mentions a second hearing in 2005, but no outcome of that hearing was stated in the report.

According to the records, thirty-one cases were under police investigation, of which 15 referred to culprits who had absconded. The FSD used administrative means to deal with the other 16 cases. In other words the offenders were arrested, fined and some logs auctioned. Some of the cases involved legal timber operators who were fined by the FSD mainly because their vehicles carried illicit logs. In these cases the FSD often deflated the tyres of the vehicles in order to prevent movement.

As in the case of chainsaw milling, wawa was the most felled tree species. In this offence type wawa was followed by odum (*Milicia excels*) and onyina (*Ceiba pentandra*) (see Table 11.4). Over these years, the total number of trees recorded in the district in relation to illegal logging was 413, comprising twenty-seven timber species. The star ratings of these species were scarlet (eleven species), red (eight species), pink (five species) and green (two species) (Table 11.4).

– Illegal farming (n=9)

Nine cases of illegal farming were recorded in four of the reserves namely Tano-Offin, Desiri, Asenanyo and Tinte Bepo. The total recorded area cleared for farming was 166 ha over the period of 2005-2010. There was one case in the Tano-Offin forest reserve in which the area of the cleared forest was not stated but covered large tracts in six compartments. From these nine cases, one offender was sent to the Nyinahin community tribunal<sup>9</sup> and was fined GH¢ 300 (US\$ 200). Four culprits were arrested and handed over to the police with confiscated chainsaws. In some cases, the culprits were arrested and handed over to the regional FSD office for investigation, while their farms were destroyed. The legislation for the prosecution of offenders were the NRCD 243 (amended Act 642) sec 1 (1b) (see Chapter 7) and Act 547 sect 17. Sub. Sec. 2 (a) (Box 11.2). There were also four cases in which the offenders could not be apprehended but

<sup>9</sup> The court structure under the Provisional National Defence Council government 1981-1992 constituted the tribunal system, which operated parallel to the judicial court system. The core objective was trial of criminal offences except the community tribunal which deals with both civil and criminal cases. In terms of hierarchy, there used to be (i) the National public tribunal, (ii) the regional public tribunals, (iii) the district public tribunals, and (iv) the community tribunal. Currently, structures (i), (iii) and (iv) have been repealed and the new structure is as presented in Figure 11.3 (Brobby 2000).

the farms were destroyed. In such instances, surveillance was put in place to arrest any culprit. In some reserves where national plantations are being established, the cleared areas are being replanted to replace lost stocks.

The outcomes of the nine offences are presented in Table 11. 5.

*Table 11.5* Illegal farming offence outcomes from 2005-2010

Offence outcome	Number of cases*
Culprit sent to court with fine	1
Cases under police investigation	2
Cases resolved by administrative means (destruction of farms, converting it into a national forest plantation)	6

\* The reporting system does not indicate names of the culprits.

#### – Other offence types (n=9)

The other offence types are made up of four categories that occurred sporadically. These were offences related to canoe carving (n=2), charcoal burning (n=2), human-induced wildfire incidence (n=2), deliberate destruction of plantations (n=1) and illegal mining (n=2). With regard to canoe carving cases occurred in both the Tano-Offin GSBA and Asenayo forest reserve in 2010 with the carving of 10 canoes whose owners absconded. The Tano-Offin GSBA offence case was charged under the NDPC 243 sec (1) (a) (amended Act 642) (see Chapter 7), whereas that of Asenayo was under Act 547 Sec. 17 sub-sec 2(a) (see Box 11.2). Since the culprits absconded, the matter was reported and preparations made for the auctioning of the canoes.

Two cases of charcoal production in the reserve were reported in the offence records of 2005 in the Asenayo and Desiri forest reserves. The culprit in one of the cases was handed over to the police for prosecution. The outcome of the investigation since 2005 is not reflected in the offence records.

The last offence type in the rest category is human-induced wildfire. The legislation applicable to this offence is the PNDC law 229 (see Chapter 5, Table 5.1). The two cases reported were all human-induced, but the culprits were never arrested. The wildfires were brought under control with the help of people from the forest-fringe communities. Another offence type was related to the intentional destruction of national forest plantations based on a personal grudge by a farmer. This led to the arrest of the offender and prosecution under Act 624 Sec 1 Sub-sec. (1) (a) in the district court (Table 5.1). As in most cases, the outcome of the court case was not indicated in the reporting system. The last offence type in this category was illegal mining which took place in the Offin-Shelterbelt and destroyed about 4 ha of forestland. In one of the cases, the offenders had to appear in court and were fined GH¢ 300 whereas in the other case, which resulted in the clearing of about 0.8 ha of forest land, the offenders were sent to court. There was, however, no mention of the court outcomes.

#### *Judicial records of some forest resource offences*

In the law courts, 12 unreported judgement cases (see Box 11.1) were assessed from the community tribunal and district courts in Nkawie, Nyinahin, Mankranso and Kumasi circuit court from 2002, 2003 and 2011. The laws applicable to these cases were the Forest Protection (Amendment) Law, 1986 (PNDCL 142) (repealed by Forest Protection (Amendment) Act 2002 (Act 624) (Table 5.1), and the Timber Resources Manage-

ment Act, 1997 (Act 547) (Box 11.2). All the cases were between the state represented by ‘The Republic’ versus ‘The Accused’ as presented below.<sup>10</sup>

– Case 1: The Republic vs. ‘The Accused’ 1<sup>11</sup>

In this case, the offence was farming in a protected forest reserve. The accused was therefore convicted based on Section 13 of PNDCL 142 (now repealed by Act 624). He was asked to sign a bond not to enter into the forest reserve without a permit from a forestry official for two years or in default pay GH¢ 20<sup>12</sup> or serve 18 months imprisonment in hard labour.

– Case 2: The Republic vs. ‘The Accused’ 2<sup>13</sup>

The offence was conveying timber logs felled without a felling permit. The accused was the driver whose vehicle was carrying the illegal logs. The key culprits of the stolen logs absconded, leaving behind the driver. The driver pleaded guilty but was sentenced to a fine of GH¢ 150 or nine months in prison with hard labour. The court ordered the police to intensify their search for the real culprit. The vehicle used by the driver was ordered to be released upon payment of the money or after the prison sentence had been served.

– Case 3: The Republic vs. V ‘The Accused’ 3a and b (absconded)<sup>14</sup>

The offence was conveying timber logs felled without a felling permit. The accused was the driver whose vehicle was carrying the illegal logs. The key culprit of the stolen logs absconded, leaving behind the driver. The accused driver pleaded guilty but was sentenced to a fine of GH¢ 200 (US\$ 133) or six months imprisonment with hard labour. The logs were to be sold by the FSD and the money paid to government consolidated fund. The vehicle used by the driver was ordered to be released upon payment of the money or after the prison sentence had been served.

– Case 4: The Republic vs. ‘The Accused’ 4<sup>15</sup>

In this case the offence committed by the accused was conveying timber logs without a permit. She pleaded guilty but provided an explanation. Nevertheless, the court did not accept her explanation and she was sentenced to a fine of GH¢ 400 (US\$ 267) or nine months imprisonment with hard labour. From this amount, GH¢ 200 (US\$ 133) was to be paid to the timber monitoring task force and GH¢ 150 (US\$ 100) to the Forestry Development Fund. In addition, the eight logs were to be sold by FSD and the money paid to government consolidated fund and the vehicle released to the owner.

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<sup>10</sup> In order to protect the privacy of the accused names have been replaced with numbers.

<sup>11</sup> In the District Community Tribunal held at Mankranso on Wednesday 14 March 2001, before his Worship J.B.A. Benehene (SGD).

<sup>12</sup> All conversion of old to new Ghana cedi and the US dollar equivalents was done by the author, based on an exchange rate of US\$ 1= GH¢ 1.5.

<sup>13</sup> In the District Community Tribunal held at Nkawie on Wednesday, 16 January 2002, before his Worship Kwaku Dampare (ESQ).

<sup>14</sup> In the District Community Tribunal held at Nkawie on Monday, 21 January 2002, before his Worship Kwaku Dampare (ESQ).

<sup>15</sup> In the District Community Tribunal held at Nkawie on Friday, 16 August 2002, before his Worship Kwaku Dampare (ESQ).

– Case 5: The Republic vs. ‘The Accused’ 5a, b and c<sup>16</sup>

The offence was conveying of chainsaw lumber. The two accused people pleaded guilty. The first accused was sentenced to a fine of GH¢100 or, in default, twelve months imprisonment with hard labour. In addition, the first accused was ordered to pay compensation of GH¢ 200 (US\$ 133) to the Forestry Development Fund. The chainsaw lumbers which comprised beams (112 pieces of red wood) were to be sold by the FSD and the revenue to be paid to government consolidated fund. Upon payment or completion of the prison terms the vehicle was to be released to the owner. The second accused was given a bail in the sum of GH¢ 500 (US\$ 333).

– Case 6: The Republic vs. ‘The Accused’ 6a and b<sup>17</sup>

The offence was illegally engaging in chainsaw milling. In this case both accused persons pleaded guilty and were convicted and sentenced to a fine of GH¢ 200 (US\$ 133) each or, in default, twelve months imprisonment with hard labour.

Of this money, GH¢ 100 (US\$ 67) was given to the timber monitoring ask force. The lumber was confiscated by the State.

– Case 7: The Republic vs. ‘The Accused’ 7a (absconded) and b<sup>18</sup>

The offence was conveying chainsaw lumber. In this case the first accused escaped. The second accused pleaded guilty to the offence but provided an explanation that he was illiterate and could not read the paper presented to him by the first accused. Despite this the court convicted and sentenced him to a fine of GH¢ 50 (US\$ 33) or, in default, nine months imprisonment with hard labour. In addition, he had to pay compensation of GH¢ 250 (US\$ 167) to the Forestry Development Fund. Upon payment of the fine and the compensation, or completion of the prison term, the tractor used to carry the lumber was to be released to him. The police were ordered to search for the first accused.

– Case 8: The Republic vs. ‘The Accused’ 8<sup>19</sup>

In this case, the accused pleaded guilty and was convicted accordingly. The court realised that the accused had been convicted on a similar offence not long before. The court therefore sentenced him to a fine of GH¢ 400 (US\$ 267) or, in default, eighteen months imprisonment with hard labour. Two hundred Ghana cedis of the money was to be paid to the arresting team as compensation and his truck released to him.

– Case 9: The Republic vs. ‘The Accused’ 9<sup>20</sup>

The offence was carving canoes without a permit. In sentencing the convicted accused the magistrate placed reliance on s. 17(2) of Act 547 but decided to use alternative provision of the recommended sentence in s.17(4)(c) rather than the imprisonment prescribed by s.17(2). The reasons are twofold. First, records indicated that the accused

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<sup>16</sup> In the District Community Tribunal held at Nkawie on Wednesday, 24 of September, 2003, before his Worship Kwaku Dampare (ESQ).

<sup>17</sup> In the Circuit Court of Ghana held in Kumasi on Monday, 24 November, 2003, before his Worship E.Y. Obimpe (ESQ)

<sup>18</sup> In the District community tribunal held in Nkawie on Friday, 19 December, 2003, before his Worship Kwaku Dampare (ESQ).

<sup>19</sup> In the Circuit Court of Ghana held in Kumasi on Friday, 25 April, 2003, before his Worship E.Y. Obimpe (ESQ).

<sup>20</sup> In the District Magistrate Court held at Nyinahin on Tuesday, 10 August 2004, before his Worship Beresford Acquah (ESQ).

was a first offender. Second, the prosecutor failed to attach any value to the timber involved. The magistrate had to base his decision on s.17 (4)(c) and used his discretion to assess a value of GH¢ 30 and charged the accused based on the 1000% penalty as stipulated in the law for such value. The accused was therefore fined 150 penalty units (GH¢ 300) or, in default, six months imprisonment with hard labour. The canoe that was made out of the timber was to be confiscated and sold to the National Canoe Carvers Association or any interested party.

– Case 10: The Republic vs. ‘The Accused’ 10<sup>21</sup>

The offence was conveying timber logs without a conveyance certificate. The accused pleaded guilty and provided an explanation that the court did not accept. The accused was sentenced to a fine of GH¢ 100 (US\$ 67) or, in default, nine months imprisonment with hard labour. He was also made to pay compensation of GH¢ 200 (US\$ 133) to the Timber Monitoring Development Fund and the timber monitoring task force. Upon this payment or completion of the prison term his vehicle was to be released to him. The confiscated logs were to be auctioned off by the FSD.

– Case 11: The Republic vs. ‘The Accused’ 11a, b, c and d<sup>22</sup>

All the four accused pleaded guilty to charges of engaging in illegal chainsaw milling. They were therefore convicted on their plea and sentenced to a fine of GH¢ 200 (US\$ 133) each or, in default, twelve months imprisonment with hard labour each. Two hundred Ghana cedis of the amount to be paid was to be given to the timber monitoring task force. The lumber was confiscated by the state.

– Case 12: The Republic vs. ‘The Accused’ 12 a and b (absconded)<sup>23</sup>

The offence was conveying illegal logs. The first accused pleaded guilty and was convicted accordingly. He was sentenced to a fine of GH¢ 500 or, in default, twelve months imprisonment with hard labour. The logs were to be handed over to the Forestry Commission. Upon payment of the amount or after the prison term had been served the vehicle was to be released to the accused. A bench warrant was issued for the arrest of accused number two.

Based on the individual cases, the five law students using focus group discussions subjected the judgements of the individual cases to ‘a student’s expert view’ and scored the judgement pronounced by the court based on five criteria:

- 1 = Sanctions applied without due consideration;
- 2 = Sanctions lightly applied;
- 3 = Sanctions fairly applied;
- 4 = Sanctions satisfactorily applied and
- 5 = Sanctions strictly applied

They then presented the outcomes of these scoring in Table 11.6 for a common convergence indicative of level of enforcement.

<sup>21</sup> In the District Community Tribunal held at Nkawie on Monday 10 March 2003, before his Worship Kwaku Dampare (ESQ).

<sup>22</sup> In the Circuit Court of Ghana held in Kumasi on Monday, 15 December 2003, before his Worship E.Y. Obimpe (ESQ).

<sup>23</sup> In the Circuit Court held at Nkawie on Tuesday 5 April 2011, before his Worship Jerome Noble Nkrumah (ESQ).

*Table 11.6* Evaluation of judiciary enforcement of forest and tree-related offences on some selected unreported judgement in the courts under the jurisdiction of the Nkawie Forest District

Name of case	Individual case scoring indicative of judiciary enforcement				
	1	2	3	4	5
Case 1: The Republic vs. 'The Accused No. 1'		✓			
Case 2: The Republic vs. 'The Accused No. 2'			✓		
Case 3: The Republic vs. 'The Accused No. 3'			✓		
Case 4: The Republic vs. 'The Accused No. 4'				✓	
Case 5: The Republic vs. 'The Accused No. 5a and b'				✓	
Case 6: The Republic vs. 'The Accused No. 6'			✓		
Case 7: The Republic vs. 'The Accused No. 7a and b'				✓	
Case 8: The Republic vs. 'The Accused No. 8'			✓		
Case 9: The Republic vs. 'The Accused No. 9'			✓		
Case 10: The Republic vs. 'The Accused No. 10'			✓		
Case 11: The Republic vs. 'The Accused No. 11 a, b, c, d'		✓			
Case 12: The Republic vs. 'The Accused No. 12 a b'					✓

The ranking or weight (i.e. without due consideration, lightly, fairly, satisfactorily and strictly applied) on the sanctions was based on the groups' collective assignment of a common and desirable weight after each group member had assigned his/her individual weight and justified why it should be the final or indicative value. Hence this was subject to deliberations and common agreement in relation to how the judgement of the court ranked vis-à-vis the prescribed sanctions of the forest enactments. According to one of the students, cases scored as 'lightly' were applied with less recognition for the prescribed legal sanctions than those scored as 'fairly', 'satisfactorily' or 'strictly' (Boakye Kwabena Akyeampong, pers.comm. 2012).

### From images to actions: Perceptions of the judiciary, police and FSD officials in forest law enforcement

This section presents the views of the judiciary, the police and the FSD officials on the outcomes of forest offence cases in the law courts. The section presents the governors' perceptions on forest law enforcement and ways to strengthen it in terms of images ('guiding lights' in the form of visions, judgements, presuppositions, etc.), instruments (that link images to actions and may be soft or hard) and actions (which put the instruments into effect) (see Chapter 2 and Kooiman *et al.* 2005).

#### *Images*

Among the nineteen respondents from the three institutions, 84% (n=16) were of the view that state agencies generally lack the institutional capacity and willingness to prosecute forest offences. They attributed this situation to the law court's qualification of forest offences as being trivial, the judiciary's poor knowledge of forestry laws and the lack of capacity on the part of the Forest Services Division (FSD) and the police Service to put in place a coherent set of legal procedures for prosecuting forest cases. These respondents also highlight the lack of human capacity in the courts to prosecute on behalf of forestry, a lack of facilities to investigate and prosecute (i.e. inadequate logistics to visit the forest for evidence) and the fact that the FSD is not very well



equipped to detect and arrest offenders. Whereas the majority of respondents stressed the limitations, three respondents (16%), who were all police personnel, made firm statements about law enforcement. These respondents argued that it is the state agencies' mandate to detect, investigate and prosecute forest offences because (i) the state has the resources as well as the judicial personnel to do so, (ii) the laws are there for any institution to enforce them, and (iii) illegal actions are criminal and should be prosecuted in court, supported by the police through arrest, investigation and prosecution. Being part of the Police Service, they indicated that they did not perceive a lack of institutional capacity on their part because their only responsibility is to enforce the application of the laws when they bring offenders to court. They also stated that there are many laws to back the prosecution processes.

A second aspect expressed in the interviews was that the extent to which the three institutions cooperate plays a vital role in the effective application of the prescribed sanctions. Of the interviewees, 58% reported that no cooperation takes place between the court and the FC to ensure appropriate levels of penalties. On the other hand police officials (representing 26% of the respondents) said that cooperation did take place between the FC and the court. Two respondents (16%) perceived cooperation as being dependent on the relationship between particular official and therefore stated that this would depend on the circumstances and the people involved.

With regard to effective cooperation between the law courts and Police Service as regards handing out appropriate levels of penalties on forest cases, 50% of the respondents indicated that there is little or no effective collaboration between the two parties since none of them are aware of the damage these offences cause to the environment. However, 40% of the respondents believed there is effective teamwork between the above state agencies, whereas 10% had no opinion regarding the collaboration between the courts and the Police Services.

Third, the respondents were asked whether the judges and prosecutors take sufficient consideration of the negative impacts of forest loss during prosecution and judgement. Sixty-five per cent of the respondents were of the opinion that judges and prosecutors do not take into consideration the significance of the negative impact of forest loss on the environment before imposing penalties. Thirty per cent indicated that all issues are taken into consideration before judgement is passed, as stipulated in the Forest Acts and Decrees. The other 5% had no opinion on how judges carry out their duties.

### *Instruments*

Sixty per cent of the respondents consider the penalties meted out to forest offenders as not being severe enough to deter the culprits from engaging in illegal activities in the forest. They attribute the failure of court officials to apply severe penalties for forest offences to political (43%), social (27%), economic (21%) and environmental (9%) motives. According to FSD officials, their fines appear to be relatively higher and more deterrent than those imposed by the courts. In contrast to this assertion, 60% of the respondents are of the opinion that the practice of releasing objects to offenders (e.g. trucks that were used for the transportation of illegal logs) after payment of fines to the Forestry Commission significantly reduces the deterrent value of the law enforcement process. These respondents believe that the fines are too small and invariably lead to rent-seeking behaviour of elites in the forest sector. Moreover, the culprits immediately return to the forest estate to recover their losses, which leads to a cyclical wave of forest offence, arrest, subsequent release upon payment of fines and a new offence. Moreover,

the resale of lumber and objects of forest offences is usually beneficial to the culprits and does not deter them from repeating the same offences. As these offenders are not prosecuted and sent to jail and the deterrent value of the law enforcement process is derailed, practice is in contravention of the expectation of the legislative arm of government.

Another instrumental factor that emerged from the interviews as being a hindrance to effective juridical processes is deficient documentation of offences and limited administrative means for the FSD to deal with offenders. Fifty-five per cent of the respondents were of the opinion that poor documentation of forest offences during a trial poses difficulties as regards law enforcement. Another 35% indicated that documentation of forest offences does not play any major role in securing positive law enforcement outcomes, since the judges and prosecutors are professional and are very much aware of their deliverables. Ten per cent of the respondents had no opinion on the situation.

The lack of manpower is related to the previous point. It transpired that 70% of the respondents strongly believed that the effective administration of justice is affected by the inadequacy of manpower and equipment in relation to the cases submitted. Twenty per cent of the respondents also believe otherwise as they think that, irrespective of the inadequacies of manpower and logistics, results can still be achieved with regard to the effective administration of justice.

Finally, it is noticeable from the interviews that prosecutors are not very conversant with forestry laws. Sixty per cent of the respondents supported the assertion that prosecutors have little or limited knowledge of forestry laws. Nonetheless, 35% of the respondents opposed this majority view, whereas 5% had no knowledge of whether judges and prosecutors were conversant with the forestry laws. Sixty per cent of the respondents indicated that the courts lack the willingness to investigate and adjudicate crimes such as illegal logging, which they seemingly consider as unimportant crimes.

This could be attributed to a lack of capacity on the part of the court regarding their knowledge on forestry or environmental issues.

The combination of inappropriate descriptions of offences with the general lack of reference to relevant laws seriously weakens the legal validity of the charges for successful prosecution. About 75% of the respondents agreed with this scenario, whereas 25% believed that this does not adversely affect the legal validity of charges for suc-

#### Box 11.5 *Perceived factors that result in downgrading forest offences*

- A lack of effective cooperation between enforcement agencies and the courts.
- Inadequate communication between the FC and the courts.
- A lack of shared perceptions of the significance of illegal forest offences.
- A lack of motivation on the part of the forestry officials to support cases pending trials.
- A lack of knowledge of relevant laws on the part of the prosecutors and the judges.
- Inadequate access to copies of the relevant laws and new laws (amendments) by the court.
- Inadequacy of the documentation provided by the FSD and /or prosecutors.
- Impression that offenders are forced into illegal actions through poverty.

successful prosecution. A summary of the factors that result in the downgrading of forest offences by the FSD, the prosecutor and the judiciary is presented in Box 11.5.

*Actions: Recommended institutional strengthening to ensure effective law enforcement*

Respondents had different opinions on the actions necessary to raise awareness of the judiciary of the seriousness of forest and wildlife crimes. However, the dominant proposition was to organise workshops and in-service training for relevant staff of the judiciary, the police and the FSD field staff on the importance of forest, on the negative impact of forest loss on the environment and on forest laws. In addition, field trips to the forest estate for staff of the judiciary, Forestry Commission, police and other key stakeholders was considered important to reveal the extent of encroachment into protected forests and the damage caused to the forest. Ninety per cent of the respondents consider the FC, with support from the Ministry of Lands and Natural Resources (MLNR), as the most appropriate actor to undertake such initiatives, whereas 10% were of the view that NGOs and the private sector should take action to help raise the awareness of the judiciary and the Police Services on the seriousness of forest and wildlife crimes.

With regard to the question of how the judiciary and the police can become knowledgeable about vital forestry-related issues, such as the extent of environmental damage, 67% of the respondents recommended that organising consultative and educative workshops and seminars would be the best platform. Twenty-two per cent of the respondents suggested that the management of the FSD should, first of all, interact with the judiciary on a regular basis, interspersed with field visits. Eleven per cent of the respondents advocated the integration of forest and wildlife policies and legislations in the curricula of the law schools in the country.

## Discussion

The discussion is divided into three sections. First, the nature of forest offences is discussed in terms of interactions between the system-to-be-governed and the governing system. Then, the discussion centres on the judicial decisions regarding forest offences. The last section addresses how law enforcement officials and the judiciary perceive the challenges and opportunities in enforcing forest laws.

*Interaction between the system-to-be-governed and the governing systems*

Nkawie Forest District is endowed with six forest reserves categorised into different management regimes. The accessing, processing and conveying of forest resources without a permit constitutes a criminal offence as stipulated in the Act 547 (amended 617), LI.1649 and NRCD (amended 642). Thus every illicit activity in forest reserves and off-reserve areas especially related to timber resources is treated as a criminal offence. Such a situation makes it difficult to assess what is criminal and not criminal when it comes to people's livelihood needs. According to Christy *et al.* (1997) this makes compliance with law enforcement difficult especially when offences are entangled with issues of tenure. Is it a crime to access forest resources to meet one's livelihood needs? Amanor (2005) argues that such questions make it difficult for local people to acknowledge that what the law says is a crime and they perceive that as injustice. According to the same author, they respond to the perceived injustice by 'a culture of conspiracy' and by violating forest laws, 'as either an act of defiance or a desperate attempt at achieving subsistence' (*Ibid.*:16). As indicated by Vasani (2002), policy implementation is always challenged because it is not just a mechanical translation of stated

goals into activities, but rather influenced and mediated by multi-stakeholder perceptions and attitudes.

In the context of Ghana, both the police and the FC are law enforcement agencies. The duty of the FC is to enforce the regulations that govern the country's forest and tree resources; the role of the police is to ensure due enforcement of laws. These two agencies exist to ensure that the government machinery fulfils its policies, objectives and programmes while protecting life and natural resources. Whereas the FC and the police are the executive branches of government and thus answerable to it, the judiciary is the wing of the judicature and is autonomous. While the law enforcement agencies aim to secure a way of preventing crime and of punishing offenders, the judiciary aims to administer the law impartially while observing human rights and fair judgement. The respondents perceive the collaboration between them as weak, and this affects the law enforcement process.

#### *The governance interactions and their outcomes*

The study of documented forest offences with the FSD indicated eight forest offence types with prevalent cases being chainsaw milling, illegal logging and illegal farming. This confirms the conflict types reported by the local communities in this study as shown in Chapters 7 and 9. Between 2005 and 2010, the district recorded 121 offences with more offences occurring in the on-reserve areas than in off-reserve areas. These contrasts with the findings of Abugre & Kazaare (2010) in a similar study in three forest districts in Brong Ahafo region where most offences tend to occur in off-reserve areas than on-reserve areas. The difference between the two studies could be due to the different location of the study areas with peculiar needs of inhabitants and ease of access to on-reserve and off-reserve forest. Nonetheless, both studies have highlighted the fact that the timber species which is most exploited illegally is *Triplochiton scleroxylon* (wawa), a scarlet star-rated species which is under imminent economic threat. Under the chainsaw milling and logging offence types, eight and eleven scarlet species respectively had been exploited between 2005 and 2010. This contributes to a loss of timber revenues to the state since these trees were taken illegally and not all of the culprits were arrested and fined for the state to generate revenue. Equally exploited species are those of red and pink star rating which face potential economic extinction. Only two species (i.e. *Klainedoxa gabonensis* and *Albizia zygia*) of the trees felled under illegal logging are less valuable species with a green star rating. These rating classifications are prescribed by Hawthorne & Abu-Juam (1995) (see Chapters 4 and 10). Illegal logging and chainsaw milling thus create a potential of losing high economic value timber species if access to these resources is not regulated by the FSD.

There is empirical evidence that large numbers of cases are resolved by the FSD through the imposition of fines and the subsequent release of vehicles associated with the particular forest offence. For example, the FSD uses several approaches to resolve illegal farming offences within forest reserves. The forest farms are often destroyed and the subsequent measure involves three strategies: the culprit is sent to the police station and the matter ends there, or the offence is dealt with by the FSD officials at the regional or district level, or the offender is arrested and prosecuted in court and fined. The use of administrative sanctions in civil law to deal with natural resource offences without judicial involvement is acceptable in countries like the United States (Christy *et al.* 1997), but is harder to implement in developing countries. An alternative procedure is what Christy *et al.* call 'compounding', in which case an executive body (like the FC) is

empowered to levy fines without involvement of the court (*Ibid.*: 149). In order for the FC to legally exercise its administrative powers, the FC needs to be empowered by an administrative Act to guide its actions and enable it to have a standard prosecuting or fining mechanism across its jurisdiction in the country. As this study made clear, most of the cases reported in court had either no evidence or inadequate evidence since the offenders absconded, making it difficult to present such cases in the law court under criminal penalty. Evidence of the violation of law is an essential ingredient before one can be sentenced to a fine or imprisonment. Article 19 (2) (c) of the Constitution of Ghana (presented in Box 11.4) clearly states that ‘A person charged with a criminal offence shall be presumed to be innocent until he is proven or has pleaded guilty’. Assigning prosecuting powers to the FC could help solve the impunity of forest offences, provided measures are taken to prevent non-transparent charges and corruption.

Analyses of the official records revealed lapses in record keeping since the outcomes of offences, especially regarding cases under police and regional FSD investigations are not indicated. This makes it difficult to assess whether actions taken against these offenders actually have a positive impact on the level of offences in the district. Even though there has been a decline in recorded forest offences between 2005 to 2010, this decline may be due to the (in) efficiency of the FSD monitoring system or to the FC’s incapacity to detect the offenders and record the offences. A call for capacity development of FC officials, both staff trained at university level and field officers, may be essential as has also been recommended by forest governors and experts in Chapter 6. In South Carolina in the United States, for instance, the Forestry Commission officers are trained and certified in criminal justice in addition to training in forest law, forest investigation and incident management.<sup>24</sup> Law enforcement therefore becomes part of the training of the forest manager and somehow this is missing in the current training of forest managers in Ghana’s forest sector. The legal department of the FC could extend its mandates from representing the FC in legal matters to advocacy for the FC to establish a prosecuting system as well as building capacities of FC officials in legal issues and conflict management. There is also a need for officials of the legal department to have knowledge of natural resource management in addition to knowledge of law, so that they have a better and more in-depth understanding of the negative environmental effects of forest offences and how best to quantify them during presentation of cases in the law courts.

Among the twelve forest-related unreported judgments analysed, only two of the cases made reference to the legislation that governed the forest offences and their sanctions. These cases were between ‘*The Republic vs. The Accused No. 1*’ and ‘*The Republic vs. The Accused No. 9*’ and charged under Act 547 and PNDCL 142 respectively. In the latter case, the court relied on Section 17(2) of the Timber Resources Management Act, 1997(Act 547) which deals with offences, with an alternative provision made to Section 17(4), which speaks about fines rather than ‘imprisonment’ prescribed by Section 17(2). This was considered more appropriate given the fact that the accused was regarded as a first offender. The rest of the court rulings on the other cases were silent on relevant legislations. The sanctions were not applied strictly in any of the twelve cases because it was unclear what the maximum prescribed penalty was, as stipulated in legislation. Even though the legislation clearly states that vehicles carrying illegal products must be confiscated by the state, none of the rulings were strictly applied. Rather,

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<sup>24</sup> <http://www.state.sc.us/forest/le.htm> (accessed on 25 October 2011).

when an offender had been fined or served his/her prison term, the vehicles were released to the owner. In the majority of cases sanctions were applied lightly and in three cases sanctions were moderately applied. One could easily conclude that the judges or magistrates were lenient when it came to pronouncing judgement on forest cases or that they were less knowledgeable in forest laws. However, that does not need to be the case because the Constitution in Article 19(12), which is a clause to 19(11), stipulates that the judge or magistrate has the mandate to punish a person 'for contempt of itself', even if the act or omission constituting the contempt is not defined in a written law and the penalty is not prescribed.

*Perceptions of FC, police and judiciary officials: images, instruments and actions*

Although forestry laws are designed to be applied, most of them seem to exist on paper only. This study revealed a common belief in inadequate institutional capacity among the FC, police and the judiciary to apply existing sanctions and enforce the law in practice. This is clearly demonstrated by the high volumes of illegally produced chainsaw lumber and timber logs, widespread illegal farming and illegal mining among others. It can therefore logically be inferred that the status quo aligns perfectly with the perception of forestry officials that the judicial trials of forest offences imposes very low fines which is a hindrance to effective law enforcement. However, this was also disputed by some of the respondents. Equally, the administrative means that the FSD uses to deal with forest offences (such as fines and FC/ military taskforce) contribute to an increase in illegalities because the fines are considered to be low. The respondents called for forest and wildlife policies and laws to be included in the curriculum of the Ghana law schools. This corresponds to the proposals recommended by the forest governors and experts in Chapter 6.

It is noteworthy that the failure of Court officials to apply severe penalties for forest offences implies the downgrading of these kinds of offences. By organising consultative workshops and seminars to educate the judiciary and the police on the effect of environmental damage to the nation, they will become knowledgeable about vital forestry-related information that includes the extent of environmental damage. These proposals for capacity building correspond to the recommendation for training of police, prosecutors and judges by Christy *et al.* (1997: 153).

## Conclusion

This study revealed that there is a broad range of legislation which governs the forest sector Ghana and work to develop these is geared towards effective forest governance. Nevertheless, the implementation of these laws is challenged because of the prevalence of forest offences and low fines attached to these offences. It was clearly noted that the mechanism designed for law enforcement requires effective cooperation and collaboration of the relevant state agencies, which are the Forestry Commission, the Police Service and the Judicial Service. However, it was also observed that there was an apparent lack of cooperation regarding the procedures for reporting forest offences, the coordination of court processes for effective law enforcement and the eventual determination of the offences by the court as well as a sometimes arbitrary disposition of offence reports by the FC. A wide range of reasons has been assigned for those pertinent traits of the forest sector. The general character of the enforcement mechanism is that it appears satisfactory bearing in mind the institutional limitations and the limited capacity of the

forest sector organisation.

To conclude, it is fair to say that forest law could be enforced more effectively if attention were paid to capacity development (both human and logistic) of forest officers, the police and the judges, in addition to decriminalising some forest offences and making them subject to civil law or granting legal administrative power to the FC so that it can deal with some of the offences beyond the scope of the judiciary.

## Synthesis, recommendations and conclusions

### Introduction

By the turn of the millennium, forest governance had been given recognition on Ghana's development agenda by state and non-state actors with influence from the international community. Examples are the Ghana Natural Resource and Environment Governance (NREG) Review, the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) with the European Union to combat illegal logging and strengthen forest governance, and Reducing Emissions from Deforestation and Degradation plus (REDD+) (see Chapter 5). The emergence of these governance initiatives increased the diversity of actors in decision-making, resource use and management. This resulted in a growing competition for resources and conflicting objectives between and among actors in the system-to-be-governed and the governing systems, with emerging conflicts being the result. However, conflict management – although a key building block of forest governance – has received little or no consideration in forest management, policy and most on-going governance initiatives. A study on this topic in Ghana's high forest zone that was intended to generate an understanding and find a means of dealing with forest and tree livelihood conflicts therefore became an important research area under the '*Governance for sustainable forest-related livelihoods*' programme, which was carried out as a joint effort by Tropenbos International (TBI) Ghana, the Amsterdam Institute for Social Science Research (AISSR) at the University of Amsterdam and Kwame Nkrumah University of Science and Technology (KNUST) from 2008-2012.

The high forest zone, which contains most of Ghana's forest resources, has been categorised into on and off-reserve forest areas. It is the area where conflicts and illegalities occur with regard to the utilisation and management of forest and tree resources. The study therefore set out to explore and analyse governance arrangements, conflicts and conflict management in Ghana's high forest zone using the Tano-Offin forest reserve in Nkawie Forest District as a case. An important reason for selecting the Tano-Offin forest reserve as the study area was that it contains all governance regimes that



### Box 12.1 Key research questions

1. What are the natural and socioeconomic characteristics of Ghana's high forest zone and how do they interact? (Chapter 4)
2. What are the features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does the system deal with forest and tree-related conflicts? (Chapter 5)
3. What are the perspectives of forest governors and experts in the forest sector regarding the nature of forest and tree-related livelihood conflicts and conflict management options in Ghana's high forest zone? (Chapter 6)
4. What conflicts occur in relation to forest and tree resources and what conflict management strategies are employed under several governance regimes in the Tano-Offin forest reserve and what are their implications for forest governance? (Chapter 7 on a protected area, Chapter 8 on a plantation forest, Chapter 9 on a production forest)
5. What factors facilitated the cooperation between the local community and the timber operator in Tano-Offin off-reserve area? (Chapter 10)
6. What are the characteristics of forest offences and their judgements in law courts in Nkawie forest district and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means to overcome them? (Chapter 11).

occur in Ghana's forests, i.e. protection, production and plantation areas, while an off-reserve area with relevant forest resources was located nearby.

Situated in four theoretical strands related to political ecology, forest-based livelihoods, interactive governance and conflict and conflict management (see Chapter 2), this study provided answers to six main research questions in eight empirical studies (Box 12.1).

Theoretically, the analysis in this thesis is grounded in interactive governance theory (Kooiman *et al.* 2005), combined with the multi-dimensional conflict wheel developed by Mason & Rychard (2005). This implied, first, that a distinction was made between the system-to-be-governed (Ghana's high forest zone, consisting of a natural and socio-economic sub-system and the interactions between them), a governing system and the governance interactions between them. Both were analysed in terms of complexity, diversity, dynamics and scale. Second, it meant the centrality of the concept of interactions in understanding both governance (defined by Kooiman *et al.* (2005:17) as 'the whole of public as well as private interactions that are initiated to solve societal problems and create societal opportunities') and the governability of a system. The latter is defined as 'the overall capacity for governance of any societal entity or system' (Kooiman 2008: 173, see Chapter 2). Third, the interactive governance perspective permitted the deconstruction of the governing system in terms of (i) governance orders (first order or day-to-day management, second order or institutions, and third order or meta governance that encompasses the normative principles and values that guide first and second order processes); (ii) governance modes (hierarchical governance, co-governance and self-governance); and (iii) governance elements (images, instruments and actions). Fourth, the use of Mason and Rychard's conflict wheel implied an analysis of conflicts over forest and tree resources along various dimensions, including context, issues, actors, causes, dynamics and conflict management strategies. Finally, the study sought to find means of constructively managing forest and tree livelihood conflicts inherent in

the forest and tree systems in order to improve the governance process. This corresponds with the last dimension in the conflict wheel and was analysed in terms of the elements (images, instruments and actions) distinguished in interactive governance theory (Kooiman *et al.* 2005).

The study employed mixed methods (i.e. an integrated combination of quantitative and qualitative methods) with different research techniques in the data collection process, including document analysis, community meetings, surveys, a self-completion questionnaire, interviews, validation meetings and workshops. The main rationale for the use of mixed methods research in this study was to obtain a complete and comprehensive picture of forest resource conflicts and conflict management strategies from different actor perspectives and to enable the triangulation of quantitative and qualitative data (see Chapter 3).

The next section synthesises the empirical findings from the study with respect to the main research questions. Then the theoretical implications of this study are outlined, with a focus on theories of political ecology, forest-based livelihoods, interactive governance, conflict and conflict management, complemented with those on co-management and social capital. The last part of this chapter presents suggestions for further research, recommendations for policy and practice, and the final conclusions.

## Synthesis of the empirical findings

This section brings together the most important results from the empirical chapters by responding to the main research questions.

*What are the natural and socioeconomic characteristics of Ghana's high forest zone and how do they interact?*

This question was addressed in Chapter 4, which focused on the system-to-be governed: Ghana's high forest zone. Here (as in subsequent subsections) the main findings are presented, organised according to the sub-questions that were specified in Table 1.1 and complemented with the main challenges identified.

### 1. *What is the nature of Ghana's high forest zone in terms of diversity, complexity, dynamics and scale?*

The high forest zone is a key contributor to the nation's GDP, as a source of raw material for the timber industry and a source of livelihoods for both rural and urban people. It is a nested continuum of subsystems existing across five regions in Ghana at different levels of geo-political scale. The high forest zone is diverse as it holds a mixture of ecological vegetation types ranging from evergreen rainforest to dry semi-deciduous forest characterised by a wide range of flora and fauna species. The interdependency and interaction within and among the different parts of the system brings to fore the system's complexity. This complexity also prevails in the human system in which different forest users (mainly farmers, timber operators, chainsaw millers and non-timber forest product collectors) compete for timber and non-timber forest resources and farming land. Furthermore, complexity is related to the different management regimes which each have their own specific governing system and institutions that regulate access to forest and tree resources. In terms of dynamics, changes in policies governing forest resource management and use over the years and conflicting interactions with other land-use systems have increased the high forest zone's

vulnerability to excessive exploitation. These dynamics in natural resource systems are confirmed in many previous studies, both in Ghana (*e.g.* Kotey *et al.* 1998, Teye 2005, Appiah *et al.* 2009) and elsewhere (Kooiman *et al.* 2005, ITTO 2006).

2. *Which forest users prevail and how do they interact with the natural system?*

The actors who access forest resources were found to be diverse in terms of composition, interests and levels of geographical scale. They were divided into actors at community level (farmers, gatherers of non-timber forest products, hunters) and market actors (timber operators, illegal loggers and chainsaw millers, plantation developers and non-timber forest product traders). Both categories are far from homogenous: the diversity of actors and their interests in accessing resources is linked to differential powers and needs. This poses a challenge to the governability of the system due to conflict incidences as reported in this study and previous ones carried out in the high forest zone (see for instance Ohene-Gyan 2004, Marfo 2006).

3. *Challenges*

Based on these findings, the main challenges identified relate to the questions of whether (i) the high forest zone (and its embedded sub-systems) has the resilience to withstand the excessive pressure of over-exploitation of its resources and associated degradation, and (ii) the socio-economic system will enable the actors to derive social and livelihood benefits from the forest resources on a sustainable basis with less conflict or constructive means to manage them. Chapters 7-11 provide input to answer such questions.

*What are the features, orders, modes and elements of the governing system that contribute to the governability of Ghana's forest sector and how does it deal with forest and tree-related conflicts?*

This question has been dealt with in Chapter 5 which analysed the governing system of Ghana's forest sector from a historical perspective and in terms of its current characteristics. The latter was done employing the notions of interactive governance theory as expressed in the sub-questions below.

1. *What is the historical context of the Ghanaian forest governing system in terms of its policies, legislations and conflicts?*

Results in Chapter 5 show that prior to the introduction of scientific forestry, access rights to forest resources were at the discretion of the local community and town chiefs. The introduction of scientific forestry in the early 1900s and the associated 'timberisation' of forest governance and conflicts during the reservation process, left behind legacies of unresolved tenure and access rights issues. In addition, it revealed that rights to forest resources were taken away from local communities and town chiefs (see Francois 1987, Amanor 2005, Agyeman *et al.* 2010). These processes provided an arena for multifaceted conflicts related to restricted access to timber, NTFPs and farming land.

2. *What features prevail in the forest governance process (in terms of diversity, scale, complexity and dynamics)?*

The emergence of the collaborative and governance policies has broadened actor participation in forest use, management, decision making and benefit sharing and has

also increased the diversity and complexity of the governing system. This has been influenced by principles and governance processes in both the national and international arenas (e.g. the Forest Principles adopted at the United Nations Conference on the Environment and Development (UNCED) in 1992, the good governance debate in World Bank circles and, more recently, the Voluntary Partnership Agreement and Reducing Emissions from Deforestation and Degradation plus (REDD+) processes). This study revealed actors in the forest sector to be operating in six governing structures. These include (i) the statutory governing structure, (ii) the civil society governing structure, (iii) the customary governing structure, (iv) the market governing structure, (v) a hybrid governing structure, and (vi) an international governing structure. This differs from most authors who distinguish between the state, the market and civil society (e.g. Kooiman & Bavinck 2005, Owusu 2009). The hybrid governing structure was introduced in this study as a number of actors do not fit neatly into one specific category due to the transitional nature of the Ghanaian governance process, as a result of which actors continuously change from one governing mode to another and operate at different levels of scale while being positioned at one geo-political level. This implies that the concept of hybrid governing structure as understood in this study is related to, but more dynamic than, the notion of neo-African governance proposed by Siloma & Zaal (2005) which refers to hybrid governance forms in which formal governing bodies, traditional leadership structures and non-governmental and community-based organisations amalgamate.

3. *What is the quality of the three governance orders (principles, institutional arrangements and day-to-day management of conflicts) in the forest governing system?*

This study has shown that much has been done in Ghana in terms of introducing collaborative governance initiatives. Nevertheless, the current legislations are still not favourable in terms of people's access to resources due to criminalisation associated with access to these forest resources. The denial of some actors' access rights to resources, coupled with implementation challenges and dynamics in population growth, have resulted in illegalities characterised by conflicts. Unfortunately, the ad hoc conflict management strategies applied over the years have not been able to manage these conflicts constructively. It was in view of these that the forest governors and experts who took part in this study expressed the need for conflict management to become an integral component of the forest governance process in Ghana.

4. *What is the responsiveness of the governance modes (hierarchical, co-governance and self-governance)?*

Hierarchical governance, co-governance and self-governance co-exist in Ghana, and this supports the identification by Kooiman *et al.* (2005) of such modes of governance in the fisheries governing system. However, within the formal forestry sector a blend of hierarchical governance and co-governance commonly prevails, with the hierarchical mode of governance tending to prevail over co-governance. The forest governors and experts who took part in this study identified this as one of the weaknesses in Ghana's forest governance process. Self-governance was found to prevail prior to the introduction of scientific forestry when traditional authorities were in charge of forest management. It still occurs at local level, where the traditional council manages civil conflicts and convicts offenders without government influence or mediation by government officials (Chapter 7). Regarding the responsiveness of

these modes to the needs of the stakeholders, this study showed that most governance initiatives introduced in the forest sector have promoted co-governance and have therefore broadened actors' participation in decision making, management and benefit sharing). However, a lot of them are project driven and financially time-bound. Hence, the sustainability of the new governance initiatives becomes a challenge unless the sector undergoes reforms that will eliminate most of its hierarchical notions enshrined in legislations and embrace co-governance as an integral component of forest management. From a self-governance perspective, scientific forestry has given little recognition to the devolution of forest resources and management authority to local communities, since forest resources are vested in statutory government.

5. *How do governance elements (in terms of forest actors' images, instruments and actions) fit in with conflict management and how do actors assess the potential to strengthen forest conflict management in the governance process?*

Despite intentions to move towards co-governance and sustainable forest management, the forest governors and experts involved in this study identified challenges with regard to dealing with forest conflicts and their driving forces in day-to-day natural resource management (see point 6 below). This indicates a misfit between actors' 'images' of the problem (i.e. conflicts over forest and tree resources), the instruments they have to solve the problem (i.e. conflict management strategies) and the actions that are needed (i.e. integrated conflict management). The forest governors and experts identified various actions which have the potential to strengthen forest conflict management in the governance process. In order to improve the way in which they deal with the various stakeholders, they suggested several soft instruments that could complement the existing legislation, such as the capacity development of forest managers and the creation of a platform for stakeholders to engage in dialogue and express their grievances. They hope that this will create new opportunities which help to accommodate the multiplicity of actors and promote effective interactive forest governance. In order to ensure that constructive conflict management becomes an integral component of the forest governance process, workshop participants proposed strategies to be embedded in the governing system with a view to strengthening both second and third order governance (i.e. institutions and their underlying principles respectively). As regards the strengthening of institutional arrangements and instruments, their main recommendation was to institutionalise constructive conflict management strategies in the forestry sector. They called for a unit within the Forestry Commission which would be specifically designed to manage conflicts and enforce laws, and to arbitrate, become involved in adjudication, mediate, educate and constantly engage in a dialogue with its stakeholders, clients and other sectors. They judged a periodic assessment of the performance of such a unit to be essential in order to identify weaknesses and apply the necessary remedy on time. This should be based on underlying principles that they considered essential and many of which emanate from the good (forest) governance debate (transparency, accountability and public participation; stability of forest institutions and conflict management; quality of forest administration; coherence of forest legislation and rule of law; and economic efficiency, equity and incentives) (c.f. World Bank 2009).

## 6. Challenges

A key challenge inherent in Ghana's governing system is the pervasiveness of conflicts over forest and tree resources, with inadequate conflict management mechanisms being in place. This is caused by the weak institutional structures in terms of staffing and logistical equipment of the Forest Services Division of the Forestry Commission and weak collaboration between the Forestry Commission, the judiciary and the police, leading to weaknesses in law enforcement. Another challenge is the supremacy of the top-down governance style which exists in the formal sector and which overshadows the co-governance style inherent in the decentralised structures in the various districts and the participatory initiatives based in the 1994 Forest and Wildlife Policy. An equally important challenge is the allocation of resource ownership and management to separate actors (i.e. traditional authorities and statutory governments respectively). This makes it difficult to reconcile statutory and customary systems to manage conflicts constructively. Other challenges identified in Chapter 5 include an inadequate political and administrative will to address natural resource management problems because of the influence of politicians and powerful loggers, a diffusion of decision-making power in certain co-management cases, and forest laws not being sufficiently differentiated for forest reserves and off-reserve areas, despite the different contexts and actors.

*What are the perspectives of forest governors and experts in the forest sector regarding the nature of forest and tree-related livelihood conflicts and conflict management options in Ghana's high forest zone?*

This question guided the analysis in Chapter 6, for which the data was derived from a four-step methodology that included desk-study, semi-structured interviews with key respondents, self-completion questionnaires and a workshop with forest governors and experts.

### 1. *What are respondents' 'images' regarding forest and tree-based livelihood options and associated conflicts?*

The forest governors and experts identified various forest and tree-based livelihood options in Ghana's high forest zone (on and off-reserve) that provide both direct and indirect services and products to numerous actors in Ghana. Examples include the modified taungya system commercial plantations, HIPC (highly indebted poor countries)-funded plantations, admitted and illegal farming, chainsaw milling, and non-timber forest product extraction for both domestic and commercial purposes. The range of forest and tree-based livelihoods found in Ghana's high forest zone and acknowledged by the respondents corresponds to assertions in livelihood literature that hundreds of millions of people depend to varying degrees on forests for their livelihoods (World Bank 2001, Sunderlin *et al.* 2005). These livelihood components are associated with conflicts involving actors spread across the five governing structures at national level and triggered by causes such as poor law enforcement and farming land scarcity. These causes fit well into five categories of causes identified in conflict literature: policy and legislative lapses and institutional failures (Tyler 1999), perceived goal incompatibility and perceived opportunities for deliberate interference with the other's goals resulting in blocking behaviour (Schmidt & Kochan 1972), and environmental scarcity, including structural scarcity related to the unequal distribution of natural resources (Homer Dixon 1994). These categories cover most of the

conflict causes mentioned by the respondents, but are not mutually exclusive (Chapter 6, Box 6.1).

2. *What are respondents' perceptions regarding the instruments available to manage these conflicts?*

This study indicates that dealing with forest conflicts occurs on a case-by-case basis. It ranges from avoidance to violence, in accordance with the continuum of conflict management approaches developed by Moore (2003).

3. *What actions do forest governors and experts propose to improve conflict management?*

The forest governors and experts highlighted the need for policy consideration of two action plans that they proposed. The first refers to scale-specific but inter-linked recommendations for a stepwise conflict management model, which integrates statutory and customary institutions. This model revolves around three key sources of forest and tree conflicts that are very prevalent in the sector, i.e. conflicts relating to (i) compensation and land use (e.g. illegal farming in forest reserves and crop damage compensation payments), (ii) forest boundary conflicts, and (iii) illegal chainsaw operations and logging. Each of these conflict types is associated with specific conflict management strategies. In the proposed model, the Forestry Commission is the mediating actor (provided it maintains close linkages with traditional authorities) that indicates the steps required to achieve each solution. The second action plan encompasses a proposal to assess the feasibility of re-introduction of a prosecution system within the forestry sector (Chapter 6).

4. *Challenges*

Challenges with regard to conflict management identified in Chapter 6 include, first, the prevalence of coercion in the administrative system, which has resulted in hostility between officials of the Forest Services Division and actors engaging in forest offences, apathy among the stakeholders as regards providing support for forest management, and fighting and injuries. Second, the District Forest Manager or his/her representative are often absent as witnesses and mediators during social responsibility (SRA) agreement negotiations between communities and timber operators. This often results in disagreement between the parties which may lead to disputes that may escalate if not resolved on time. A third challenge involves interference by politicians and elites during conflict resolution processes who sometimes plead on behalf of the offenders, thereby preventing the necessary punishments being meted out. Finally, respondents noted the overall problem that it is often difficult to arrange trade-offs that are acceptable to all conflict parties involved, and that an efficient mechanism capable of minimising conflict incidences would be an important means for achieving sustainable resource management.

*What governance arrangements and conflicts occur and what conflict management strategies are employed in the protected Globally Significant Biodiversity Area in (GSBA) in Tano-Offin reserve and what are their implications for on-going trends in forest governance such as the Voluntary Partnership Agreement and REDD+?*

This question was addressed in Chapter 7, which studied prevailing conflicts in a protected governance regime, the Globally Significant Biodiversity Area (GSBA) in the Tano-Offin forest reserve, where the inhabitants of the ‘admitted village’ Kyekyewere find themselves excluded from forest resources in the middle of a forest reserve.

1. *What are the characteristics of the Tano-Offin GSBA as a system-to-be -governed in terms of the natural and socio-economic sub-systems and the interactions between the two?*

The natural system analysed in Chapter 8 is the Tano-Offin Reserve GSBA, created for its rich biodiversity and water bodies (Kyereh *et al.* 2006). The admitted village of Kyekyewere and its inhabitants whose livelihoods are linked to forest resources represent the socio-economic sub-system. The location of the village in the middle of the forest reserve makes its inhabitants highly dependent on forest resources and farming activities, resulting in growing pressure on forest and land resources due to the growth of the village’s population since the creation of the forest reserve and the GSBA. The inhabitants of the admitted village of Kyekyewere have few legal forest livelihood options other than accessing non-timber forest products for domestic use. Most forms of forest-based livelihood components – non-timber forest product extraction for commercial use without a permit, chainsaw milling, extension of admitted farms and farming in the reserve – are illegal according to prevailing laws such as Act 624, Act 547 and LI1649. In 1998 Ghana banned the use of chainsaws to process lumber. Farming within forest reserves is illegal, except in the case of admitted farms and farming under reforestation schemes such as the modified taungya system (see Chapter 8).

2. *What governing systems operate within the Tano-Offin GSBA?*

Analysis of the governing system in the Tano-Offin protected GSBA regime from an interactive governance perspective revealed a tension between rules and laws that restrict inhabitants’ access to forest resources and their dependence on the same (Chapter 5). The above noted illegality of most forest-based livelihood activities supports the assertion of Peluso (1992 cited in Amanor 2005) about the ‘progressive criminalisation of customary rights of forest access’. In the statutory governing system a command and control approach prevails, termed a top-down ‘fence and fine’ approach by Adams & Hulme (2001) or an ‘ecototalitarian’ approach by Dietz (1996). This study furthermore revealed that traditional authorities (i.e. the customary governing structure) play a more important role in conflict management than is often assumed. Literature suggests that they no longer have a say in forest resource allocation and management as forest resources fall under the custody of the central state (Mayers & Kotey 1996, Ghana Constitution of 1992). However, the findings revealed that traditional authorities at local level still play an important role in the management and resolution of conflicts relating to these resources. The same observations were also made in Chapters 8 and 9 of this thesis.

3. *What are the perceptions of the inhabitants of Kyekyewere regarding the nature of forest and tree-related livelihood conflicts in Tano-Offin GSBA?*

The two conflict types observed in this study were those related to forest resources (timber and non-timber forest products, including game) and those related to forest land use (illegal farming and extension of admitted farms). This reaffirms previous



studies that portray conflicts as being inherent in natural resource use due to the complexity, diversity and dynamics of their natural and socioeconomic environments, in which actors operate at different levels of scale (Castro & Nielsen 2003, Buckles & Rusnak 1999, Kooiman 2008, Chuenpagdee & Jentoft 2009). Second, these conflicts were found to occur among resource users and between resource users and Forestry Commission officials. The multi-level presentation of the actors involved in the conflicts brings to the fore the spatial distinctions between actors involved in conflict situations (Bryant 1992, Dietz 1996). These conflicts portray both manifest behaviour (such as entering the forest reserve without a permit or stealing crops or logs from others) and underlying causes (termed 'antecedent conditions' by Pondy 1967) such as land scarcity and poverty. In terms of dynamics, conflicts involving only actors at community level are perceived as being the least violent, with more violence occurring when conflicts escalate to district level or beyond. Third, the combination of conflict management strategies mentioned by the respondents corresponds with coping strategies identified in conflict literature (e.g. Glasl 1999, Moore 2003, Engel & Korf 2005, Wehrmann 2008).

4. *What do the findings mean for ongoing trends in forest governance such as the Voluntary Partnership Agreement (VPA) and Reduced Emissions from Deforestation and forest Degradation plus (REDD+) processes?*

Strengthening law enforcement under the VPA or more stringent control of protected areas due to REDD commitments is likely to restrict villagers' access to forest resources even more. Building social safeguards implies rethinking the governance conditions of protected areas, especially the status of admitted villages and farms where people have restricted access to forest resources and few options to build a livelihood. Where re-settlement of the inhabitants is not the first option, REDD+ payments and joint reforestation schemes with multiple benefits such as the modified taungya system and other innovative co-management systems that will bring direct benefits to communities may provide important social safeguards. Furthermore, it is key to enhance the conflict management capacity of Forest Services Division officials and the judiciary, with due attention being paid to the role of traditional authorities.

5. *Challenges*

The illegality related to forest resource and land use in a protected regime results in conflicts that prejudice local people's wellbeing. Unfortunately, most of the perceived illicit activities (including illegal farming, non-timber forest product exploitation and chainsaw logging) are the main sources of livelihoods of people living in such a protected area. Given that people who do not have a Forestry Commission permit are excluded from access to forest resources in the GSBA, those who do access the resources to meet their livelihood needs are treated as criminals. The question is what is criminal and not criminal when it comes to people's livelihood needs? Is it actually a crime to access forest resources to meet one's livelihood needs? Amanor (2005) argues that such questions make it difficult for local people to acknowledge that what the law says is a crime is criminal indeed and they perceive that as injustice. According to the same author, they respond to the perceived injustice via 'a culture of conspiracy' and by violating forest laws, 'as either an act of defiance or a desperate attempt at achieving subsistence' (*Ibid.*: 16).

*What conflicts over forest and tree resources occur and what conflict management strategies are employed around the modified taungya system in a plantations forest in the Tano-Offin forest reserve and what are their implications for the co-management scheme?*

Based on a case study of the modified taungya system in the Tano-Offin Forest Reserve, Chapter 8 analyses the co-management context of the system and the arising conflict issues from the perspectives of the local communities.

1. *What are the characteristics of the plantation forest (i.e. the modified taungya system scheme) in the Tano-Offin forest reserve as a system-to-be-governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?*

The modified taungya system (MTS) is a co-management scheme between the Forestry Commission and forest fringe communities for the reforestation of degraded forest reserves in Ghana, with the ultimate objectives being to realise sustainable forest management and poverty reduction. Under this system, participating farmers are co-owners of trees and entitled to a 40% share in the timber benefits. They furthermore have the right to plant food crops between the trees until canopy closure in return for their share in tree planting and maintenance. The plantation regime within the Tano-Offin forest reserve (mostly located in the production management area) consists of various compartments in degraded parts of the reserve, of which 82 ha and 70 ha respectively were allocated to the study villages of Chirayaso and Kunsu-Nyamebekyere No. 3 from 2004-2007 in order to realise a given plantation establishment target. The trees commonly planted by farmers under the MTS scheme (with food crops such as plantain, cocoyam, vegetables and maize) include the exotics *Cedrella odorata* (cedrella) and *Tectona grandis* (teak) and indigenous species like *Terminalia Superba* (ofram) and *Entandrophragma* spp. (African mahogany). With farming being the major occupation in the two villages, the food crop component of the modified taungya system has contributed to the livelihoods of the inhabitants who participate in the scheme. Some key benefits that have improved the well-being of the MTS farmers are (i) employment in the form of farm labour and micro-enterprises (notably petty trading) that could be established thanks to the revenues from the MTS plots, (ii) improvement in school attendance by their children, (iii) improved quality of their housing, and (iv) food security throughout the year.

2. *What are the characteristics of the governing system (i.e. institutional arrangements) that steers the plantation regime?*

The modified taungya system is a first collaborative arrangement between farming communities and the Forestry Commission with legal backing, clearly defined institutions and a benefit-sharing scheme. The institutional framework shows a partnership of stakeholders ranging from state and non-state actors to the international community, which indicates the diversity of actors and the multi-faceted character of the arrangement. The contractual agreements between the Forestry Commission and MTS groups offer the taungya farmers some formal powers in terms of leasehold over land and access to the forest reserve to farm, with the decision-making responsibilities of the taungya committees as well as the farmers being quite circumscribed. The findings support Marfo's (2009) statement that the modified taungya system represents a significant tenure reform in which, for the first time in Ghana, local

communities and individuals have direct ownership rights over trees in state forest reserves and specifically prescribed benefits based on mutual agreements.

3. *What are the perspectives of the inhabitants of the communities at the forest plantation fringe regarding the nature of forest and tree-related conflicts in the plantation regime?*

The modified taungya system operations were found to centre around three conflict categories. These were (i) conflicts related to institutional and operational arrangements, (ii) conflicts resulting from competing claims, and (iii) anticipated conflicts resulting from uncertainty about the future of the partnership. The study revealed that the outcomes of most of these conflicts helped to continue shaping the system. This confirms the notion that conflicts are a means of social learning to improve a situation, and should therefore be regarded as positive capabilities (Burgess & Burgess 1996, Glasl 1999).

4. *What conflicts outcomes arise and what are their effects on the governance arrangements?*

Some of the conflict outcomes analysed in Chapter 8 influenced the functioning of the modified taungya system in a positive manner. After field verification of complaints about the disproportionate allocation of forestland by the taungya leaders to themselves, farmers from one community (Chirayaso) reported some lessons learnt that led to the improvement of the system during the 2009 planting season. The field verification team consisted of Forest Services Division officials, representatives of chief and elders, the aggrieved farmers and the taungya farmers, which ascertained the alleged accusation against the leaders and took four decisions in the presence of the entire community to solve the conflict, with consequences for the composition of the MTS committee and the governance arrangements in place for the allocation of plots and the fees to be paid. The outcome of another conflict – the coercive action taken by Forest Services Division officials against disobedient farmers who failed to plant timber trees on their plots – resulted in the exclusion of non-cooperating farmers. Regarding the anticipated conflicts arising from tenure insecurity and uncertainties, the Forestry Commission has secured donor funds to register all farmers and address outstanding issues concerning the agreement. Disputes over farming boundaries and conflicts associated with food crop theft, the destruction of crops and trees through the use of fire for hunting and illegal chainsaw operations turned out to be much harder to resolve, although public announcements sometimes result in a temporary decline of timber and crop theft.

5. *Challenges*

Unfortunately the co-management component of the partnership between the Forestry Commission and the modified taungya system farmers has not entirely been a continuous problem-solving process. This is because, in terms of decision making, it portrays features of a fixed state system that are meant to serve the interests of the Forestry Commission rather than of a process that embraces joint decision making for the benefit of both parties. This was clearly seen in the context of the third conflict category of uncertainty about the future of the partnership, which may undermine the potential of the modified taungya system as an effective co-management arrangement where lessons are learnt for further improvement of forest governance.

Several options for improvement of the system are provided in Chapter 8.

*What conflicts over forest and tree resources occur and what conflict management strategies are employed in a production forest in the Tano-Offin forest reserve and what are their implications for law enforcement?*

Chapter 9 addressed conflict incidences in the production forest regime in Ghana's high forest zone and the implications of the findings for law enforcement under the Voluntary Partnership Agreement. The analysis is based on a review of documentary sources, the administration of semi-structured questionnaires among 137 inhabitants of the villages of Chirayaso and Kunsu-Nyamebekyere No. 3 bordering the Tano-Offin reserve, and validation meetings.

*1. What are the characteristics of the production forest in the Tano-Offin forest reserve as a system-to-be governed, particularly with regard to the interaction of local communities with the natural system in their efforts to secure their livelihoods?*

Ghana derives most of its timber revenues from the production regime in forest reserves, Chapter 9 revealed that interaction between the prevailing governing system and the human system poses challenges for the governability of the natural system. Local people rely on forest resources in the form of land under the modified taungya system, chainsaw milling, NTFPs for domestic use and trade, and forest services (i.e. boundary cleaning, working with timber firms and as forest guards). Individuals from other levels of scale often access forest resources illegally and this is associated with conflicts. Law enforcement as envisaged under the Voluntary Partnership Agreement is therefore essential.

*2. What governing system (i.e. institutions and policy instruments) functions in the production regime?*

Four governing structures were identified under the production regime, belonging respectively to the statutory, market, customary and hybrid governing systems. Under the statutory governing system, the Forest Services Division of the Forestry Commission is the main actor, particularly the range supervisors (in charge of timber exploitation in a certain forest area and responsible for conducting stock surveys and measuring felled trees to estimate tree volume) and forest guards (responsible for clearing the reserve boundary and patrolling the reserve in order to prevent illegal activities). The judiciary and police also play a role, as outlined in Chapter 11. Under statutory law, production forests are divided into compartments of approximately 128 hectares each (1,600 m x 800 m), a group of which constitutes a concession or timber utilisation contract (TUC) area where trees are felled according to a harvesting plan as stipulated in the Manual of Procedures. Actors based in the market governing structure (but subject to statutory law) are the TUC holders, who obtain contracts through competitive bidding and who are allowed to operate for a period of one cycle, which corresponds to forty years, and chainsaw millers, who operate illegally. Traditional authority at village level takes the form of the chief, queen mother and elders, who are based in the customary governing structure. Finally, the hybrid governing structure encompasses the Unit Committee, the Community Biodiversity Advisory Groups (CBAGs) and Community Forest Committees, which operate at community level as intermediaries between the statutory and customary structures. Benefit arrangements include royalties (that accrue to the Forestry Commission, the

Administrator of stool lands, the District Assembly and traditional council and stool land owner), Social Responsibility Agreement payments to the community and crop damage compensation for the farmers.

3. *What are the perspectives of the inhabitants of the communities at the production forest fringe regarding the nature of forest and tree-related conflicts in the production regime?*

Chapter 9 showed that, in view of the multiple kinds of resource users and their diverging interests, the regime is characterised by conflicts that can be classified into three conflict categories, namely (i) conflicts related to forest resources (related to chainsaw milling, non-timber forest products for domestic use and for trade, and hunting), (ii) operational conflicts with timber utilisation contracts (TUC) holders (related to log theft and negotiations about Social Responsibility Agreement payments and crop damage compensation), and (iii) land-use conflicts (boundary disputes and illegal farming). Each of the conflicts are driven by both manifest behaviour (e.g. confiscation of forest resources, arrest of offenders, crop destruction, road barricades, disobedience of rules, etc.) and antecedent conditions (e.g. greed, corruption, economic hardship and poverty, reluctance to fulfil Social Responsibility Agreement obligations, bureaucracy and poor law enforcement).

4. *What are the implications of the findings for law enforcement?*

In relation to these conflict situations, four possible outcomes were identified: (i) communities and farmers succeed and/or fail to materialise their benefit rights, (ii) communities and chainsaw millers gain and/or lose access to forest resources, (iii) timber utilisation contract (TUC) holders lose timber rights to chainsaw millers and other TUC holders through timber theft and (iv) the Forest Services Division fails to materialise revenue rights due to illegal logging. The outcomes indicate that stricter law enforcement under the Voluntary Partnership Agreement (VPA) is urgently needed to save the forest resources. However, there is a risk that it results in a temporary 'pseudo-reduction' of illegal forest activities and that the system may be reversed to its original state of illegalities if the underlying factors are not addressed. The situation may even escalate if local people, driven by need or greed, succeed in creating alternative routes to access the same resources despite stricter enforcement. Law enforcement should, however, be the last resort for ensuring compliance with the law and should be complemented with 'soft' enforcement mechanisms. In connection with this, three issues were suggested for consideration in the design of strategies for soft law enforcement, namely to (i) develop the capacity of stakeholders (particularly resource managers and frontline staff of the Forest Services Division) in conflict management and integrate conflict management into the VPA system, (ii) enhance forestry extension by improving forestry education at local level, and (iii) engage inhabitants of forest fringe communities in forest management on a remunerated basis. Funds from REDD+ and other climate-related financial mechanisms could be used to enhance the budget available for such measures.

5. *Challenges*

In addition to persisting conflicts, three challenges influence the Tano-Offin production forest regime. First, the regime contributes to the livelihoods of local people, in accordance with findings in general literature on forest-based livelihoods (e.g. Fal-

coner 1992, World Bank 2001, Ros-Tonen & Wiersum 2005, Ros-Tonen & Dietz 2005, Sunderlin *et al.* 2005) that identify the various benefits local people derive from the forest to build their livelihoods. However, Chapter 9 indicates that most resources are accessed illegally with the exception of collecting non-timber forest products for domestic use, which is considered a communal right in management plans (Kyereh *et al.* 2006). In such cases, the issues of legality result in a clash between the system-to-be governed (i.e. the human system) and the governing system (i.e. rules, laws etc.). Second, Act 547 (amended 617) restricts legal access of timber harvesting to timber utilisation contract holders, thereby denying some actors access. This supports what Ribot & Peluso (2003: 154) conceptualised as ‘bundles and webs of powers’, meaning powers that enable some actors to gain control and maintain access, as in a production forest where access to, control of and gains from commercial timber harvesting are limited to forest managers and timber utilisation contract holders. Those who perceive the governing laws as being unfavourable to their survival start to be regarded as ‘criminals’ when they access the resources in violation of the law and are apprehended. Third, the study revealed that the flow of benefits to local communities from timber resources trickles down from social responsibility agreements and crop damage compensation for individual farmers as stipulated in Act 547 (amended 617). However, these do not often reach local people and even when they do, they are often inadequate and that leads to suspicion. Conflicts of this kind mostly occur either between or among timber contractors, local communities and farmers. Asare (2006) noted that the legislation lacks specific regulations on how to determine compensation and ensure that farmers are ‘fairly compensated’.

*What factors facilitated the cooperation between the local community and the timber operator in Tano-Offin off-reserve area?*

The off-reserve landscape is usually a contested field where conflicts occur between timber operators, officials of the Forest Services Division, local communities and their traditional leaders and farmers. The diversity of actors coupled with diverging governing rules for land and timber trees underlies the complexity of this landscape. However, the case study addressed in Chapter 10 revealed a situation of cooperation rather than conflict, and this raised the question of what factors facilitated this cooperation.

1. *What are the characteristics of the Tano-Offin off-reserve area as a system-to-be-governed in terms of the natural and socio-economic sub-systems and the interaction between the two?*

Chapter 10 focuses on Ghana’s off-reserve areas as the system-to-be-governed, which as a natural system is endowed with timber resources in patches of forest, fallow and farmlands. These areas are an important source of timber revenues for the country and some of its stakeholders as they still hold some rare timber species (Kyereh *et al.* 2006, Affum-Baffoe 2009, Hansen & Treue 2009, TBI 2009). They are also the major source of agricultural livelihood for local people who cultivate cash and food crops for income and domestic use. The results revealed that, even though the local inhabitants of Awisasu live close to the Tano-Offin forest reserve, they collect non-timber forest products for domestic and commercial use, mainly from fallow land in the off-reserve area. In addition, the off-reserve area provides them with their major sources of income from cash crops (especially cocoa) and food crops.

2. *What governing systems (i.e. challenges and opportunities, access to farming lands, customary and statutory arrangements) operate within the Tano-Offin off-reserve area?*

The off-reserve landscape presents a complex governing system because of the multiple governing structures involved and the different governing rules for land and timber trees. Access to land for the cultivation of crops is mostly through the stool or family, through a chain of hierarchy. A person who acquires land directly from the stool could also engage in different crop-sharing arrangements with other farmers. Through one of these arrangements, the *abusa* sharecropping system, a tenant farmer can also become a local landowner (Hill 1956 cited in Amanor & Diderutuah 2001). On the positive side, this mode of land transfer enables a tenant to become a local landowner, but the system also contributes to land fragmentation. Prior to the introduction of scientific forestry in the early 20<sup>th</sup> century, the right to access and explore timber resources in off-reserve areas was in the hands of the farmer and the local town chief (Amanor 2005). Scientific forestry changed this pattern by vesting custody of land in the paramount chiefs (see Chapter 5), which excluded local people and farmers from timber resource benefits. A general call for collaboration resulted in a policy that granted rights to benefits to local people and farmers. These benefits range from social responsibility agreements for local communities, to crop damage compensation for farmers in off-reserve areas, ownership of planted trees and consultation with local people before logging proceeds in off-reserve areas. In the Awisasu community, the diversity of governing structures (i.e. the statutory, customary and hybrid governing structures) created an environment conducive to strong social ties and networks.

3. *What are the perceptions of the inhabitants and the timber operator on why crop damage compensation and social responsibility agreement conflicts are minimal or absent?*

The case study of Awisasu community presents a scenario of cooperation that contrasts with the frequently cited conflict status of off-reserve areas. This cooperation was achieved based on the construction of social capital elements such as networking, shared responsibility, and the creation of social ties and trust by the timber contractor, which was reciprocated by the local people. This confirms Portes' (1998: 3) statement that 'social networks are not a natural given and must be constructed through investment strategies oriented around the institutionalisation of group relations, usable as a reliable source of other benefits'. This case study also showed that the concept of social capital aligns well with interactive governance theory, and this supports the argument by Trimble & Berkes (2010) that there can be synergy between interactive governance theory and the social capital framework.

4. *What are the views of government officials with regard to crop damage compensation and recommended actions for improvement?*

The informal discussions held with government officials centred on the governance elements – images, instruments and actions. The Forestry Commission mediates in social responsibility agreement negotiations, but in the case of compensation payment negotiations only when the contractor and farmer do not reach an agreement and one of the parties sends a petition letter. When consulted, the Ministry of Food and Agriculture (MOFA) and Land Valuation Division (LVD) have an instrument to

calculate compensation payments for crop or property damage. The officials recommended strategies such as the installation of a customer services officer at the Forestry Commission to play a mediating role and design procedures for negotiating compensation with farmers as a means to minimise confrontations between farmers and timber contractors.

### 5. Challenges

Due to the diversity of actors in the off-reserve landscape and the different land-use systems competing claims are common. If these are not managed properly they result in conflicts associated with loss of livelihoods and environmental degradation (Ohlsson 2000). Generally speaking, the procedure for establishing crop damage compensation is subjective and controlled by the timber contractor. This was also the case in this study, despite its conflict free scenario. Another challenge is inherent in the prevailing legislation which denies farmers and local people access to timber resources from naturally regenerated trees on their farmland, while compensating them inadequately through crop damage compensation and social responsibility agreement obligations. However, such a scenario was not observed in this study.

*What are the characteristics of forest offences and their judgements in law courts in Nkawie forest district and the views of representatives of law enforcement agencies and the judiciary regarding institutional challenges and means to overcome them?*

Chapter 11 aimed to contribute insights into challenges related to forest law enforcement by analysing forest offence records from the period 2005-2010, court judgements on twelve forest cases in the Nkawie forest district and based on semi-structured interviews with nineteen officials from the Forestry Commission, Ghana Police Services and the judiciary.

#### 1. *What are the characteristics of the Nkawie Forest District reserves as a system-to-be-governed?*

The Nkawie Forest District is one of the seven forest districts in the Ashanti region under the jurisdiction of the Forest Services Division of the Forestry Commission (see Chapter 4). The Forest District is headquartered at Nkawie, about forty-five minutes' drive from Kumasi, the capital of the Ashanti Region. There are six forest reserves under the management of the Nkawie Forest District with a total area of 1,019.72 km<sup>2</sup>. These are the Asenayo, Desiri, Jimira, Offin Shelter, Tano-Offin and Tinte Bepo forest reserves.

#### 2. *What governing system (i.e. institutions and legislative framework) with regard to law enforcement is available in the forest district?*

The accessing, processing and conveying of forest resources without a permit constitutes a criminal offence as stipulated in the Act 547 (amended 617), LI.1649 and the National Redemption Council Decree (NRCD) (amended 642). Thus, every illicit activity in forest reserves and off-reserve areas especially related to timber resources is treated as a criminal offence. In the context of Ghana, both the police and the Forestry Commission are law enforcement agencies. The duty of the Forestry Commission is to enforce the regulations that govern the country's forest and tree resources and the role of the police is to ensure due enforcement of the law. These two agencies exist to ensure that the government machinery fulfils its policies, objectives and



programmes while protecting life and natural resources. Whereas the Forestry Commission and the police are the executive branches of government and thus answerable to it, the judiciary is the wing of the judicature and is autonomous. Whereas the law enforcement agencies aim to secure a way of preventing crime and punishing offenders, the judiciary aims to administer the law impartially while observing human rights and fair judgement.

3. *What governance interactions arise from the system-to-be-governed and the governing system and what are their outcomes?*

The documented analysis of the forest offences revealed eight forest offence types with prevalent cases being chainsaw milling, illegal logging and illegal farming. Between 2005 and 2010, the district recorded 121 offences with more offences occurring in the on-reserve areas than in off-reserve areas. This contrasts with the findings of Abugre & Kazaare (2010) in a similar study in three forest districts in Brong Ahafo region, where most offences tend to occur more in off-reserve areas than in on-reserve areas. The difference between the two studies could be due to the different location of the study areas with particular needs of inhabitants and ease of access to on-reserve and off-reserve forest. Nonetheless, both studies have highlighted that the timber species which is most exploited illegally is *Triplochiton scleroxylon* (wawa), a scarlet star-rated species which is under imminent economic threat. Analyses of the official records revealed lapses in record keeping since there are no references to the outcomes of offences, especially those relating to cases under investigation by the police and regional Forest Services Division. If the twelve forest-related unreported judgements analysed, only two of the cases referred to the legislation that governed the forest offences and their sanctions. The rest of the court rulings made no mention of relevant legislation. Even though the legislation clearly states that vehicles carrying illegal products must be confiscated by the state, none of the rulings were strictly applied. Rather, once an offender had been fined or had served his/her prison term, the vehicles were released to the owner.

4. *How do the Forestry Commission, the Ghana Police Services and the Judiciary perceive their institutional roles in dealing with forest offences?*

The perceptions of officials of law enforcement agencies revealed that they perceived the collaboration between them as weak, and this affects the law enforcement process. This study revealed a common belief in the inadequate institutional capacity among the Forestry Commission, police and the judiciary to apply existing sanctions and enforce the law in practice. This is clearly demonstrated by, for example, the high volumes of illegally produced chainsaw lumber and timber logs, widespread illegal farming and illegal mining. Some of these problems are attributed to existing legal instruments. First the failure of the court to apply severe penalties for forest encroachment in order of priority was attributed to political, social, economic and environmental motives. In addition, forest offences are poorly documented. Even though respondents had different opinions with regard to the necessary actions to manage forest and wildlife crimes, they advocated the organisation of consultative workshops and seminars to educate the judiciary and the police on the effect of environmental damage to the nation. These proposals for capacity building correspond with the recommendation for training of police, prosecutors and judges by Christy *et al.* (1997: 153).

## 5. Challenges

Although applicable forestry laws exist, they largely seem to exist only in the statutes. At the same time, of the twelve forest-related judgements analysed, only two referred to the legislation that governed the forest offences and their sanctions. In none of the twelve cases were the sanctions applied strictly because it was unclear what maximum prescribed penalty was stipulated in the legislation. It also became clear that (for instance with regard to the confiscation of vehicles carrying illegal products) none of the rulings had been strictly applied. The analyses of the official records also revealed lapses in record keeping, since the outcomes of offences were not registered. This applied to cases under police and regional Forest Services Division investigation in particular. This makes it difficult to assess whether actions taken against these offenders actually have a positive impact on the level of offences in the district. Even though there has been a marginal decline in recorded forest offences from 2005-2010, this marginal decline might be due to the inefficiency of the Forest Services Division monitoring system or to the Forestry Commission's incapacity to detect the offenders and record the offences.

### *Governability implications of the study*

The ultimate aim of interactive governance theory is to assess governability – ‘the overall capacity for governance of any societal entity or system’ (Kooiman 2008: 173) – and to dissect the key variables that help understand how and why governance implementation falls short of achieving desirable outcomes’ (Chuenpagdee & Jentoft 2009: 113). Based on the conceptual framework (Figure 2.4) developed in Chapter 2, three possible assumptions on governability outcomes for forest and tree-related conflicts in Ghana were formulated. Scenario 1 presents a positive outcome, which implies that the system is governable and that one can sense an atmosphere of cooperation or collaboration or even competition, but without conflicts. This also implies that the interaction between the system-to-be-governed and the governing system is mutually responsive. It was assumed that such a scenario does not often occur in reality, especially in the natural resource arena where different kind of actors operate at different spatial scales and compete for limited resources and where policies restrict access rights for some actors and impose other limitations. However, the study in the Tano-Offin off-reserve area proved otherwise. Here, a timber contractor learnt from his previous experience with the local community to build a cooperation scenario. This was based on constructing elements of social capital, including networking, shared responsibility and the creation of social ties and trust by the timber contractor, which was reciprocated by the local people. This situation, which refuted my first hypothesis regarding governability outcomes, can be regarded as the ideal situation that interactive governance theory is looking for and one in which mechanisms and instruments are well formulated, in which policy becomes a learning process and actors are actively involved in the governance process.

Scenario 2 assumes that the system is not governable, which signifies a situation of social unrest or complete resource degradation and lawlessness. Such a scenario could happen in practice and may call for a complete governance reform or a new innovation. It is interesting to note that such a situation of complete non-governability has not been observed in any of the case studies.

Scenario 3 assumes that the system may be governable but with limitations. This was the scenario that applied to most of the analysed cases. With the exception of Chapter 10, the analyses in Chapters 4-11 presented scenarios of inherent governability chal-

allenges in the components of the governance system, in either the system-to-be-governed, the governing system or governance interactions. The main limitations identified in the study are (i) the absence of recognition of the importance of conflict management as an integral component of forest governance in Ghana forest sector, and (ii) restrictions imposed on local people enclosed in a forest reserve and a governing system that does not function in their favour, thereby prejudicing their livelihood options.

#### *Conclusions regarding the empirical chapters*

The eight empirical chapters and findings from this study justify the four research propositions presented in Chapter 1. The study has demonstrated that forest resource use and management are indeed complex, dynamic and involve multiple users at different levels of scale and consequently, and that they are characterised by conflicts (proposition 1). Ineffective conflict management and absence of appropriate conflict management systems in the forestry sector is one of the main causes of the widespread conflicts and the resultant rapid rate of deforestation (proposition 2). The interactive governance approach provided analytical and normative means of understanding the governability of the different components of the forest management regimes (i.e. protection, plantations, production, and off-reserve) (proposition 3). A combination of interactive governance theory and conflict analysis presented a clear picture of the nature of conflicts and their underlying factors based on the forest actors' images, as well as the prevailing conflict management mechanisms (instruments and actions) in Ghana's high forest zone (proposition 4).

#### Theoretical implications

Some theoretical implications of this research have already been stated in the previous sections in support of the empirical findings. This section briefly revisits the theoretical strands of this study in order to enhance our understanding of forest governance, conflicts and conflict management strategies in the high forest zone and how they can be improved and constructively managed.

Political ecology suggests, first, that there are multi-scalar and dynamic interactions between people and natural resource systems, which are mediated by institutions (Dietz 1996). Using an interactive governance approach allowed me to analyse the interactions between resource users (i.e. local people and timber contractors) and forest resources as means of livelihoods under different forest governance regimes, as well as to complement this by studying governance interactions between the system-to-be-governed and the governing system. Second, political ecology highlights the politics of these interactions and the power imbalances involved (Bryant 1992, Dietz 1996, Gezon 1997, Blakie & Brookfield 1987, Peet & Watts 1996). This study illustrated these politics and power imbalances by analysing the conflicts between various actors within and beyond the community level and by revealing their direct causes (manifest behaviour) and indirect causes (antecedent conditions). It also showed that power plays by either politicians or important actors in the logging industry may affect the political will to deal effectively with forest offences and thus hinder law enforcement. Third, political ecology stresses uneven access to resources as a cause of imbalanced interactions, as became obvious particularly in Chapter 7 which illustrated how local people living in a protected area were excluded from access to forest resources, and in Chapter 8, where uneven access to degraded forestland to establish forest plantations under a co-management arrangement

resulted in conflicts. Hence, this study has shown that political ecology aligns well with interactive governance theory developed by Kooiman *et al.* (2005), whereas the conflict analysis wheel developed by Mason & Rychard (2005) helped to deconstruct the various conflict dimensions. The conceptual framework presented in Chapter 2 illustrates how these different theoretical components were connected.

Scholarly literature on forest-based livelihoods explains how forest and tree resources contribute to livelihoods and society as a whole in diverse ways, ranging from timber to non-timber forest resources, ecological services and farming land (Angelsen & Wunder 2003, Kaimowitz 2003, Sunderlin *et al.* 2005, Ros-Tonen & Dietz 2005). These varied contributions are also noted in this study, which identified timber, NTFPs, farming in the forest reserve under the modified taungya system and illegal farming as direct livelihood sources and compensation payments in the form of social responsibility agreement and crop damage compensation (see Chapters 9 and 10) as indirect ones. Remarkably, indirect contributions by forest environmental services to livelihoods were not mentioned by either forest governors and experts or forest users involved in this study. As yet, intangible benefits of forest resources are not widely recognised in Ghana, with the exception of the local people around the Tano-Offin forest reserve (see Chapter 4). This may change in the near future if environmental services become a source of cash income through carbon credit schemes and other payments for environmental services (PES) under REDD+ schemes, as a compensation for keeping the forest intact.

Literature on conflict and conflict management by a variety of authors (Moore 2003, Homer-Dixon 1994, Engel & Korf 2005, Buckles & Rusnak 1999, Wehrmann 2008) was used to analyse natural resource conflicts' contexts, issues, actors, causes, dynamics, dimensions, characteristics and conflict management strategies. Three theoretical reflections apply here. The first refers to the definition of conflict. The commonly agreed definition of conflict among the respondents involved in this study is relevant to conflict theories, as no such definition can be found in conflict literature (Fink 1968, Schmidt & Kochan 1972, Wall & Callister 1995). Their common understanding of a forest and tree-related livelihood conflict (Chapter 6) is 'a dispute over natural resources by two or more parties regarding the allocation, access, use, ownership and/or benefits of dwindling resources'. This definition and other answers reveal two things. First, they make it clear that policymakers, resource managers and forest experts in Ghana use the terms 'conflict' and 'dispute' interchangeably when discussing types of forest and tree-related conflicts in the high forest zone. This confirms the statement by Spangler & Burgess (2003) that it may in fact be difficult for most people to recognise the difference between the two. Second, the definitions provided by the respondents are also evasive in respect of seeing conflict as violent incidences, and this could result in destruction of properties and even death. This is, however, in line with the findings in the case studies in Chapters 7-9, which confirm that local people perceive most of the forest conflict types as being non-violent rather than violent. This study is therefore a contribution to overcoming a pitfall in conflict literature mentioned by Axt *et al.* (2005: 5) that most conflict studies focus on violent rather than non-violent conflicts. This relates to the second reflection on conflict theory regarding the causes of conflict. The conflict causes identified in this study align well with those identified in general conflict literature (e.g. Tyler 1999, Schmidt & Kochan 1972, Homer Dixon 1994) and confirm statements in literature that conflicts differ according to context (Moore 2003, Wall & Callister 1995). Most conflicts in Ghana's on and off-reserve forest areas are related to people's liveli-

hoods and to laws that restrict their access to forest resources. Particularly Chapter 7 revealed the prevailing scarcity of farming land and forest resources among the inhabitants of the admitted village of Kyekyewere, which partly supports the environmental scarcity and conflict theory of Homer Dixon (1994, 1999). This theory sees conflicts as inevitable due to the increased scarcity of natural resources, which in the context of this study emerged from restricted access according to prevailing forest laws. As already clarified above, the findings of this study differ, however, from Homer Dixon's proposition in that the majority of conflicts in the study area cannot be qualified as violent. The third theoretical observation is that categorisations and continuums of conflict management strategies by scholars such as Moore (2003) and Wehrmann (2008) (see Chapter 2) are also applicable in Ghana's high forest zone.

Finally, this study showed that interactive governance theory, developed for the fisheries sector (Kooiman *et al.* 2005), can be easily applied in a forest context. Interactive governance theory suggests that conflicts can be managed constructively if societal problems are identified and analysed collectively by actors with a view to creating opportunities. By blending interactive governance theory (from both an analytical and a normative perspective) with the conflict analysis wheel (Mason & Rychard 2005), this study has provided a better understanding of the governance context of Ghana's high forest zone, the nature of conflict and conflict management strategies, and proposals for their improvement. However, this study has also made it clear that in Ghana, and other countries of Sub-Saharan Africa for that matter, actor analysis needs to go beyond the conventional division between the state, the market and civil society as used by Kooiman & Bavinck (2005, 2008), Owusu (2009) and many other authors. Considering the transitional nature of the Ghanaian governance process, a number of actors do not fit neatly into one of these categories. This study therefore suggests that a distinction be made between statutory, customary, market, civil society and a hybrid governing structure, embedded in an overarching transnational governing structure.

Whereas these four theoretical strands were selected as the major ones guiding the analysis of conflict and conflict management in Ghana's high forest zone, it became clear in the course of the research process that (adaptive) co-management and social capital provided additional theoretical notions that proved to be useful for an interpretation of the co-governance arrangements in the modified taungya system (Chapter 8) and the cooperation scenario in off-reserve areas (Chapter 10) respectively.

## Recommendations for further research

This study has identified some areas for follow-up research which could further our understanding of forest conflicts and provide more insights into interactive governance theory and its applicability in the forestry sector.

1. *Understanding the complexity and dynamics of forest conflicts:* Further research could examine the application of a causal loop diagram – as developed, for example, by Noorduyin (2005) – to link the causes and effects of the identified conflict types from an inter-related and interconnected point of view, thus doing justice to the complexity and dynamics of the situation. This may require a different management approach than a linear viewpoint. Secondly, research that would improve the categorisation of forest and tree-related conflict types into conflicts and disputes may be

essential before different conflict management strategies can be created separately for issues relating to the two terminologies.

2. *Assessing the governability criteria of the forest governance components:* Thanks to this study, interactive governance theory, which has hitherto been applied exclusively to fisheries, has now also been applied to forestry. Analytically, this study has used the theory to understand the opportunities and challenges within the three components of the forest sector, i.e. the system-to-be-governed, the governing system and governance interactions. Based on these analyses and a discussion thereof, the forest governors and experts involved in this study interpreted the theory from a normative perspective and suggested interventions to improve the governance process. There is a need for follow-up research to determine what the governability criteria are for each of the three governance components and how they function in practice. This would take interactive forest governance theory beyond conflict management, which was the focus of this study. For instance, the diversity, complexity, dynamics and scale issues prevailing in the system-to-be-governed that were analysed in this study based on documentary analysis can be further specified based on empirical research in each of the different forest governance regimes. Such research would provide primary data on the different management regimes (protection, production, etc.) and provide insights into the questions raised in this thesis on whether the high forest zone has the resilience to withstand the excessive pressure of over-exploitation of its resources and associated degradation by the socio-economic sub-system. Such a follow-up study would enable us to determine the governability of the system-to-be-governed and to contribute to informed policy decisions on how each forest governance regime is to be governed and managed. This calls for multi-disciplinary research involving researchers with a background in ecological and social sciences. In addition, the different principles and substantial values of third order governance (e.g. effectiveness, legitimacy, effective dialogue and conciliatory negotiations) proposed by the forest governors and experts (see Figure 5.3 in Chapter 5) need further analysis to assess their workability in the Ghana forest sector.
3. *A comparative analysis of farm land availability in admitted settlements in forest reserves and off-reserve settlements:* One key problem identified in Chapter 7 of this study is the restricted access to farming land among inhabitants of admitted villages in protected areas. As this is a major cause of forest encroachment, there is a need for research to verify whether restricted access to farming land is limited to only the inhabitants of admitted villages or also applies to people living in areas outside forest reserves. This issue has not yet been properly researched in Ghana and it would be presumptuous to attribute forest illegalities solely to confinement and inability to expand farms beyond the forest boundaries. In the midst of poverty and no direct benefits from the forest, encroachment is likely to happen in any case in which forest law enforcement is weak. This is what is happening in many forest fringe communities in Ghana as well as elsewhere. The question of whether people in admitted settlements access land in a different way to those in 'open areas' presents three issues that merit further research. First, research is needed to establish the linkages between forest encroachment and law enforcement and their implications for the governing system. Second, further research can make a comparison of the factors that facilitate forest encroachment in the two areas and their underlying causes and means of controlling

them. Finally, research is needed to assess whether local people in admitted villages take advantage of these farms to engage in other forest illegalities besides the illegal expansion of their farms. Such research is needed for informed decisions to be made regarding strategies to restrict the number of people in such areas.

4. *Assessment of conflict capability among forest managers:* Before building the capacity of forest managers in conflict management and other governance concepts there is a need to conduct an assessment of their competency in this field. Likewise, a needs assessment could serve as a baseline for capacity and curriculum development in forest conflict management.
5. *Explore opportunities to improve income security from the modified taungya system:* There is a need to increase security and the generation of intermediate income from the MTS between canopy closure and tree harvesting. Further research is needed on how such income can be realised through thinning, engagement in carbon schemes and cultivation of shade-tolerant crops to enable a farmer to stay on the piece of land until the trees mature.

## Recommendations for policy and practice

This study generated substantive recommendations for consideration in the policy arena. These recommendations not only reflect the views of the researcher, but also those of the research respondents (i.e. forest governors and experts, members of local communities, actors working in international organisations, civil society and timber operators). Chapters 5-11 contain recommendations based on the empirical findings of each study. This section presents some core policy recommendations of relevance to the various forest actors.

### *Recommendations to the Ministry of Lands and Natural Resources and the Forestry Commission*

#### *1. Integrate conflict management into forest management, policy and governance:*

The entire study has clearly indicated that conflicts are part of Ghana's forest sector. However, little consideration has been given to conflict management as an integral component of forest management, policy and governance initiatives. Conflicts are inherent in any natural resource to which multiple claims exist and should be regarded as challenges which need to be addressed by setting up appropriate institutions, structures and mechanisms for their non-violent management. This can be seen as a potential to strengthen forest governance if the process of problem solving is done in a transparent and fair manner, ensuring the equitable sharing of benefits and access rights and promoting conditions that can help create cooperative relationships. Considering these challenges, the forest governors and experts involved in this study have expressed their views on what actions they see as a point of entry for the establishment of constructive conflict management in the forest sector. Based on suggestions of the workshop participants, these challenges can be overcome by a combination of (i) a decentralised and interactive approach to forest governance with feedback loops during implementation, (ii) differentiated laws and regulations adapted to the specific conditions both on and off reserve, and (iii) the Forestry Commission sharing responsibilities, equitable benefits

and power and ensuring cooperation with key actors in communities and the private sector in order to facilitate the smooth operation of its activities. Furthermore, they identified the need to pay due attention to conflict management skills for forest practitioners in natural resource management academic curricula and a clearly defined position of customary laws within the statutory forest laws, with defined roles for traditional authorities. Such actions are to be integrated into the myriad of ongoing governance initiatives in the sector, of which the REDD+ framework is most relevant to conflict resolution. Due consideration must be given to the recommendations of forest governors, experts and local people in Chapters 6 and 9.

*2. Embrace an interactive governance approach in Ghana's forest sector:*

This study indicated that a hierarchical mode of governance prevails in Ghana. This confirms the findings of Marfo (2006) who indicated that policymaking is the primary scope of politicians and bureaucrats, with occasional consultations with some established stakeholders. The same applies to the customary governing structure in which local political actors and traditional authorities are taking the lead. In a recommendation for improving conflict management in Ghana's forestry sector, Marfo (2006) proposed a change in governance culture; one that accepts the multiplicity and diversity of actor representations and which allows the various actors to demand accountability from their representatives (Marfo 2006: 175). This study has shown that, from a normative perspective, the principles of interactive governance theory may lay the foundation for a new governance culture that creates space for a multiplicity of actors. An effective governance system would therefore mean that all key actors (those pertaining to the statutory, customary, market, civil society and hybrid governing structures) must be able to cooperate through consensus or compromise in a way that common needs and conflicting issues can be effectively addressed.

*3. Recognise protected areas in the Voluntary Partnership Agreement initiative:*

The Voluntary Partnership Agreement process that aims to combat illegal logging and improve forest governance does not consider protected areas as a management regime in its efforts to ensure the legality of timber resources and therefore does not seek to create social safeguards for the livelihoods of local people in these areas. Nevertheless, law enforcement may affect all forest management regimes, which means that the forest-related livelihoods of protected area inhabitants like the inhabitants of admitted villages in protected areas will be further restricted. The implementation of the Voluntary Partnership Agreement will have serious implications for protected area management. This means rethinking the governance conditions of protected areas, especially the status of admitted villages and farms where people have restricted access to forest resources and few legal options to build a better livelihood. Bodegom (2010) cautions that, although the Voluntary Partnership Agreement process is participatory, it is impossible to talk about its contribution to good forest and environmental governance if no measures are put in place to curtail resource depletion in protected areas. The recognition of protected areas in the Voluntary Partnership Agreement implementation process is therefore paramount for sustainable forest management (Chapter 7).

*4. Capacity development of the Forestry Commission officials in law enforcement:*

Capacity development of the Forestry Commission officials, both academically trained staff and field officers, is essential as already noted in Chapter 6. The example of the



South Carolina Forestry Commission in the United States can be followed, where officers are trained and certified in criminal justice in addition to, for example, forestry law, forest investigation and incident management.<sup>1</sup> Law enforcement therefore becomes part of the training of the forest manager which is somehow missing in the training of forest managers in Ghana's forest sector. The legal department of the Forestry Commission could extend its mandate from representing legal matters to advocacy for the Forestry Commission to establish its own prosecution system and building capacities of Forestry Commission officials in legal issues. There is also a need for officials of the legal department to have knowledge of natural resource management in addition to knowledge of laws, so that they have an in-depth understanding of the negative environmental effects of forest offences and how best to quantify them during presentation of cases in the law courts.

#### *5. The codification of forest law:*

There is a need for a codification of the laws that are directly related to forest management, meaning that vigorous attempts should be pursued to coordinate them effectively in a systematic manner. The superfluous nature of our legislation will not by itself solve the intricate and complex problems of forest management. Only a blend of soft and hard enforcement of these laws and imposing deterrent penalties on violators may help protect Ghana's forests.

#### *Recommendations for academia*

##### *1. Recognise conflict management in Natural Resources Management studies:*

This study has revealed that conflicts in the forestry sector are inevitable, but that the management of these conflicts is ad hoc and occurs on a case by case basis, with traditional leaders playing a crucial role that in many cases exceeds the role of the Forestry Commission. The forest governors and experts involved in this study attributed this incapability among resource managers to their training. It is in view of this that this study proposes the introduction of conflict management in the academic curriculum of natural resources management in tertiary institutions (see Chapter 6).

##### *2. Promote interdisciplinary teaching in natural resource management:*

There is a need to teach forest law and prosecution procedures to staff of the Forest Services Division of the Forestry Commission and other natural resource management institutions by training them, posting students as interns at the police and judiciary and by integrating these topics into all academic curricula related to natural resource management. Revisiting the example of the South Carolina Forestry Commission in the United States cited in Chapter 11, the officers are trained and certified in criminal justice in addition to forestry law, forest investigation and incident management and among other topics. Law enforcement therefore becomes part of the forest manager training which is somehow absent in the training of forest managers in Ghana's forest sector.

#### *Recommendation to civil society and international donors*

##### *1. Help building the capacity of forest managers and other forest actors in natural resource conflict management:*

<sup>1</sup> <http://www.state.sc.us/forest/le.htm> (accessed on 25 October 2011).

The call to enhance conflict management capability among actors in natural resource management (both managers and users) is not new but is an echo of previous studies on natural resource conflict management (e.g. Marfo 2006, Yasmi 2007). Based on his study in Indonesia, Yasmi (2007: 168) advocated the empowerment of stakeholders in decentralised natural resource management to support their efforts to institutionalise conflict management. Similarly, in Ghana, Marfo (2006: 176) recommended building actor capacity to effectively mobilise and deploy useful instrumental resources in conflict management. In line with these researchers, this study calls for capacity development in conflict management among forest managers and other forest actors. This goes beyond providing knowledge on conflict and conflict management, to include equipping the actors with the requisite logistics to facilitate their work. First, strengthening the Forestry Commission frontline staff in the implementation of conflict management and legal proceedings is important because of their constant interactions with various forest actors. Gaining such skills may help detect early signals of conflicts and promote better communication to ensure sustainable forest management. These skills must be accompanied by logistics such as vehicles and protective clothing in order to enable them to monitor the activities in the forest on a regular basis, which helps to curtail illegalities at an early stage. In addition, there is a need equip the Forestry Commission district offices with computers and accessories to enable their staff to keep proper records and track of forest offences cases. It is believed that training Forestry Commission officials will have a multiplier effect on other stakeholders, but this will not occur without technical and financial support from civil society and international donors.

*Recommendation to the timber industry:*

*1. Strengthen the timber industry's role in forest governance:*

The role of timber contractors in forest governance tends to focus on accessing timber resources and benefit sharing in the form of royalties, social responsibility agreement payments and crop damage compensation for local communities and farmers. These roles have been reported to be entangled with conflicts (Amanor 2005, Marfo 2006, see also Chapter 9). It is therefore interesting to note that this study revealed a situation of cooperation instead of the frequently cited conflict scenario. This has been possible because the timber contractor in the study area invested in building social capital in the form of networking, shared responsibility and the creation of social ties and trust, which was reciprocated by the local people (Chapter 10). Such steps can be achieved by other timber contractors in order to bring unity between them and the local people. In view of this, attention is needed for capacity building in relation to the creation of social capital and conflict management skills.

*Recommendation to the forest law enforcement agencies (i.e. judiciary, police and Forestry Commission)*

*1. Reform of the judiciary system in a way that recognises the importance of forest offence cases:*

The judiciary must embark on a dramatic change in the way in which the legal system and its officials appreciate the nation's forest and wildlife ecosystem and their associated benefits. If the law or forest legislature is not recognised as a catalytic tool to aid development of the forest sector through a blend of soft and hard law enforcement the nation stands to lose its rich plant and animal resources in the near future. Without such

drastic changes, the infusion of financial resources into the forest sector by governmental, non-governmental and international donor organisations to promote good forest governance in Ghana will not guarantee the transformative progression envisaged in ongoing governance processes such as the Natural Resource and Environmental Governance (NREG) programme, the Voluntary Partnership Agreement with the EU and Reducing Emissions from Deforestation and Degradation through the enhancement of conservation, sustainable forest management and forest carbon stocks (REDD+).

## *2. Institutional collaboration and strengthening:*

There should be complementarity between the law enforcement agencies and the judiciary. Drawing from Lubinda (2007) it is therefore recommended that:

For the judiciary to be effective, law enforcement agencies must:

- Be up-to-date on the laws they are enforcing;
- Possess up-to-date knowledge of crimes and how they occur;
- Investigate cases thoroughly and conclusively;
- Present witnesses and evidence that is properly corroborated;
- Avoid adjournments and discontinuations of cases that are before the courts;
- Study court rulings/judgements of matters they are responsible for;
- Present cases in a clear, analytical and precise manner to convince ‘beyond any reasonable doubt’.

For the law enforcement agencies to be effective, the judiciary should be:

- Up-to-date on the laws they are interpreting;
- Possess up-to-date knowledge of crimes and how they occur;
- Possess up-to-date knowledge on public aspirations and desperations;
- Analyse cases critically and conscientiously;
- Make references to rulings on similar matters;
- Avoid adjournments of cases before them;
- Present their rulings / judgement in a clear, analytical and precise manner to convince the prosecution and other interested parties.

## Conclusions

This study demonstrates that interactive governance theory which was developed for fisheries is applicable in the context of forestry. It also illustrates the fact that the interactive governance framework can be adapted to include concepts related to conflict analysis, political ecology, co-management and social capital for a better understanding of the interactions between actors and between the natural and human system and the conditions under which these lead to either conflict or cooperation in a given system. To conclude, I reflect on the academic contribution of this work.

This study has provided an insight into constructive conflict management pathways capable of minimising conflicts and contributing to the strengthening of the ongoing forest governance process in Ghana. The answer to the key question of ‘what has this study revealed that was not known before?’ is that this thesis provides some intellectual contributions.

First, the thesis provides a theoretical framework to explore, analyse, understand and provide interventions for forest governance, conflict and conflict management (or coop-

eration) in forestry by complementing four key theoretical strands (political ecology, interactive governance theory and forest livelihood and conflict theories) with theoretical concepts related to co-management and social capital.

Second, in the analysis of forest and tree-related livelihood conflicts in specific management regimes in Ghana's high forest zone, this study has looked beyond the forestry (i.e. timber) sector proper to include the perspectives of other stakeholders from non-governmental organisations, the transnational community, academia, judiciary, the police, the private sector and local communities with a view to obtaining a deeper understanding of the societal problem at hand and to be aware of opportunities. Going beyond the timber sector allowed us to cover the full range of forest-related livelihood activities in relation to which conflicts occur in the high forest zone and the full range of forest management regimes, namely protection, plantation, production and off-reserve areas. Moreover, this study analysed both the statutory and customary structures that govern the various management regimes in addition to adding to documentation on forest offences and court proceedings to understand the constraints within law enforcement.

Third, this study shed new light on conflicts in off-reserve forest areas and illustrated that these can be properly managed to minimise conflict when timber operators learn to play an active role in the interactive forest governance process by building social capital.

Despite the many ongoing forest governance initiatives in Ghana that are intended to ensure sustainable forest management and good forest governance, conflict management still receives minimal attention. I hope this study will contribute to widespread recognition of the importance of this key building block of forest governance.

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## Appendix 1

# Questions guiding the various case studies on forest and tree livelihood conflicts, conflict management and forest governance

### Research instruments and questions per case study

#### A. Study contexts

Research instruments: document analysis, community meetings, interviews and personal communication, survey and workshop.

##### 1. *System-to-be-governed and governance interactions*

###### 1.1a. Natural sub-system:

Question: What is the nature of Ghana's high forest zone, the four case study areas in the Tano-Offin forest reserve (i.e. protection, production, plantation and off-reserve land) and the reserves in the Nkawie forest district in terms of diversity, complexity, level of scale and dynamics?

###### 1.1b. Socio-economic sub-system

Question: What forest users prevail in and around these natural systems?

###### 1.1c. Governance interactions

Question: How do the socio-economic sub-systems interact with the natural sub-systems in terms of access (formal and informal) to forest resources, land, use rights and benefits?

##### 2. *Governing systems and governance interactions*

Question 2a: What is the historical context of the Ghanaian forest governing system in terms of its policies, legislation and conflicts?

Question 2b: What features prevail in the forest governance process (in terms of diversity, scale, complexity and dynamics)?

Question 2c: What is the quality of the three governance orders (principles, institutional arrangements and day-to-day management of conflicts) in the forest governing system?

Question 2d: What is the responsiveness of the governance modes (hierarchical, co-governance and self-governance)?

Question 2e: What is the fit of governance elements (in terms of forest actors' images, instruments and actions) and how do actors assess the potential of strengthening forest conflict management in the governance process?

**B. Case study of forest governors and experts** (i.e. officials from the state, non-state and transnational organisations)

Research instruments: interviews, personal communication, survey and workshop.

*1. Nature of conflicts and conflict management strategies*

- Question 3a: How do you understand conflict and conflicts over forest and tree resources?  
 Question 3b: What forest and tree livelihoods components prevail, what types of conflicts prevail and who are the actors in the conflict situations?  
 Question 3c: What are the existing mechanisms of managing forest and tree resources conflicts in Ghana's high forest zone, challenges prevailing and means to improve them?  
 Question 3d: Specifically indicate one way in which conflicts over forest and tree resources could be minimised constructively at community, district, regional and national levels?

*2. Forest governance and interactive governance concept*

- Question 4a: What is the nature (i.e. mode of governance, actors, opportunities and challenges and means of overcoming them) of forest and tree governance in Ghana's forest sector?  
 Question 4b: How do you think interactive governance (after defining the concept in the survey questions and explaining it during a workshop) could enable both forest governors and actors to find amicable strategies, systems or mechanisms to minimise conflicts over forest and tree resources?  
 Question 4c: Interactive governance means the right mechanisms have to be found to deal with the actors within the system. How best could this be achieved?  
 Question 4d: What mechanisms/strategies should be put in place for governors in forest sector to manage conflicts over forest and tree resources in their day-to-day activities in order to realise first order governance (solving problems and creating opportunities)?  
 Question 4e: How best could the capacities of these governors be built into conflict and conflict management skills in order to deal with forest conflicts effectively and realise second order governance (building governing institutions)?  
 Question 4f: What *substantial principles, values and procedural principles* are needed in the interactive forest governance process to ensure that conflicts over forest and tree resources are minimised to shape third order governance (principles and values to guide the behaviour of actors involved in the governing interaction)?  
 Question 4g: What are the workshop participant's actions for minimising forest and tree resource conflicts based on the survey findings?

**C. Case study of Tano-Offin forest reserve and environs** (Respondents include diverse stakeholder groups in the local communities, FC officials, MOFA, Land Valuation Division, District FSD officials, timber operators )

Research instruments: interviews, personal communication, survey, community meetings, field observations)

*1. Communities in and around on-reserve forest regimes (i.e. protection, plantation and production areas).*

- Question 5a: What is the bio-data of the study respondents with regard to gender, age, education, occupation and origin etc.?  
 Question 5b: What is the nature of forest and tree related livelihoods in the Tano-Offin forest reserve and their contributions to local people's livelihoods?  
 Question 5c: What kind of conflicts prevail based on the conflict analysis wheel components (i.e. context, issues, actors, causes, dynamics and strategies/options for conflict management) related to forest and tree-based livelihoods?  
 Question 5d: How are the conflict management strategies employed and what are the main strategies for improving them?

2. *Community living in the off-reserve area*

Question 6a: What factors facilitated the cooperation between the local people and the timber operator?

Question 6b: How do government officials view (i.e. what are their images and instruments regarding) crop damage compensation challenges and what are the recommended actions for improvement?

3. *TUC holders on and off-reserve*

Question 7a: Which timber contractor or company operates in the study area?

Question 7b: What is the nature of conflicts encountered during operations, with whom, and how are they managed?

Question 7c: What means are available to improve existing conflict management strategies that could lead to (a) improved timber operations and (b) sources of income or incentives to farmers and local people?

D. **Nkawie forest district case** (key respondents: FC officials, the judiciary and the police)

Research instruments: interviews, personal communication, survey, document analysis.

Question 8a: What governance interactions arise from the system-to-be-governed (Nkawie Forest District) and the governing system (i.e. institutions, including the legislative framework with regard to law enforcement) and what are their outcomes?

Question 8b: How do the Forestry Commission, the Ghana Police Service and the Judiciary perceive their institutional roles with regard to dealing with forest offences?

## Appendix 2

## Characteristics of Ghana's forest districts and reserves

Region	District	Reserve	Vegetation type	Size (km <sup>2</sup> )	Year of gazettelement	
Ashanti	Bekwai	Apamprama	MSSE	123.30	1908	
		Bosumtwi Range	MSSE	34.70	1952	
		Denyau Shelterbelt	ME	78.70	1931	
		Fum Headwaters	MSSE	12.40	1939	
		Jeni River	MSNW	72.50	1932	
		Nkrabia	ME-MS	21.50	1937	
		Oda River	MS-ME	100.20	1940	
		Pompo Headwaters	*	164.20	1929	
		Subin Shelterbelt	ME	12.20	*	
		Supuma Shelterbelt	ME	22.50	1940	
	Juaso	Bandai Hills (south)	*	0.00	*	
		Bobiri	MSSE	54.60	1939	
		Dome River	MSSE	80.50	1929	
		Mirasa Hills	MSSE	67.30	1937	
		North Bandai hills	DSFZ	72.80	1928	
		North Fomangsu	MSSE	42.70	1925	
		Onyimsu	*	8.50	*	
		Prakaw	MSSE	9.80	1942	
		South Fomangsu	MSSE	41.40	1925	
		Kumawu	Anum Su North	*	0.00	*
	Anum Su South		*	0.00	*	
	Boufum		*	0.00	*	
	Dampia Range		MS-ME	80.30	1937	
	Kronwam		DSIZ	5.70	1928	
	Kumawu Water Supply		*	0.00	*	
	Asonari		DSIZ	1.60	1928	
	Mampong		Aboma	DSFZ	45.60	1962
			Abrimasu	DFSZ	10.10	1940
			Awura	DSFZ	133.90	1940
		Chirimfa	DSFZ	114.00	1932	
		Ofin Headwaters	DSIZ	13.00	1951	
		Ongwam 1	DSIZ	2.60	1951	
		Ongwam 2	DSIZ	8.80	1951	
		Ongwam 3	DSIZ	21.84	1951	
		Pru Shelterbelt	*	*	*	
		New Edubiase	Afia Shelterbelt	MSSE	20.00	1940
	Chiremoasi Bepo		MSSE	6.00	1931	
	Kokotintin Shelterbelt		MSSE	9.10	1940	
	Numia		MSSE	50.20	1938	
	Onuem Bepo		MSSE	34.40	1930	
Onuem Nyamibe Shelterbelt	MSSE		24.90	1936		

*(continues)*

*(cont'd)*

Region	District	Reserve	Vegetation type	Size (km <sup>2</sup> )	Year of gazettelement
	Nkawie	Asenanyo	MSNW	227.90	1938
		Desiri	MSNW	151.00	1954
		Jimira	MSNW	62.90	1932
		Jimira Ext	*	0.00	*
		Offin Shelterbelt	*	0.00	*
		Tano Ofin	MS-UE	402.20	1949
		Tinte Bepo	MSNW	115.50	1928
	Offinso	Afram Headwaters	MSSE	201.20	1928
		Afrensu Brohuma	DSFZ	72.50	1934
		Asufu Shelterbelt			
		East	DSIZ	11.40	1950
		Asufu Shelterbelt			
		West	MS-DS	13.50	1951
		Gianima	DSIZ	17.10	1939
		Kwamisa	DS-MS	82.90	1928
		Mankrang	DSFZ	85.50	1933
		Opro River	DS	129.20	1929
		Asubima	DSFZ	78.70	1945
Brong Ahafo	Bechem	Amama Shelterbelt	MSNW	44.00	1940
		Aparapi Shelterbelt	MSNW	19.20	1939
		Bosumkese	MSNW	138.30	1937
	Dormaa	Mpameso	MSNW	322.50	1937
		Pamu Berekum	DS-MS	189.10	1932
	Goaso	Aboniyere Shelterbelt	MSNW	41.20	1940
		Ayum	MSNW	194.30	1937
		Bia Shelterbelt	ME-MS	29.50	1940
		Bia Tano	MSNW	194.30	1937
		Bonkoni	MSNW	75.50	1934
		Bonsam Bepo	MSNW	124.30	1934
		Goa Shelterbelt	MSNW	23.80	1940
		Subim	MSNW	238.30	1956
	Kintampo	Bosomoa	DSFZ	170.90	1930
		Buru	*	0.00	*
	Sunyani	Nsemre	DSFZ	18.10	1939
		Sawsaw	DSFZ	62.90	1976
		Tain 11	DSFZ	509.20	1934
		Tain Tributaries I	DSFZ	30.60	1932
		Yaya	DSFZ	51.30	1930
Central	Cape Coast	Bemu	ME	43.80	1950
		Ankaful Fuelwood		0.00	
		Assin Apimanim	ME	11.40	1927
		Brimso	SM-DS	10.60	1951
		Komenda Fuelwood		0.00	
		Pra Suhien 2	ME	82.10	1928
		Pra Suhien 1	ME	104.10	1933
	Dunkwa	Bonsaben	ME	155.40	1939
		Minta	ME	21.80	1938

*(continues)*



*(cont'd)*

Region	District	Reserve	Vegetation type	Size (km <sup>2</sup> )	Year of gazettment
		Angoben Shelterbelt	*	0.00	
		Ben East	ME	25.40	1954
		Ben West	ME	55.70	1954
		Bowiye Range	ME	120.20	1930
		Bura River	ME	103.10	1932
		Nkonto Ben	ME	14.50	1950
		Opon Mansi	ME	116.10	1930
		Tonton	ME	146.60	1936
		Totua Shelterbelt	ME	63.50	1941
		Upper Wassaw	ME	100.80	1925
	Assin Foso	Bimpong	ME	104.10	1937
		Krochua	ME	10.60	1932
		Krochua	ME	10.60	1932
		Ochi Headwaters	ME	3.40	1940
		Supong	MSSE	35.70	1954
		Wawahi	MS-ME	138.90	1928
	Winneba	Abasumba	SM	1.00	1927
		Ahirasu1	SM	1.00	1927
		Ahirasu2	*	0.00	*
		Akrabone	SM	2.60	1930
		Kwanyarko	*	0.00	*
		Obrachere	*	0.00	*
		Obrahere1	*	0.00	*
		Opimbo1	DSIZ	1.00	1927
		Opimbo2	DSIZ	0.00	1927
		Winneba State	*	0.00	*
		Yenku A	SM	21.20	1937
		Yenku B	*	*	*
Eastern	Kade	Ajenjua	MSSE	5.70	1930
		Aiyaola	MSSE	34.70	1929
		Auro River	MSSE	8.50	1948
		Bediako	MSSE	7.00	*
		Kajeasi	MSSE	26.70	1932
		Mamang River	MSSE	54.40	1938
		Nsuensa	MSSE	62.70	1929
	Akim Oda	Birim	MSSE	39.10	1927
		Birim Ext	MSSE	21.80	1940
		Esen Epam	MSSE	46.10	1936
		Esuboni	MSSE	28.50	1927
		Oboyow	MSSE	63.70	1927
	Begoro	Afram Bukunaw	*	0.00	*
		Afram Dawa	*	0.00	*
		Apedwa	*	0.00	*
		Atewa Range	UE-MS	323.30	1926
		Atewa Range Ext	UE-MS	26.40	1951
		Dede	DSFZ	51.00	1955
		Southern Scarp	MSSE	154.60	1935

*(continues)*

<i>(cont'd)</i>					
Region	District	Reserve	Vegetation type	Size (km <sup>2</sup> )	Year of gazettelement
		Worobong South (Akim)	*	106.06	*
		Worobong South(Kwahu)	*	14.58	*
	Mpraeso	Abisu	*	0.00	*
		Esukawkaw	MSSE	122.20	1929
		Jade Bebo	MSSE	5.20	1932
		Kade Bepo	MSSE	16.80	1930
		Nkawanda	MSSE	0.00	1939
		Northern Scarp East	DS	49.20	1935
		Northern Scarp West	DS	64.80	1935
		Worobong North (Kwahu)	DS	13.20	1927
	Somanya	Bunkunaw		0.00	
		Sapawsu & Extension	SM	15.30	1957
		Volta River	DS-SM	50.50	1928
		Yogaga		0.00	
		Yongwa	SO	7.80	1957
Western	Bibiani	Afao Hills	*	34.72	*
		Anwhiaso North	MSSE	3.60	1926
		Anwhiaso West	*		*
	Enchi	Boi Tano	WE	128.50	1968
		Boin River	WE-ME	277.60	1932
		Dadiaso	ME-WE	171.20	1977
		Disue River	*	0.00	
		Jema Assamkrom	WE	66.00	1977
		Tano Nimiri	WE-ME	205.90	1935
		Yoyo	ME	235.70	1932
	Juabeso Bia	Bia North	MSNW	356.10	1940
		Krokosua	MSNW	481.70	1935
		Krokosua	MSNW	481.70	1935
	Sefwi Wiaso	Bia Tawya	*	0.00	*
		Bodi	ME	175.30	1967
		Suhuma	ME-MS	358.50	1935
		Sui River	*	0.00	*
		Tano Anwia	ME	153.10	1935
		Tano Ehuro	*	0.00	*
		Tano Suhyien	MS	84.40	1934
		Tano Suraw	MSSE	28.50	1934
		Tano Suraw Extension	MS	75.10	1935
	Takoradi	Cape Three Points	MS	51.00	1950
		Inchaban	ME	0.00	*
		Sekondi Waterworks 1 & 2	*	10.10	1938
		Sekondi Waterworks Blk2	MSSE	0.00	1938

*(continues)*

*(cont'd)*

<b>Region</b>	<b>District</b>	<b>Reserve</b>	<b>Vegetation type</b>	<b>Size (km<sup>2</sup>)</b>	<b>Year of gazettement</b>
	Tarkwa	Bonsa River	ME	160.60	1932
		Draw River	WE	235.40	1937
		Ebi River Shelterbelt	WE	25.90	1941
		Ndumfri	WE	72.50	1937
		Neung North	*	0.00	*
		Neung South	*	0.00	*
		Subri River	ME	587.90	1949

Compiled by author. *Source*: Resource Management Support Centre, 2009.

\* Data not available at the time of accessing this data from the source.

## Appendix 3

### Respondents' definition of conflicts and conflict over forest and tree resources

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#### Definitions for 'Conflict'

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Conflict is a useful concept for explaining disagreement and fights between individuals or groups.

It is a situation of open discontent between two people or institutions.

It is the actual or perceived opposing needs values and interests.

It is a clash of interests of stakeholders over access, allocation, utilisation and management of a resource.

Conflict arises when two or more stakeholders perceive that their interests are at stake.

Conflict is a relationship between two or more people based on their needs and interests for the same resource.

A process occurs between two or more persons when they have different goals and values and they fight over limited resources to address them.

It is a condition where harmony does not exist and can occur between people, communities, countries etc. over a particular resource.

It is a dispute between people because of interests or needs.

It is a misunderstanding between two or more people over an issue.

It occurs when two people or groups disagree on an issue and they are intolerant of one another.

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#### Definitions for 'conflict over forest and tree resources'

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It is a clash of interests between individuals or groups over the use rights to and benefits over forest and tree resources.

It is competition for a resource by different interest groups.

It is a situation in which stakeholders with conflicting interests are suspicious of each other.

It occurs because of stakeholders' interest in ever-dwindling resources.

It is based on differences in the ownership and usage of forest resources by stakeholders.

Forest and trees may have different uses, overlapping ownership, management regimes etc. Conflicts can occur in a situation in which the above-mentioned aspects cannot be met because of different interests, claims and roles among stakeholders.

It is lack of equity to access resources.

It is dispute due to a lack of flow of information and benefits to stakeholders.

It is about different groups of people having different uses for the same resources especially when the resources are dwindling.

It means unresolved differences about access to and expectations of the outcomes of forest management.

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## Appendix 4

### Respondents' recommendations on scale-specific means of minimising conflicts over forest and tree resources

#### **National level recommendations**

Thematic area	Individual responses
Sharpening governing systems	<p>Strengthening accountability</p> <p>Integrating statutory and traditional systems into policies and legislation on ownership and rights</p> <p>Designing strategies, work plans and systems and adhering to them</p> <p>Developing a policy framework to encourage exemplary forest stewards to align with corresponding adjudication system</p> <p>Effective implementation of conflict management and responding promptly to conflict incidences</p> <p>Enactment of workable laws and provide resources for effective enforcement</p> <p>Formulation of enabling policies in the interest of all actors and defining responsibilities and rights</p> <p>Government should have the political will to implement policies and regulations</p> <p>Ensure transparency (information flow and education)</p> <p>Strengthen supervisory role through effective monitoring</p>
Strengthening stakeholder collaboration	<p>Involve stakeholders in forest decision making</p>
Strengthening financial mechanisms	<p>Mobilise both internal and external funds to execute activities</p>

#### **Regional level recommendations**

Thematic area	Individual responses
Inter-sectoral coordination	<p>Effective coordination in the enforcement of forest laws and legislations</p> <p>Establish effective coordination measures to promptly address district issues</p> <p>Involve regional coordinating council to advise and mediate</p> <p>Joint implementation and monitoring of policies and strategies among stakeholders</p> <p>Involve regional coordinating council to advise and mediate</p> <p>Strengthen coordination and information flows</p> <p>Joint implementation and monitoring of policies and strategies among stakeholders</p> <p>Clear and documented resource ownership and rights</p> <p>Strengthen coordination and information flows</p>
Internal coordination and capacity development	<p>Design strategies, work plans and systems and adhering to them</p> <p>Clear and documented resource ownership and rights</p> <p>Provide regular training to districts staff</p> <p>Design strategies, work plans and systems and adhering to them</p> <p>Strengthen interactions between districts and regional FSD officials</p> <p>Provide regular training to districts staff</p>

**District level recommendations**

Thematic area	Individual responses
Capacity development	<p>Adequate resource district offices that are able to function effectively</p> <p>Capacity building and resources for effective implementations especially on new and emerging forestry issues</p> <p>Capacity building on local bye-laws enforcement and when these should be applied</p>
Improving efficiency in operations	<p>Design strategies, work plans and systems and adhere to them</p> <p>Strengthen education of stakeholders</p> <p>Ensure effective monitoring and control</p> <p>Ensure equitable allocation of resources among all interest groups</p> <p>Set up conflict monitoring and resolution units within the districts assemblies</p>

## Appendix 5

### Profile of the Modified Taungya System (MTS) and number of farmers involved in the Tano-Offin Forest Reserve in Nkawie Forest District

Community	Year coupe	Target (ha)	Area planted (ha)	No. of farmers	Forest reserve compartment no.
Chirayaso (6 km from Kyekyewere )	2007	30	30	100	221/272
	2006	30	30	170	270
	2005	17	17		270
	2004	5	5		270
Asuntaa	2006	12	12	54	283
	2005	5	5		283
	2004	5	5		283
Kramokrom	2006	20	20	91	282
	2005	11	11		282
	2004	12.5	12.5		
Desireagya	2006	15	15	83	163
	2005	10	10		
	2004	10	10		
Kwadwotire	2006	11	11	78	256
	2005	8	8		256
	2004	5	5		
Akantansu	2007	15	15	32	182
	2006	24	24	102	149/182
	2005	22	22		182
	2004	20	20		182
	2003	26	26		182
	2002	40	23		182
Bofaso	2007	10	10		271
Awisasu	2006	13	13	50	201
Nyinahin	2006	15	15	72	
Adiembra	2006	16	16	68	93
	2005	11	11		93
	2004	4	4		
	2003	3	3		
	2002	10	10		
Mpasaaso1	2006	25	25	102	88
	2004	15	15		
	2003	5	5		
	2002	40	20		
Mpasaaso11	2006	38	38	78	90
	2005	20	20	67	90
	2004	10	10		
	2003	10	10		
	2002	20	10		
Oforikrom	2006	10	10	33	44
	2005	10	10		
	2003	3	3		
	2002	10	10		

(continues)

(cont'd)

Koojourkrom	2006	10	10	60	44
	2005	10	10		44
	2004	5	10		
	2003	2	2		
Domeabra	2006	32	32	105	11
	2005	12	12		11
	2004	15	15		
	2003	25	25		
	2002	40	40		
Awaduwa	2007	12	12	31	4
	2006	10	10	46	4
	2005	10	10	35	4
	2003	10	10		4
	2002	10	10		3
Nyinanufu	2007	10	10	56	7
	2004	10	10		
	2003	5	5		
	2002	10	10		
Bonkrom	2006	21	21	69	18
	2005	17	17		18
	2004	10	10		
	2003	10	10		
	2002	10	10		
Dotiem Kunsu	2007	20	20	55	37/38
	2006	38	38	106	37/38
	2005	22	12		37
	2004	20	10		
	2003	20	10		
	2002	20	10		
Enyehwee	2006	30	30	54	18
Saakrom	2007	20	20	97	60
	2006	22	22		60
	2005	10	10		60
	2004	12	10		60
	2003	10	10		60
Kunsu-Nyamebekyere No. 3	2007	10	10	43	7
	2006	30	30	105	7
	2004	10	10		
	2003	10	10		
	2002	10	10		
Apenemadi	2004	10	10		
	2003	10	10		
Wioso	2002	20	20		
Adadekrom	2004	5	5		
	2003	3	3		
	2002	30	30		
Ofirikrom	2003	3	3		
Oseikrom	2003	2	2		
	2002	10	10		

Most commonly planted exotic species planted: *Cedrella odorata* (cedrella); indigenous species: *Terminalia superba* (ofram), *Entandrophragma* spp. (African mahogany). Planting design used: MS (3\*12) for 2006 and 2007 planting season.

Source: Nkawie FSD Plantations unit (2008).



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