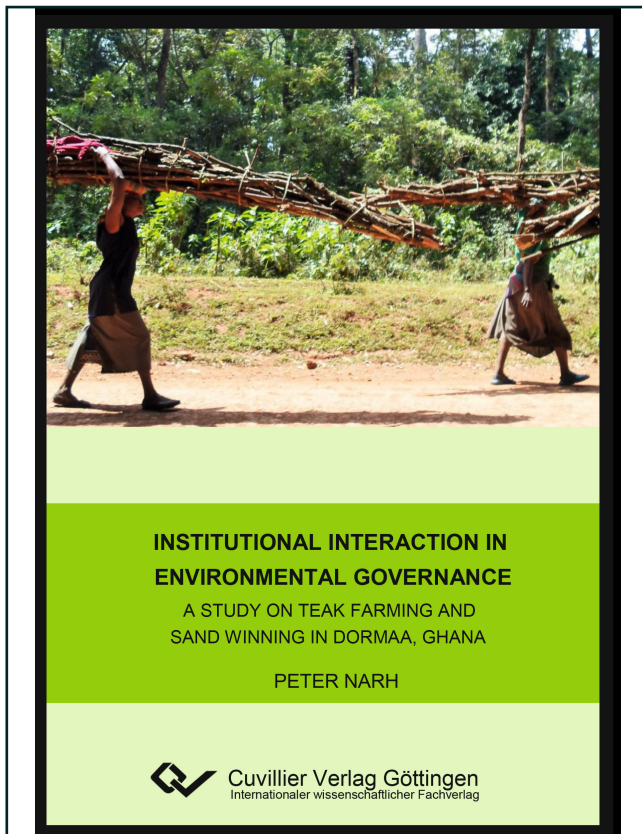




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**Institutional interaction in environmental  
governance**

A study on teak farming and sand winning in Dormaa,  
Ghana



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# CHAPTER ONE

## Background and context

### 1.1 Initial observations in Dormaa

In this work, the attempt is made to explore and understand the interaction between different institutions in environmental governance, and the role of human livelihood strategies in this interaction. With a case study of teak farming and sand winning in the Dormaa Municipality and Dormaa East district in midwestern Ghana, the work seeks to contribute to understanding the dynamics and role of institutions and human behaviour relationship in environmental governance. The study has been formulated and conducted following some observations of interaction between statutory and customary institutions in regulating human activities on the natural environment in Dormaa. Prior to this study, observations of this author in some communities in the Dormaa Municipality and Dormaa East district showed that statutory and customary environmental governance institutions influenced each other to shape the ways different people acted on the natural environment. Moreover, it was observed that the actions of people in turn influenced how these institutions functioned and affected each other.

The observations suggest that everyday natural resource-based activities are the causes and outcome of multiple institutions operating simultaneously. That means no environmental governance institution can function in isolation. They point to the central role of human actions in how multiple institutions functionally relate each other. Following these observations, this study was launched to explore and understand the dynamic linkages between different environmental governance institutions and the role of human actions in these linkages. The context of this work is presented in the subsequent sections of this chapter. There are seven sections in the chapter. After this introduction, the second section is the definitions of key terms used in the work. The third section is the presentation of the study problem and questions, while in the fourth section the aim and objectives of the study are presented. The fifth section presents the scope and assumptions of the study, followed by the justification and potential contribution of the study in the sixth section. The final section describes the organisation of the entire work.

## 1.2 Definitions of key terms

Before embarking on the details of the rest of the work, it is necessary to define and clarify some of the key terms used in this report.

### 1.2.1 *Natural environment*

The natural environment in this work refers to natural goods such as land and its physical constituent elements, including vegetation, soils, minerals, water, and other biota, as well as the atmosphere (da Rocha 2003; Ollenu and Woodman 1985; UNCED 1992 Agenda 21, chapter 10, subtheme 10.1). It is affected by, and affects socially-constructed elements such as human-devised institutions to regulate environmental behaviour. On this basis, the natural environment is the non-human part of our surroundings. It is capital for human life (Lohnert and Geist 1999: 39), and has its own intrinsic values (Dobson 2007). Its governance includes the social, political, cultural, and economic arrangements and processes through which decisions are made.

### 1.2.2 *Environmental governance*

Governing the natural environment refers to the formulation, implementation, and evaluation of institutional arrangements and processes 'by which social, political, and economic actors regulate interactions between humans and nature' (Bevir 2009: 78). Thus, environmental governance in this work draws from Downie (2010: 70), Bevir (2009: 78), Paavola (2007: 93-94), as well as Davidson and Frickel (2004: 471), as a process that entails interconnecting institutions such as rules, norms, principles, procedures, mechanisms, and associated organisations that actors create to regulate and coordinate human action on the natural environment. In applying this conceptualisation in the rest of the work, cross-influences of institutions is emphasised. Institutions of environmental governance can be created consciously or unconsciously through human action. They assign rights, responsibilities, and rewards to people in their use and management of the natural environment. To this end, the main question of environmental governance is how the rights, responsibilities, and rewards can be organised to effectively provide incentives to influence human actions toward conserving the natural environment in particular ways. In this study, the organisation of rights, responsibilities, and rewards to influence human actions is premised on the notion that environmental challenges are the result of inadequate or defective organisation and implementation of these rights, responsibilities, and rewards. Inadequate or defective in the sense that these elements, how they function, influence, and are influenced by human actions may be unclearly understood, defined, or enforced.

### 1.2.3 *Livelihood and livelihood strategy*

Livelihood in this work denotes the means of people to live. It entails processes, relationships, capacities, abilities, and interpretations of people to live. Though livelihood is defined from various perspectives (Scoones 2009), these cannot be discussed in this operational definition. Basically, livelihood as is used in this study draws from Chambers and Conway (1991) to whom livelihood comprises people, their capabilities, and their means of living, including food, income and assets. Consequently, integral to livelihood as used in this work are interpretations of people of utilities, whether cultural, economic, social, or political, as means for making a living. In this study, livelihood derives from resources, whether social, economic, political, cultural, or natural.<sup>1</sup> Capacities and abilities are resources that enable one to make a living, just as are the relationships between people around the means to live, and the meanings and reproductions of the sources of livelihood (King 2011). Thus, livelihood is dynamic, changing from time to time according to conditions of livelihood resources, and how relationships and meanings in livelihood resources evolve. Following the dynamism of livelihoods, people constantly modify livelihood activities and choices strategically to derive the most utility for sustenance from a livelihood resource, and to maintain, secure, and/or enhance the value of the resource over time. These constantly modified choices and actions constitute livelihood strategies.

### 1.2.4 *Institution*

As Mehta et al. (1999) observe, there is no standard definition of institution in the literature. But generally, institution in the literature denotes normative orders such as rules, norms, principles, conventions, and codes of behaviour which regulate human behaviour (North 1990; Burns and Dietz 1992; Beckmann and Padmanabhan 2009). In Leach et al. (1999: 226, citing Mearns 1995a: 103), institutions are 'regularised patterns of behaviour between individuals and groups in society'. Drawing on these definitions, institution in this work refers to behaviour-ordering rules, norms, principles, fiscal arrangements, mechanisms, markets, and any other codes that are generally known and understood (uniformly or not) by different groups of people, regulating their different interests and objectives in social interactions.

Human interests in the natural environment lead to the formulation of institutions to influence human behaviour to achieve those interests. Thus, institutions possess values that are appropriated by people through various strategic behaviours. Different institutions possess different values for people. Hence, human appropriation of institutions results in interaction between

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<sup>1</sup> See Ellis (2000) to whom many of these resources are capital.

different institutions. Understanding the interaction between institutions holds explanatory power to environmental governance outcomes. Agency enables people to manoeuvre institutions for their interests. However, in this study, agency is bounded, constrained by sanctions inherent in institutions. Actors may seek to subvert and behave outside the scope of institutions, but sanctions can be imposed on behaviour that is denounced as subversive.

Institutions are constituent elements of regimes. The study of regimes itself is however characterised by definitional and conceptual contentions (Haggard and Simmons 1987; Rochester 1986; Strange 1982). Such contentions are not the subject of this study. Nonetheless, regimes can be taken to refer to collections of institutions for coordinating and directing human expectations and interests in, as well as actions on the natural environment toward particular goals (Swallow and Bromley 1995: 100; Young 1989: 11; Donnelly 1986: 602; Krasner 1982: 185).

#### 1.2.5 *Right*

A right is a product of norms and rules and thus is not equivalent to norms nor rules. Rights refer to particular actions that are socially authorised through institutions (Ostrom 1986: 5; Schlager and Ostrom 1992: 250; Alchian and Demsetz 1973: 17). Rights therefore are considered the authority to undertake particular actions related to a specific phenomenon. In this context, rights guarantee property. Property in this context is the interest in a phenomenon and the processes of its recognition (Lund 2002: 11-12). Schlager and Ostrom (1992, citing Commons 1968) note that all rights have complementary duties, thus to possess a right implies that someone else has a commensurate duty to observe this right.

#### 1.2.6 *Statutory and customary institutions*

Statutory environmental governance institutions in this volume refer to the rules, norms, principles, decision-making procedures, and mechanisms that are directly under the control of the State (the central state). They underpin the establishment and enforcement of statutory property rights and responsibilities over the natural environment. In Dormaa, the teak plantation programme in various ways function through public institutions and decentralised organisations and agencies of the State. These organisations and agencies include the Dormaa Forest services division, Dormaa Municipal and Dormaa East district assemblies (sub-national governments), Dormaa Office of the administrator of stool lands, Department of town and country planning, and Rural fire department of the Dormaa district fire service.

Customary environmental governance institutions refer to the complement of rules, norms, principles, conventions, and procedures that provide for customary property rights in the natural environment in Dormaa. The Dormaa customary property right institutions evolve overtime. Though the influence of the State and its agencies cannot be ruled out, these customary institutions function through customary mechanisms established and managed by the Dormaa people, outside the dominant control of the State and its agencies. The customary mechanisms include the Dormaa Traditional and Divisional councils,<sup>2</sup> and the Dormaa Customary land secretariat.

### 1.2.7 *Interaction*

Interaction refers to the influences two or more institutions have on each other, which shape the way these institutions function and develop. The influences can have simple back and forth directions or can be multidirectional and multiplex as in the case of this study. Multiplex directional interaction means the institutions involved in the interaction are connected to each other in a web of directions where one direction of influence connects to the other, and to another and so on, in different directions. On this basis, in this work institutional interaction refers to the multiplex cross-influences between the institutions of the teak plantation programme, customary property rights, and activities of actors affected by these institutions, such as teak farmers, sand winners, chiefs, and forestry officials.

### 1.2.8 *Quotation presentation and referencing*

Quotation presentation and referencing is not a specific term used in this study. Rather, in chapters seven and eight, quotations from discussion transcripts drawn from the Atlas.ti qualitative data analysis software are used extensively to present and analyse raw data. As such, it is appropriate that the way these quotations are presented and referenced are defined here. In the quotations, the real identity of discussion participants are concealed as much as possible. Therefore, only fictitious initials of the names of discussion partners are provided in the data segments or quotations used. However, official titles of respondents are real, as well as the towns and villages cited.

At the end of each quotation used in this work, there is a quotation reference that provides some basic information about the quotation.

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<sup>2</sup> A Traditional council is the body or organisation comprising the Paramount chief (or King as the case may be), his key officers, and all his or her lower chiefs within the traditional state. Such a body or organisation at the community level is called the Divisional council.



For example:

`<ref>P41:D_FA_ID_Da_OA, assistant forestry official_dormaa district_01mar2012.rtf - 41:32 [(66:66)] by peter narh</ref>`.

“**<ref>**” stands for reference; “**P41**” means primary document 41, that is, discussion transcript document 41 in the Atlas.ti software; “**D**” refers to Dormaa Municipality or Dormaa East district, that is, the study area; “**FA**” stands for formal authority, that is, whether the partner is associated with statutory or customary institutions; “**ID**” stands for individual discussion, that is, distinct from group discussion; “**Da**” refers to Dormaa Ahenkro, that is, the town in which the discussion was held; “**OA**” is discussion partner’s fictitious initials; “**assistant forestry official\_dormaa district**” is the official title of the discussion partner; “**01 mar 2012**” is the date on which the discussion was held; “**rtf**” is a computer file format; “**41:32**” means the quotation used is the 32<sup>th</sup> quotation in transcript document 41; “**[(66:66)]**” means the quotation used begins and ends in paragraph 66 of the transcript document; “**peter narh**” is the name of this author.

### 1.3 Unresponsiveness of environmental governance to institutional interaction

The study problem investigated is the unresponsiveness of environmental governance in Dormaa to interaction between institutions and the role of human actions in this interaction. There is limited emphasis in literature and in practice on cross-influences between different institutions and their connections with human strategic actions. First, institutional interaction discourse is still dominated by a focus on structure of different institutions and their compatibility or incompatibility with each other (van Asselt 2014; 2011; Gerhring 2011; Oberthür et al. 2011; Jungcurt 2008; Gehring and Oberthür 2008; Young et al. 2008; Paavola 2007; Najam et al. 2006; Young 1996). Social factors such as livelihood activities are less emphasised as direct causal factors of institutional interaction.

Second, though some relations between institutions and human actions have been acknowledged by certain authors in the environmental governance discourse, these authors discuss institutions as serving purposes regarded as alternatives in a multiple institutional context from which people choose to pursue their interests (Harvard University 1990; Pradhan and Meinzen-Dick 2002; Guillet 1998; von Benda-Beckmann 1981). The implications of human choice making for interaction between these institutions are less emphasised. To this end, institutions are seen too often in the environmental governance discourse as only regulating human action, and interacting in the process as a result of structural incompatibilities. There is inadequate acknowledgement of

human actions in turn directly shaping the functioning and interaction of institutions even where such institutions have structural differences.

In Dormaa, the two related shortcomings in literature on institutional interaction combine to manifest in environmental governance programmes that are oblivious of the cross-influences between institutions and how human action contributes to these cross-influences. Institutions of the teak plantation programme and customary property rights operate concurrently in shaping what Dormaa people do with their natural environmental resources. These two different set of institutions are compatible as far as forest officials and customary authorities are concerned. Consequently, there are concerted efforts between various authorities with stakes in the natural environment in Dormaa to collaborate to achieve consensus, interdependence, and reciprocity between them in pursuing common environmental management goals. Yet, in spite of the efforts for collaboration between the different authorities, some activities of teak farmers and sand winners create incompatibilities between institutions of the teak plantation programme and customary property rights.

As a result of the activities of teak farmers and sand winners, on the one hand the customary property right institutions hamper or facilitate teak farming for the goal of environmental conservation, depending on how land users employ or perceive their customary property rights to respond to the teak plantation programme. On the other hand, communal and egalitarian principles in the customary property rights regime in Dormaa are constrained or enhanced depending on how teak farmers and sand winners use the teak plantation programme to manipulate the customary property rights regime. In this regard, it appears the responses of farmers to the teak plantation programme are not only the result of how they use or perceive the institutions of the programme. The responses are as well triggers from influences of the customary property right institutions and their manipulations for varied interests.

Yet, such human action derived cross-influences or interaction between these different institutions appear unacknowledged and unmanaged in the day-to-day governing of the natural environment in Dormaa. These dynamics in the relationship between the teak plantation programme, customary property right institutions, and human actions suggest a multiplex of cross-influences between them that can affect the outcomes of environmental governance if not given thorough consideration in literature and in practice. As yet, environmental governance in both literature and practice is not responsive to this nexus. To this end, this work is about understanding the dynamic interactions between these different institutions and how human actions influence and are influenced by them. The focus is on how and why environmental governance in Dormaa manifests these dynamic interactions.



## Study questions

To explore these issues, questions are formulated on the factors affecting the functioning and interaction of governance institutions. They also address the reasons for the existence of these factors, and the scope they define for teak farming and sand winning. The main study question is as follows:

***how and why do institutions of the statutory teak plantation programme and customary property rights function, interact, influence, and in turn are influenced by teak farming and sand winning?***

Sub-study questions are:

- i. what is the nature of institutions of the teak plantation programme and customary property rights in Dormaa, and how do they influence teak farming and sand winning?
- ii. how and why do institutions of the teak plantation programme and customary property rights in Dormaa influence each other?
- iii. what role do teak farming and sand winning in Dormaa play in the interaction of institutions of the teak plantation programme and customary property rights?

Answers to these questions in the subsequent chapters will show how human actions are central to the functioning of and interaction between institutions of the teak plantation programme and customary property rights.

## **1.4 Study aim and objectives**

The main aim of the study is to explore and understand how and why different environmental governance institutions interact to influence and be influenced by human activities on the natural environment. Linked to the study problem as explained above, this aim is to eventually contribute to understanding the dynamics and role of the relationship between multiple institutions and human behaviour in environmental governance.

To this end, the specific study objectives are to investigate and understand:

- i. the functioning of the teak plantation programme and customary property rights in the Dormaa Municipality and Dormaa East district,
- ii. land users' responses to the teak plantation programme, and how customary property right institutions influence these responses,
- iii. how and why these responses bring institutions of the teak plantation programme and customary property rights into interaction, and
- iv. the important actors in these processes.

## 1.5 Study scope and assumptions

Governance of teak farming and sand winning in the Dormaa Municipality and Dormaa East district is the main focus of the study. Teak farming in this respect refers to the practices of planting, managing, and extracting rewards from teak trees. Sand winning is the practice of scooping the surface soil off the land for various reasons. Teak farming and sand winning are chosen because unlike many studies on environmental governance institutions, looking at forestry alone (teak farming as an instance) is not enough. Forestry is affected by other livelihoods and thus must be looked at in combination and interaction with other livelihoods. It is the same situation as studying individual institutions alone will not be sufficient to effectively understand environmental behaviour, but in combination and interaction with other institutions.

Moreover, the choice of teak farming and sand winning is informed by their seemingly contrasting but interacting processes as land use and land management activities. While teak farming seeks to replenish lost tree cover, meet timber needs, and conserve the environment including wildlife, sand winning removes vegetation and ostensibly renders land bare and abandoned. Other major activities on the natural environment in Dormaa, including poultry farming, animal husbandry, crop farming, and physical development such as building construction may be relevant too in the context of this study. Nonetheless, the contrasting features of teak farming and sand winning bring into focus more revealing how environmental governance is influenced by seemingly alternative but interacting land uses. After a preliminary scoping of the issues to explore, it was recognised that a focus on more than two major land use activities would have been quite complicated for this study. However, it is worthy of note that where these other land use activities are relevant for analysis in the current study, their role have been explained.

The study is concerned specifically with the teak plantation programme component of the National Forest Plantation Development Programme in Ghana, as well as the Dormaa customary property right regime. As one of several programmes being managed by the Forestry commission of Ghana to promote conservation of the natural environment, the teak plantation programme was chosen over other programmes of the Forestry commission, in view of its direct dependence on activities of farmers and landowners for its implementation. With the interests of the study on the connectivity between activities of people and institutions, such direct involvement of farmers and landowners makes the teak plantation programme ideal to research. The

programme is also quite popular, being implemented in all the ten geo-administrative regions of Ghana.<sup>3</sup>

The forestry sector was chosen due to its widespread and dominance in environmental conservation efforts in the study area. Other programmes of the Forestry commission that are not the focus of this study include the Natural Resources and Environmental Governance Programme (NREG) that focuses on a set of policies and institutional reforms in the inter-related sectors of forestry and wildlife, mining and environmental protection; the Reduced Emissions for Deforestation and Degradation plus (REDD+) that addresses a broader set of forest management issues related to reducing emissions from deforestation and degradation within developing countries; and the Community Forest Management Project (CFMP) designed to rehabilitate degraded forest reserves while increasing production of agricultural, wood and non-wood forest products and strengthening the capacity of relevant institutions.

The teak plantation programme and the customary property right regime operate in the Dormaa Traditional area.<sup>4</sup> However, this study focuses specifically on the Dormaa Municipality and Dormaa East district, which are decentralised government areas within, but not coterminous with, the Dormaa Traditional area. The Dormaa case study alone is not meant for a generalisation of institutional interaction and therefore for the formulation of a theory. Nonetheless, results from this work will permit further studies in wider geographical areas on the same theme. Thus, together, the empirical results from this and other further studies can enable generalisation and theorisation of institutional interaction in environmental governance.

Throughout the work, the phrase *the Dormaa area* refers to the Dormaa Traditional area, *the study area* refers to the Dormaa Municipality and Dormaa East district, and *the Dormaa* refers to the people of the Dormaa Traditional area, including the study area. The Dormaa Municipality and Dormaa East district are statutory geo-administrative areas with State sponsored political heads. The two areas were chosen out of a total of twenty-seven municipalities and districts in the Brong Ahafo region due to their common customary property right system under one paramount customary authority. They also show visibly the contrasting features of forestry and sand winning.

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<sup>3</sup> The ten geo-administrative regions of Ghana are (in no order of importance), Greater Accra, Ashanti, Northern, Western, Brong Ahafo, Eastern, Central, Volta, Upper East, and Upper West regions.

<sup>4</sup> A Traditional area in Ghana denotes a customary chiefdom or state with its own customary resources, institutions, and administration. Its customary administration is largely out of the control of the national state.

Methodologically, the work is designed as a case study of environmental governance in the Dormaa Municipality and Dormaa East district. It is based on interpretivist and social constructionist theoretical foundations to understand the interpretations and constructions of teak farming, sand winning, and institutional interaction processes. The reason for these theoretical foundations of the study is that actors, based on different factors, are conceived of as constantly interpreting and defining the institutions of the teak plantation programme, their customary property right institutions, and associated incentives to shape their actions on the natural environment. The methodology is elucidated in more detail in chapter three.

Actors considered in this study are those whose activities have a direct role in teak farming and sand winning in the study area, such as farmers, chiefs, sand contractors, Dormaa Traditional council officials, forestry officials, and local government officials. The study is not to determine the physical state of the natural environment nor does it intend to evaluate the physical properties of the natural environment to determine if, how, or when environmental degradation occurs. Such a scope is beyond the capacity of this study. Nonetheless, where teak farming and sand winning and their related processes clearly point to potential impacts on the physical properties of the natural environment and these are deemed relevant for the analysis, these potential impacts have been explored as well.

Three related assumptions underpin this study. Assumptions are prior development of theoretical propositions to guide data collection and analysis (Yin 2012: 9; 1994: 13, 27-46; Baxter 2010: 88). They enable prior formulation of simple sets of relationship about how and why acts, events, structures, and thoughts occur (Yin 2012: 9). The following assumptions guide this study:

- i. though rules, norms, principles, decision-making procedures, mechanisms, and associated organisations constitute environmental governance institutions, the property rights and associated incentives derived from them are fundamental to how institutions shape human activities on the natural environment.

An environmental governance institution can be in the form of rules, norms, principle, decision-making procedures, and mechanisms, all of which provide some form of property rights and incentives to regulate human activities on the natural environment. All these forms of institution have different purposes towards the functioning of a governance programme to achieve its objectives. The property rights that are derived from all these forms of institution serve as authority that provides scope, and the incentives provide utilities, to shape the actions people take on the natural environment. For different individuals and

groups of people, different institutions and associated property rights and incentives complement or constrain each other. However, other factors may come into play to determine whether for any one person or group different institutions complement or constrain each other.

- ii. there are public as well as individual and private values and interests in the natural environment. Both kinds of interest exist concurrently and their pursuance stimulates interaction between different institutions whose common object is the natural environment.

All individuals or groups of people have some private interests in environmental resources. These may or may not be the same as public or statutory interests. Nonetheless, it is assumed that public and private environmental interests co-exist concurrently. The relationship between public and private interests is not an easy one to define though. Suffice it to say that it is possible the two different interests can converge or diverge in significant ways. As defined above the natural environment is a physical phenomenon but also socially constructed. To this end, there is no one objective interpretation of the natural environment, its utility, and the processes for its governance. The different interpretations and values in the natural environment and its governing processes inform the actions of different actors, and they do change with circumstances overtime. It is however possible for these differences in values, interests, and actions to converge on common goals.

## **1.6 Multiplicity of institutions shaping environmental behaviour**

A justification of this work stems from the relevance of sub-national societal processes for global or supra-national ones and vice-versa. Sub-national and supra-national level processes cannot be delinked from each other. Sub-national level institutions and processes of natural resource ownership, use, and management are usually influenced by or causes of global, supra-national environmental governance processes. Indeed, Najam et al. (2006: 5) note that micro level implementation of environmental governance frameworks is significant to the overall effectiveness of global environmental governance systems and sustainable development. At the global level, environmental governance institutional interaction has been discussed in works such as Young et al. (2008), Gehring and Oberthür (2008), Paavola (2007), and Najam et al. (2006). The relevance of these works to global level environmental governance discourse cannot be questioned. However, it cannot be dismissed also that sub-national environmental governance processes and practices involving multiple and diverse institutions bear significantly on global processes, making them important as well in the search for more effective ways to sustain the natural environment.



Global level policies of environmental governance are expected to bear significantly on sub-national level environmental conservation processes. But there is always the concern that global policies are often a mismatch with realities at the community level (see in this respect for instance Saruchera and Omoweh 2004; Tawfic 2004; Lehulere 2003 for some criticisms of UN and NEPAD policies). Consequently, the sub-national level is always the beginning as it is the end of global policies. In this respect, the contribution of this study, with its focus on the sub-national level, is not in doubt.

Another justification of this study stems from the existence of multiple institutions in any social setting, shaping environmental behaviour and rendering notions of isolated institutions untenable. For instance in Ghana, the 1992 Constitution recognises both customary and public institutions of governance in coordinating societal relations and activities. The Constitution mandates both public and customary sector actors to play their respective but also complementary roles in promoting national sustainable development (1992 Constitution of Ghana, Article 39 and Article 267). In this regard, with respect to governing societal relations on the natural environment, all environmental governance institutions operate in interaction with each other and are to be complementary if sustainable goals can be achieved.

The relevance of different institutions functioning to achieve sustainable natural environments is not new. The literature on institutions and governance note the multiplicity of institutions and their influences on a mesh of actions on the natural environment (Narh 2013b; Tonah 2002; Laube 2007; Ray 1996), though their cross-influences and causal mechanisms for these influences have seen little attention. The situation of multiple institutions in governance in Ghana is not different in other African countries, for instance in Kenya (Musembi 2007), Nigeria (Ifeka 2000), South Africa (Oomen 2006, 2000), and Zimbabwe (Daneel 1996). Moreover, formal public administration in Ghana functions on statutory institutions alongside customary ones. Before colonialism, customary institutions served the bases of governing customary societies. The introduction of formal public administration only occurred alongside the existing customary institutions. The Ghana national environmental policy also acknowledges the multiplicity of environmental institutions (MEST 2010). To this end, understanding the influences of the diversity and linkages of institutions is relevant for governing the environment.

From these justifications, the contribution of this work in extending the discourse of environmental governance is its emphasis on the interlock between multiple institutions and livelihoods to understanding environmental sustainability. It will be shown in subsequent chapters that interactions between institutions and their linkages with livelihood actions extend beyond

the notion that institutions only regulate human action. Institutions govern and are governed as well by human actions through ways that these actions bring multiple institutions to interact with each other. Institutional interaction as analysed in this work recognises the influences human actions produce not only on individual institutions but also on the interaction between multiple institutions. In Ghana failures of environmental policies and programmes from the colonial to the present era point to influences on one set of institutions on others, through diverse human actions. As such, there is an increasing trend towards collaborative natural resource management where different actors are encouraged to work together for common environmental goals. Such a trend gives impetus not just to the relevance of managing interaction in a multi-institutional setting, but more also to a concerted understanding of how people pursue their livelihoods, and the influences these livelihood actions have, in return, for the functioning and interaction of institutions.

From these justifications, a study to explore how co-existing institutions interact, and how this interaction is influenced by what people do with the natural environment is a worthwhile cause. Accordingly, it is expected that the findings of the study will contribute to deeper understanding of institution-human behaviour dynamics and roles in environmental governance, particularly at the sub-national level in Ghana and beyond. To this end, the immediate output of the study, beside the doctoral degree, include published articles that will seek to enrich discussions on theory, approaches, and practices of environmental governance.

## **1.7 Organisation of report**

The discussions in this work are organised in ten chapters. Chapters one to three are discussions of background to the study and methodological issues. In chapters four to six, conceptual and theoretical groundings of the study are presented. Chapters seven to nine present empirical data analyses and discussions. Chapter ten finally presents the conclusions of the work, followed by a list of references and an appendix.

### *Chapter one: background*

Chapter one, the background to the study, is constituted of the study problem, study questions, aim and objectives, and justification. These together serve as the forefront description of the study. They constitute the background of the extended discussions in the remainder of the work. Chapter one also describes the contributions of the study to knowledge and practice on environmental governance.

### *Chapter two: study methodology*

In chapter two the methodology is presented, with its theoretical groundings and justifications. The chapter describes the interpretivist approach and the social constructionist foundation of the study. It explains the case study design, including data collection methods and activities. How the data was preliminarily analysed, which informed the subsequent analyses, is also presented in this chapter. Methodological challenges faced during data collection are presented in the final section to the chapter.

### *Chapter three: Dormaa and its property right institutions*

Chapter three is a description of the people, physical environment, economy, and property right institutions of the Dormaa Municipality and Dormaa East district. Major themes described in the chapter are the social organisation of the Dormaa and their customary property rights. These features pertain to the entire Dormaa Traditional area, but the presentation focuses more on the Dormaa Municipality and Dormaa East district. The two districts are only a part of the Dormaa Traditional area.

### *Chapter four: discourse on governance*

Chapter four is a discussion of the generic concept of governance. It is appropriate and necessary to set the whole discussion of environmental governance within the generic concept and debates of governance. The reason for this is that environmental governance is a strand of the generic concept of governance (see for instance Bevir 2009: 78-82). Trends in global and national political governance reflect similar trends in the discourse and practice in environmental governance.

### *Chapter five: environmental governance discourse*

Following the presentation of the generic concept of governance, chapter five focuses specifically on concepts and debates in environmental governance. The discussions cover issues pertinent to this study, such as environmental institutions and their relations to human behaviour, polarisation and divergence of institutions, and institutional interaction. Subsequently, an analytical framework the author developed out of the discussions is also presented.

### *Chapter six: environmental governance in Ghana*

Environmental governance policies and practices in Ghana are presented in chapter six. The presentation explains the historical trajectory of precolonial, colonial, and postcolonial forest policies, programmes, and outcomes, within global, continental, and regional environmental governance contexts. Also discussed are the key legislations and actors involved in this forest trajectory.