

**Theory and Practice of Governance Collaboration: Institutional Assessment in
Collaborative Natural Resource Governance**

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*Dissertation presented for the degree of Doctor of Philosophy in Public & Development
Management in the Faculty of Economics and Management Sciences, at Stellenbosch*



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December 2018

Declaration

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This dissertation includes [five] original papers published in peer-reviewed journals or books and [one] unpublished publication. The development and writing of the papers (published and unpublished) were the principal responsibility of myself and, for each of the cases where this is not the case, a declaration is included in the dissertation indicating the nature and extent of the contributions of co-authors.

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With regard to [chapter four - Transdisciplinary Approach to Natural Resource Governance Research pp 51-82 of the dissertation], the nature and scope of my contribution were as follows:

Nature of contribution	Extent of contribution (%)
Organised and reviewed literature	85
Sorted and analysed data	
Conceptualised and wrote the paper	

The following co-authors have contributed to [chapter four, pages 51-82 in the dissertation]:

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Date:

Abstract

Complexities of the post-New Public Management (NPM) era have resulted in a new governance regime that hinges on ‘collaboration’, a network-based model that links various stakeholders (state and non-state actors) to promote sustainable governance. This study sets out to examine the theory and practice of collaborative natural resource governance (CNRG) with a special focus on the triggers of collaboration and institutional evolution using the experience of Boabeng-Fiema Monkey Sanctuary in Ghana. The study’s first two objectives are conceptual in nature to advance knowledge in the field of CNRG which culminated in publishing two peer-reviewed articles (Chapters Five and Six). The first article “Rising to the challenge: A framework for optimising value in collaborative natural resource governance” provides pointers to enhance the process of natural resource collaboration (Chapter Five). A second article “Institutional assessment in natural resource governance” conceptualises the interplay of formal and informal institutions in natural resource governance (Chapter Six). Empirically, the study adapts the philosophy of transdisciplinary research approach (published as peer-reviewed article in Chapter Four), interspersed with ethnography, to advance three key objectives. The first empirical objective was to identify the trajectory of institutional evolution as well as the triggers. Results and conclusions are published as a third article “Complex Crisis’ and the rise of Collaborative Natural Resource Governance: Institutional Trajectory of a Wildlife Governance Experience in Ghana” in *Environment, Development and Sustainability Journal* (Chapter Seven). A second empirical objective was to examine the interplay of formal and informal institutions in the governance of wildlife in the Boabeng-Fiema Monkey Sanctuary (BFMS). This is to be published as a fourth article “Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance” (Chapter Eight). A final phase of the study discussed a “bottom-up” approach to natural resource governance collaboration to foster sustainable governance of resources. This was also published as “Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance” (Chapter Nine). A general conclusion derived from the study is that the ability of a natural resource governance system

to adjust or readjust its institutional underpinnings and governance regime in the face of threat, of whatever form or intensity, contributes immensely to the viability of the particular ecosystem. Institutions must necessarily evolve to adapt when there is sufficient evidence that the existing regime has become weakened in the face of the changing internal and external conditions of social-ecological systems.

Opsomming

Die kompleksiteit van die post-Nuwe Openbare Bestuur (NPM)-era het gelei tot 'n nuwe regeer- en bestuurstelsels met betrekking tot 'samewerking,' 'n netwerkgebaseerde model wat verskeie belanghebbendes (staats- en nie-staatsdeelhouders) verbind om volhoubare beheer en bestuur te bevorder. Hierdie studie ondersoek die teorie en praktyk van samewerkende of kollaboratiewe natuurlike hulpbronbestuur (CNRG) met 'n spesiale fokus op die snellers wat samewerking en institusionele evolusie van stapel laat loop deur die ondervinding wat by die Boabeng-Fiema aapvlugsoord in Ghana opgedoen is. Die studie se eerste twee doelwitte is van nature konseptueel om kennis op die gebied van CNRG te bevorder. Dit het aanleiding gegee tot die publikasie van twee portuur-beoordeelde artikels (hoofstukke 5 en 6). Die eerste artikel, "Rising to the challenge: A framework for optimising value in collaborative natural resource governance," bied aanduidings vir die bevordering van die proses van natuurlike hulpbron-samewerking (hoofstuk 5). 'n Tweede artikel, "Institutional assessment in natural resource governance," konseptualiseer die wisselwerking tussen formele en informele instellings in natuurlike hulpbronbestuur (hoofstuk 6). Empiries-gesproke pas dié studie die filosofie van die transdissiplinêre benadering toe (as portuur-beoordeelde publikasie in hoofstuk 4 gepubliseer), afgewissel met etnografie om sodoende drie belangrike doelwitte te bevorder. Die eerste empiriese doelwit was om die trajek van institusionele evolusie te identifiseer, sowel as die snellers wat dit aan die gang sit. Resultate en bevindinge is in 'n derde artikel, "Complex Crisis' and the rise of Collaborative Natural Resource Governance: Institutional Trajectory of a Wildlife Governance Experience in Ghana" in *Environment, Development and Sustainability Journal* (hoofstuk 7) gepubliseer. 'n Tweede empiriese doelwit was om die wisselwerking tussen formele en informele instellings in die bestuur van wild in die Boabeng-Fiema Bobbejaantoevlugsoord (BFMS) te ondersoek. Dié sal as 'n vierde artikel, "Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance" (hoofstuk 8) gepubliseer word. 'n Slotfase van die studie het 'n "onder-na-bo" benadering tot natuurlike hulpbronbestuur bespreek met die oog op die bevordering van

volhoubare hulpbronbestuur. Dié is ook gepubliseer as “Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance” (hoofstuk 9). ’n Algemene afleiding wat uit die studie gemaak is, is dat die vermoë van ’n natuurlike hulpbronbestuurstelsel om sy institusionele ondersteuning en regeerstelsel in die aangesig van ’n bedreiging, in watter vorm of intensiteit ookal, aan te pas, of heraan te pas, oneindig veel bydra tot die lewensvatbaarheid van die spesifieke ekosisteme. Dit is nodig dat instellings moet ontwikkel om aan te pas waar daar voldoende bewys is dat die bestuur- en regeerstelsel in die lig van veranderde interne en eksterne toestande van sosiaal-ekologiese stelsels verswak het.

Dedication

Dedicated in honor of my late mother, Vida Yeboah, who only passed on a week before my examination results came out. Mum, you fought a good fight to usher your son into glory, but death took you away when the crown was almost here. May your soul rest in peace. Special dedication also to my little daughter, Michelle, who had to sacrifice her early months without being on the chest of her daddy because of the demands of this project.

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List of Abbreviations/Glossary

ABC	Advancing, Building and Creating
BFMS	Boabeng-Fiema Monkey Sanctuary
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBNRM	Community-Based Natural Resource Management
CNRG	Collaborative Natural Resource Governance
CPLs	<i>Chasseurs Professionels Locaux</i> or Local Professional Hunters
CREMA	Community Resource Management Areas
FC	Forestry Commission
FGD	Focus Group Discussions
IAD	Institutional and Development Framework
ICDP	Integrated Conservation and Development Programmes
IIG	Inter-Institutional Gap
JFM	Joint Forest Management
MDGs	Millennium Development Goals
NGOs	Non-Governmental Organizations
NPM	New Public Management
PAs	Protected Areas
RHTs	Resource & Habitat Taboos
SD	Sustainable Development
SES	Social-ecological system
TD	Transdisciplinary Research
UN	United Nations
WD	Wildlife Division

List of publications making up this dissertation

1. **Yeboah-Assiamah, E.**, Muller, K. & Domfeh, K.A. (2018). 'Complex crisis' and the rise of collaborative natural resource governance: institutional trajectory of a wildlife governance experience in Ghana. *Environment, Development and Sustainability*, 20 (5), 2205-2224.
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Chapter One

General Introduction

1.1 Introduction

The study sets out to examine the theory and practice of institutional assessment in collaborative natural resource governance. The empirical work was carried out in the Boabeng-Fiema Monkey Sanctuary in Ghana, West Africa. The first chapter of the study provides a general introduction presenting a background to the study, and a brief literature review which sets the stage for the problem statement. The chapter highlights the complexities inherent in wildlife governance and justifies the need for a transdisciplinary research approach. It also presents five key study objectives underpinning the study as well as the corresponding research questions to achieve the objectives. The significance of the study is discussed and a chapter outline is provided.

1.2 Background to the study

Protecting the environment and its resources has been a key goal championed by the global community which featured in the Millennium Development Goals (MDGs) and ‘MDGs beyond 2015’ as well as various international conventions. In order to make way for effective biological conservation and ecosystem stability, many countries have designated ‘protected areas and species’. The ‘2014 United Nations List of Protected Areas’ lists about 209,000 protected areas. On the African continent in particular, protected areas account for about 14% of terrestrial areas and 2.4% of marine areas, which form 15% of the world’s protected areas (Deguignet *et al.*, 2014).

Setting aside protected areas is mostly based on sustainability issues, but modern scholarship on sustainable development suggests that the philosophical underpinning of development should view each of the three values (economic, social and environmental) as complementary and not substitutory (Tafon & Saunders, 2015). However, the people’s quest to meet their primary survival needs tends to put unregulated and enormous pressure on the

environment (Triplet, 2009). This suggests that the mere fact of designating an area as a ‘protected area’ does not necessarily mean the particular area is effectively protected and that most of these protected areas in fact appear to be ineffective (Triplet, 2009). To address this poorly regulated trend, scholars have argued for an integrated approach which calls for co-management of these protected areas by linking various actors from national, local, private sector and civil society (Borrini-Feyerabend *et al.*, 2004; Wyborn & Bixler, 2013). This makes the role of institutional arrangements – not just professing them but actual enforcement – very distinctive in conservation and management efforts. Especially in the African context, state agencies and formal legislation on natural resources proliferate, but enforcement and compliance appear problematic: “at the institutional and legal level, most African countries have a satisfactory framework for protected areas; however, despite an abundance of laws and institutions, the framework is often ineffective and less strictly enforced for management of protected areas, and especially when there are economic interests” (Iritie, 2015:202). According to Rockstrom *et al.* (2009), humanity has already crossed the planet’s boundaries for sustainable development for at least three indicators: climate change, the nitrogen cycle and biodiversity loss. What appears more problematic is that these three processes are mostly interlinked and tend to influence one another.

Whilst previous thinking on natural resource management (before the late 1980s) tended to focus a great deal on the role of national governments and appeared to view communities as detrimental to management and conservation, there has been a paradigm shift that views communities as strategic partners in natural resource conservation and management (Agrawal & Gibson, 1999). Agrawal and Gibson (1999:630), referencing the work of Chitere (1994) and Etzioni (1996), observe a “break from previous work on development which considered communities to hinder progressive social change, current writing champions the role of community in bringing about decentralisation, meaningful participation, cultural autonomy, and conservation”. This concept is fundamentally attributed to the acknowledgement of a key narrative forcefully brought home by Ostrom (1990) to the effect that local communities, when granted sufficient property rights over local resources, can self-organise and develop local-level institutions to regulate sustainable

use of natural resources. In a related argument, Ojha (2014) maintains that though CBNRM is viewed as ‘community-based’, it should be linked up with other actors in order to strengthen capacities. It is evident from the foregoing that neither the central government nor the local people can act effectively with a stand alone approach, but such action in fact calls for co-management and joint solutions.

In the view of Salamon (2002), this is perhaps the driving force for solving public problems in contemporary times and in the future. Salamon’s emphasis has been on a collaborative approach to solving public problems. Instead of relying exclusively on government to solve public problems, numerous other actors have to be mobilised as well, sometimes on their own initiative, but often in complex partnerships with the state. The ever evolving concept of co-management of natural resources has consequently become a logical approach to solving resource management problems by means of partnership (Carlsson & Berkes, 2005). They explain that the difficulty for indigenous communities to effectively manage on their own because natural resources entail complexities operating in a heterogeneous society. On the other hand, there is also a plethora of data or evidence which indicates that centralised management of local resources is problematic (Carlsson & Berkes, 2005).

Ecologists use the concept of social scale to refer to the different dimensions of institutional size, various actors and their representation, as well as power arrangements, whose dimensions range from individuals to networks of organisations involving, *inter alia*, the rules, laws, policies and norms that govern the extent of resource-related rights and management responsibilities (Gibson *et al.*, 2000; Cumming *et al.*, 2006). This suggests that the management approaches of protected areas differ across scales that influence (and are influenced by) governance, affecting outputs and outcomes of the socioecological systems (Ostrom, 2009; Maciejewski *et al.*, 2015). Scholars point out that institutional designs that influence the contemporary management of natural resources have their roots in the past (Brechtin *et al.*, 2003; Nagendra & Ostrom, 2013; Ojha, 2014). This calls for a more historically-oriented institutional approach in assessing the forces that have shaped the social scale or institutional arrangement that underpins the co-management of natural resources.

Widely touted as an era of ‘network governance’ or collaborative governance, this study examines the path-dependency forces that have shaped contemporary institutional arrangements as well as the enforcement complementarities in the governance of the **Boabeng-Fiema Monkey Sanctuary** in Ghana. This community provides a rich empirical case of how periods of ‘critical junctures’ help shape institutional arrangements in the governance of natural resources. In this dissertation collaborative natural resource governance and co-management have been used interchangeably to connote “the new governance system that places emphasis on different stakeholders (forging alliances between state and non-state actors) to prudently and methodically govern natural resources” (see Yeboah-Assiamah *et al.*, 2016:20).

1.3 Literature review and rationale for institutional assessment

A preliminary search of the literature on co-management of environmental resources reveals an extensive contemporary academic discourse, especially from the 1990s. The literature covers a wide range of topics:

- descriptions of conceptual and methodological approaches to co-management (Carlsson & Berkes, 2005; Fraser *et al.*, 2006);
- studies that view the concept in a more holistic manner by focusing on the complexity of contemporary societies (Agrawal & Gibson, 1999; Leach *et al.*, 1999; Blaikie, 2006);
- examinations of how co-management in natural resource management could create public value (Leach & Sabatier, 2005; Mandarano, 2008; Muller, 2010; Rogers & Weber, 2010; Biddle & Koontz, 2014);
- processes of continuous learning to improve collaborative outcomes (Berkes, 2010; Cundill & Rodela, 2012; Reed *et al.*, 2014);
- studies on the roles of traditional institutions in environmental resource conservation (Berkes *et al.*, 2000; Colding & Folke, 2001; Koontz *et al.*, 2004, Negi, 2010);
- Adopting more quantitative techniques to assess socioecological mismatches in the co-management process (Maciejewski *et al.*, 2015).

In spite of the plethora of literature on co-management of environmental resources, not much effort has been made to assess the contextual factors that shape the institutional dynamics as well as actual enforcement of contemporary ‘networked’ institutional regimes. This study is relevant as it firstly provides a more narrative-based approach to trace how cultural and historical interactions have shaped the institutional designs that underpin wildlife resource governance in the Boabeng-Fiema community. Though studies point out that institutions are created by individuals who are reflective, adaptive and active agents in changing institutions to suit a complex array of problem-solving needs, little attention has been devoted to the contextual factors or the narratives behind these institutional adaptations that underpin natural resource governance (Swedberg, 2012; Edwards & Steins 1999).

Secondly, this study is relevant and current as on-going publications in natural resource governance tend to focus their attention on institutions or rules and institutional analyses (Fischer *et al.*, 2014; Petty *et al.*, 2015; Arts *et al.*, 2014). Whilst all these studies appear to assess the role of institutional design in forest and wildlife governance, the approaches and methodologies adopted do not enable them to coherently and adequately explain how these institutions have evolved over time. For instance, Fischer *et al.* (2014:168) note “our findings suggest that such insights into historical institutions are absolutely indispensable for the design of today’s co-management arrangements ... research and applied conservation work need to understand historical relationships between the relevant actors to make contemporary resource governance sustainable”. However, throughout their study, the presence of community or relevant actors is not readily evident in the analysis. Such a study requires people or community members telling their stories in the form of narratives which would clearly bring out the socio-cultural and ecological factors that have shaped the institutional arrangements.

Thirdly, a study into institutional arrangements, their enforcement mechanisms and constraints in co-management using a transdisciplinary approach is very relevant. Institutional arrangements, their relevance and challenges in natural resource governance have been addressed in a fragmented way by scholars adopting perhaps mono-disciplinary

and more reductionist perspectives that lead to conclusions that do not really address the underlying factors. For instance, ecologists may be tempted to adopt a more reductionist view in developing models and variables that in the end may not bring to light the main picture and the underpinning reasons for institutional and governance evolution. In a study by Maciejewski *et al.* (2015), the authors themselves did point out a weakness or limitation that “while our analysis shows that socioecological elements inevitably interact across multiple scales to produce positive and negative outcomes, we do not investigate the mechanisms that produce cross-scale feedbacks and scale-mismatch” (Maciejewski *et al.*, 2015:21). This calls for a more transdisciplinary and holistic study that interacts with multiple stakeholders and community members in co-designing and co-producing knowledge on institutional processes underpinning the governance of their ecosystems. Transdisciplinarity connotes a research approach that cuts across academic boundaries, actors and concepts in a process of co-designing and co-producing practical knowledge that is more transformative. It is therefore essential that TD brings stakeholders on board who are able to synthesise ideas. Perhaps, it is through this iterative process that co-management is viewed as a process of continuous learning to improve collaborative outcomes (Cundill & Rodela, 2012; Reed *et al.*, 2014).

Moreover, though the literature on institutional arrangements in co-management is on-going, it appears to be predominant mostly in India (Singh *et al.*, 2011; Ojha, 2014; Arts *et al.*, 2014) and the developed world, such as the USA (Petty *et al.*, 2015) and Southern Australia (MacDonald *et al.*, 2013). There is a paucity of literature from the African sub-region with only a few studies (Fischer *et al.*, 2014 in Ethiopia; Kamoto *et al.*, 2013 in Malawi). These few studies in the African context do not bring out the complex patterns of institutional evolution. There is a dearth of knowledge from that context, especially the West African sub-region, which is also heterogeneous in terms of governance systems (chieftaincy, priesthood and modern governance) which could have implications for contemporary institutional arrangements and complications. This study deals with perspectives from a transitional zone within a West African context, which could add greater detail and depth to

the on-going contributions on institutionalism and collaborative natural resource governance.

In addition to the above studies, ongoing research on institutions tends only to assess the contemporary institutional arrangements; Fischer *et al.* (2014) dig into the past but mostly draw on secondary materials with the participants never reflecting in the analysis. This research also often makes proposals and draws inferences to stimulate further research to assess the trajectory of these contemporary institutions. Mostly neglected, however, are the implementation complementarities of these institutional patterns. However, the institutionalist school of thought argues for rules, not just rules but should be well-known, well enforced and internalised by the people (Leftwich, 2007). This study does not only assess the narratives that have shaped the institutions underpinning resource governance, but also examines the enforcement mechanisms and how they shape people's behaviour. This is relevant as studies in developing countries point out that poorly designed institutions do produce counter-effects and these are even preferred to a situation where there are no institutions (Kamoto *et al.*, 2013).

1.4 Institutionalism in natural resource governance as a complex system

Management of forest and wildlife resources from the 20th century has moved from the archetypical fortress approach to a networked system which is now referred to by various names, *inter alia*, environmental governance, collaborative process, co-management and community-based natural resources management. Though each of these varies slightly conceptually, the underpinning similarity among all of them is an emphasis on several actors, an interplay of divergent stakeholders, and a network of individuals and groups who jointly manage natural resources (Agrawal & Gibson, 1999; Carlsson & Berkes, 2005). For instance, Carlsson and Berkes (2005) forcefully argue that co-management should not be viewed as a two-way process, just between the state and community. This will appear as if the community is just one homogenous entity, but actors within the community are in fact heterogeneous and diverse. Co-management of environmental resources involves power-sharing arrangements, responsibilities and benefits (Leach *et al.*, 1999; Castro & Nielson, 2001; Blaikie, 2005).

Even where one is tempted to narrowly view co-management as just two-way affair between government and the community, Duane (1997) identifies three types of communities; *communities of places* that are tied by physical geographical space, *communities of identity* which are tied to each other through social characteristics, and *communities of interest*, whose commonalities are derived from the benefits they receive from the resource in question or the cost they impose on it. This suggests that co-management of environmental resources is a complex, ‘fuzzy’, ‘wicked’ and ‘ill-defined’ phenomenon which requires a more transdisciplinary process in assessing the institutional arrangements underpinning contemporary co-management processes. How, why and what forces underpin the present institutional arrangement? Did they evolve naturally or as a result of conflict between the various stakeholders? To what extent are the institutional arrangements being enforced among the myriads of actors and community members, and what factors enhance or derail the process?

Given the complexity of African societies – in this case, Ghana, where the people have traditional governance systems underpinned by conventions and taboos and also modern governance systems – how have these two systems mutually affected each other in the institutional arrangement governing the co-management processes of forest and wildlife resources? How do these two governance systems feature in the institutional design and enforcement complementarities?

Finally, forest and wildlife resources per se are ‘fuzzy’ in nature in the context of sustainable development, and while the ultimate goal of foresters and wardens is to ensure ecological protection, that of the local people is to use the same resources for their primary survival. In the light of this situation, the interplay between the three main values of sustainable development – economic, social and environmental – finding a way to strike a meaningful and agreed-upon balance is more complex. Therefore, a study of how and why institutions have developed, how they shape people’s behaviour and enforced require systems thinking because the entire process is complex, fuzzy and there is so much at stake.

1.5 Transdisciplinary research in natural resource governance

The complexity of institutional design and enforcement complementarities that underpin natural resources in the African context requires greater synthesis in the approach to research on it. However, the ever-increasing volume and complexity of scientific data, along with an emphasis on reductionism, has favoured scientific specialisation and knowledge fragmentation (Sidlauskas *et al.*, 2010; Hampton & Parker, 2011). The fuzzy nature of the increasing depletion of forest and wildlife resources, however, requires solutions that transcend traditional disciplinary boundaries and a synthesis of knowledge (Carpenter *et al.*, 2009). A transdisciplinary approach (TD) entails a study that cuts across academic boundaries, actors, fields and approaches in an attempt to co-design and co-produce holistic knowledge that is more transformative. Pohl (2005) observes that two main motives tend to justify TD: (1) it is epistemologically challenging to search for a viewpoint that lies between, or beyond, disciplines; and (2) it is socially responsible to take knowledge which is produced and organised in accordance with a particular discipline and rearrange it so as to make it useful and meaningful for socially relevant issues. The complexity of social phenomena prompted Brewer (1999:328) to object to mono-disciplinary approaches by stating that “the world has problems, but universities have departments”.

Reviewing relevant documents on TD, Pohl (2005) observes four key features or trends. Firstly, TD takes into account the complexity of an issue – meaning the complex system of factors that together explain the issue’s current state and its dynamics; it addresses both science and society’s diverse perceptions of an issue. Secondly, TD sets aside the idealised context of science in order to produce practically relevant knowledge; thirdly, it deals with the issues and possible improvements of the status quo that are involved in balancing the diverse interests and inputs of individual stakeholders and disciplines (Pohl, 2005:1161). On the final feature, the author then argues that TD could be viewed as a research approach more oriented towards the common interest, which is a term in the ‘policy sciences’ (Clark & Clark, 2002). For instance, Blaikie (2005) argues that in spite of the theoretical benefits of co-management, at the end of the day, it is what actually occurs in the field that determines

its worth. If indeed co-management in natural resources could create value (Leach & Sabatier, 2005; Mandarano, 2008; Muller, 2010; Rogers & Weber, 2010; Biddle & Koontz, 2014), much has to do with the institutional designs and enforcement complementarities; it therefore requires TD, which brings a range of diverse stakeholders on board to synthesise ideas. Perhaps it is through this iterative process that co-management is viewed as a process of continuous learning to improve collaborative outcomes (Berkes, 2010; Cundill & Rodela, 2012; Reed *et al.*, 2014)

Research on institutions and how they shape actors' choices and behaviour in natural resources management needs to adopt a TD approach so that outcomes produce useful knowledge relevant to society. In other words, attempts to mitigate the environmental effects of global population growth and increasing socio-ecological complexity are a daunting challenge whose effective resolution requires synthesis, that is, the integration of disparate information to generate novel insights from heterogeneous, complex situations where there are diverse perspectives.

1.6 Statement of the problem

The need for management and conservation of natural resources has been professed by the global community, regional blocs, and national and local governments. For instance, the 2012 UN Conference on Sustainable Development in Rio de Janeiro (Rio+20) has as one of its two main themes, “strengthening the institutional framework for sustainable development”.

Contemporary thinking on management of natural resources stresses a consensus-based approach mainly through a collaborative governance process (Chambers, 2003; Carlsson & Berkes, 2005; Ostrom, 2009; Muller, 2010; Ojha, 2014; Maciejewski *et al.*, 2015). For instance, using the Nepal case, Ojha (2014) uses the term ‘regime’ to make a case for a conceptual shift away from the localised, community-centric view of community-based resource management to one that recognises multi-scalar politics involved in defining the meanings and practices of community forestry. This suggests a more collaborative approach

between local communities and other networks of actors to ensure the creation of value in the governance process. Other studies stress the need for incorporating local participation in the management process of protected areas; this has come to be referred to as the need for integrated conservation and development programmes (ICDP) which have shaped conservation thinking since the 1980s that aims at achieving globally agreed conservation goals whilst at the same time enhancing the socio-economic lives of community members (Saunders, 2011 cited in Tafon & Saunders, 2015). When these two goals are achieved effectively, local participation in the management process could enable enforcement of protection laws to reinforce conservation goals.

Effective management is underpinned by the institutional arrangements and enforcement mechanisms, especially, where many actors are involved in the management process. The institutional arrangements that shape forest and wildlife governance do have a historical trajectory mostly propelled by periods of ‘critical junctures’. In a related argument, Fischer *et al.* (2014:168) assess co-management of forest resources using two cases from Ethiopia. The authors observed that the interplay of actors evolved over time and they consequently posit that “our findings suggest that such insights into historical institutions are absolutely indispensable for the design of today’s co-management arrangements... research and applied conservation work need to understand historical relationships between the relevant actors to make contemporary resource governance sustainable”. The above statements suggest that existing thinking in co-management of environmental resources appears to be more interested in the actual underpinnings and narratives behind the current institutional design and power arrangements as well as the triggers and forces shaping current natural resource institutions. It is driven by an increasing social science emphasis on the ‘contexts of practice’ for drawing up theoretical insights (Swedberg, 2012). Consequently, the main thesis of this study is to assess the theory and practice of natural resource governance collaboration with particular emphasis on institutionalism and the triggers of institutional evolution. *Using an institutional analysis framework, this study examines the trajectory of institutional design as well as the interplay of formal and informal institutions in the collaborative natural resource governance of the Boabeng-Fiema Monkey Sanctuary in Ghana.*

1.7 Research objectives

The main objective of the study is to conceptualise analytical models to discuss the theory and practice of collaborative natural resource governance and to situate this within the setting of the Boabeng-Fiema Monkey Sanctuary (BFMS). It assesses the ‘institutional trajectory’ as well as the ‘formal-informal’ institutional interplay in the management of wildlife resources. In order to achieve this broader objective, the study is guided by the following specific objectives:

1. To design a framework to optimise the facilitation of collaboration between local resource users and state agencies in natural resource governance;
2. To examine institutional analysis in natural resource governance;
3. To examine the institutional and governance evolution of Boabeng-Fiema Monkey Sanctuary and its triggers;
4. To empirically examine the interplay of formal and informal institutions in natural resource governance;
5. To discuss the role of ‘a champion’ in a ‘bottom-up approach’ to natural resource collaboration.

1.8 Research questions

In an attempt to achieve the objectives outlined above, the study is directed by the following research questions:

1. What conceptual design facilitates the drive to collaboration between local natural resource users and state agencies?
2. What framework demonstrates how formal and informal institutions interact in natural resource governance?
3. How has the governance and institutional design of Boabeng-Fiema Monkey Sanctuary evolved over time and what were the triggers?
4. How does the interplay of formal and informal institutions engender effective natural resource protection in BFMS?

5. How does collaborative natural resource governance evolve from below?

1.9 Significance of the study

The significance of the study could be assessed from three main perspectives: its contribution to policy, to practice and to the literature.

Firstly, the study contributes to policy making on environmental conservation and management, which has become a major challenge for many developing African countries, specifically Ghana. Ghana has in recent times witnessed most of its environmental resources being depleted and destroyed as a result of mining, encroachment, logging and climate change. This study provides at least two appropriate frameworks that holistically embrace elements from the formal and informal institutions as well proffering realistic enforcement mechanisms that would help shape management of protected areas. Recommendations of the study serve as policy-relevant information to help national and local government decision makers, especially the Forestry Commission and its Collaborative Natural Resource Unit, and local governments, among others.

Secondly, the study would be valuable in supporting public officials and NGOs, civil society organisations and traditional authorities who collaborate to ensure resources are managed appropriately. The use of empirical literature to design a step-by-step approach in natural resource collaboration as well as demonstrating its application and relevance would greatly help foresters and other key practitioners on how to undertake natural resource collaboration, including the skills and approach required for this. Finally, the study provides an empirical case of how the actions and processes of an individual (champion) who fostered and facilitated a ‘bottom-up’ approach to collaborative natural resource governance contributed to salvage threatened wildlife species.

Finally, the study contributes to the literature on natural resource governance as five manuscripts have already been published. Chapter Five of the dissertation which is published as a manuscript titled “Rising to the challenge: A framework for optimising value in collaborative natural resource governance” in the *Forest Policy and Economics Journal* (Vol. 67, 2016, pp. 20–29) unpacks the factors that catalyse successful collaborative natural

resource governance. It reflects on these to design an ‘ABC framework’ aimed at providing signposts to agencies, governments and conveners of collaborative enterprises on how to execute this socio-technical process to maximise value. This paper has already received attention with over 160 reads on Researchgate alone, with six citations already. Another paper (Chapter Six of the dissertation), “Institutional Assessment in Natural Resource Governance: A Conceptual Overview” appears in *Forest Policy and Economics* (Vol. 74, 2017, pages 1–12), published by Elsevier, which discusses an analytical framework to illustrate how formal and informal institutions structure natural resource governance. The paper (also with six citations already) points out that “it is not institutions per se but the ‘nature of interaction’ between formal and informal institutions together with the ‘enforcement mechanisms’ which will to a large extent determine the kind of resource outcomes”. A third manuscript (Chapter Four) is titled “Transdisciplinary Approach to Natural Resource Governance Research: A Conceptual Paper”, published by Emerald in the *Management of Environmental Quality Journal* (Vol. 29, Issue 1, 2018, pages 15-33). A fourth paper, “Complex Crisis and the rise of Collaborative Natural Resource Governance: Institutional Trajectory of a Wildlife Governance Experience in Ghana” appears in the *Environment, Development and Sustainability Journal* (Vol. 20, Issue 5, 2018, pages 2205-2224) which also forms Chapter Seven of dissertation. A fifth paper titled “Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance” (Chapter Eight of the dissertation) is with the *Society and Natural Resource Journal* to be considered for a special issue publication by Taylor and Francis. Chapter Nine of the dissertation forms a sixth paper titled “Comparative Conservation Studies: A ‘Bottom-up’ Natural Resource Collaborative Governance” published as chapter by Springer in the *Global Encyclopedia of Public Administration, Public Policy and Governance Project*. The above publications and progress made demonstrate that the study has already started making a contribution to the literature on natural resource governance.

1.10 Chapter outline

The study is organised into ten chapters. The first chapter is a general introduction, which provides a background to the study and statement of the problem and its complexity, its transdisciplinary context, the study objectives and research questions.

The second chapter discusses collaborative natural resource governance in the Ghanaian context by assessing regulatory instruments relevant to natural resource collaboration. Specific portions of the 1992 Republican Constitution, the 1994 Forest and Wildlife Policy as well as the 2012 Forest and Wildlife Policy are reviewed. Specifically, the study discusses the Community Resource Management Area (CREMA) model which underpins collaborative natural resource governance in Ghana.

Chapters three and four discuss and advance a robust methodology appropriate for undertaking collaborative natural resource governance (CNRG) research. Chapter Three presents the general transdisciplinary (TD) worldview which underpins the study. The chapter presents the research design, sources of data, sampling techniques and research instrumentation including data management. The chapter also presents a brief overview and context of the study area. For pragmatic reasons, the TD approach was adapted and interspersed with an ethnography design (see personal reflections in Chapter Ten). Although Chapter Three presents the general methodology, it is also observed that each of the empirical papers (from Chapters Seven to Nine) has designated sections on methodology, because they are also standalone papers published or considered for publication to advance knowledge in the field of CNRG.

Chapter Four takes the transdisciplinary approach a step further by carrying out a systematic review of the literature on CNRG, the gaps in the research approaches, and how large-scale projects and research could incorporate TD research in their endeavours. The ontology and epistemology of the research design are explained and justified. The processes and steps in an 'idealised' TD approach were discussed and originally published as "Transdisciplinary Approach to Natural Resource Governance Research: A Conceptual Paper" (see footnote to chapter Four)

Chapters Five and six are largely conceptual as they provide the general theoretical basis and literature review of the dissertation. Chapter Five presents a framework that draws mainly from theoretical and recent empirical literature to unpack the factors that catalyse collaborative natural resource governance. The chapter reflects on the observations to design an ABC framework aimed at providing a signpost to agencies, governments and conveners of collaborative enterprises on how to execute this *socio-technical* process to maximise value. The ABC framework hinges on three broad pillars: **A**dopting and advancing human skills; **B**uilding integrity and legitimacy; and **C**reating a sense of attachment to the resource in question. These factors are discussed in the context of the theoretical and empirical literature. This chapter is published as “Rising to the challenge: A framework for optimising value in collaborative natural resource governance” (see footnote to Chapter Five).

Chapter Six discusses an institutional model for assessing natural resource governance. The chapter examines key defining characteristics of both formal and informal institutions in the natural resource governance context. It examines how both formal and informal institutions combine to influence natural resource governance as well as measures to optimise the institutional enforcement process. It further builds on the literature to design a natural resource institutional framework consisting of five elements: a *biophysical element, process and institutional element, behavioural choice element, enforcement complementarities, and an outcome or consequence element*. This is published as “Institutional Assessment of Natural Resource Governance: A Conceptual Review” (see footnote to Chapter Six).

Chapters Seven to Nine are empirical observations on the evolution, practice, experiences and lessons on institutionalism and collaborative natural resource governance. Chapter Seven adapts a four-phase institutional analysis framework to discuss the evolution and adaptation of wildlife governance structures and institutions using the unique experience of the Boabeng-Fiema Monkey Sanctuary in Ghana. The chapter discusses how natural resource institutions evolved from an exclusive informal regime to a more collaborative approach demonstrating the synergy between informal and formal institutions. This is published as ‘Complex crisis’ and the rise of collaborative natural resource governance:

institutional trajectory of a wildlife governance experience in Ghana” (see footnote to Chapter Seven).

Chapter Eight adapts the institutional and development (IAD) framework to examine how informal institutions complement the efforts of formal state regulation of natural resources. The chapter examines the interplay of formal and informal governance systems as well as key enforcement mechanisms inherent in the institutional underpinning of wildlife management in BFMS. This is in review to be published as “Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance”.

Chapter Nine of the study discusses how collaborative natural resource governance emanates from a ‘bottom-up’ approach. The literature is replete with collaboration efforts which are mostly propelled by state institutions or external actors. This chapter presents an empirical case that discusses the role of ‘champions’ in the development of adaptive responses in collaborative natural resource governance. The chapter presents the actions and distinctive strategies of an individual (champion) and examines how these helped to salvage a threatened wildlife species to revive and survive through collaborative governance and institutional evolution. This is published as ‘Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance’ (see footnote to Chapter Nine).

The final chapter of the study presents general overview of entire dissertation by drawing the key conclusions from the relevant chapters. The conclusions have practical policy implications as they offer recommendations on how to appropriately foster collaboration in the natural resource governance context.

1.11 Chapter summary

This chapter has presented a general overview of collaborative natural resource governance and has made a case for incorporating informal institutions into the governance process, especially in contexts where there are other mythologies and pre-existing traditional governance arrangements. The chapter has provided a background to the study, the problem

statement, and the study objectives and research questions. The chapter discussed the complexities of institutionalism in wildlife governance and reiterated the appropriateness of a transdisciplinary approach. The significance of the study has been presented as well as a chapter outline. The second chapter of the study presents the theory of collaborative natural resource governance in the Ghanaian context.

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Chapter Two

Context of Collaborative Natural Resource Governance in Ghana

2.1 Introduction

This chapter discusses collaborative natural resource in the Ghanaian context by assessing policy documents relevant to collaboration in the management of natural resources. Specific portions of the 1992 Republican Constitution, the 1994 Forest and Wildlife Policy as well as the 2012 Forest and Wildlife Policy will be reviewed. Specifically, it discusses the Community Resource Management Area (CREMA) model that underpins collaborative natural resource governance (CNRG) in Ghana.

2.2 Background of CNRG in Ghana

A cursory assessment of Ghana's land tenure system in the 1992 Republican Constitution reveals that whilst the Constitution places land ownership in the hands of *stool or skin* (customary leadership) and families, the right to manage, together with the economic rents associated with the resource, is nonetheless appropriated to the state or government (Dadebo & Shinohara, 1999). Bringing the argument closer to home, Kasanga (2002) reports that land tenure and its associated rights and ownership in Ghana are administered within a plural legal regime. This suggests that customary laws and statutes operate hand-in-hand. Customary land owners in Ghana largely include stools (kingship and chiefdom), clans and families who possess close to 78% of the total land area in Ghana. The state owns 20% whilst 2% is mutually owned in that the legal interest rests with the state whilst the beneficiary interest rests with the community (Kasanga, 2002). The rights of ownership of all customary lands, including forest reserves, resides in the original landowners. This is enshrined in Article 267(1) of the 1992 Republican Constitution, which states that "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". The foregoing notwithstanding, the management rights of commercial natural resources such as timber, precious minerals and

salt found in such lands, are the responsibility of state agencies and are governed by legislation. It suggests that irrespective of the ownership or legal environment (whether by customary law or statutes), the management of any commercial natural resources discovered on or in the land remains the right of the state.

This tends to place all the valuable natural resources in the hands of the state, whilst the very people who stay close to these resources appear neglected with regard to the ownership and management of these resources. This arrangement has not gone down well with local people, who have felt ignored over the years and hence had no incentive to protect these natural resources (Richards & Asare, 1999). To benefit from these resources, people involved themselves in unorthodox practices such as illegal encroachment and exploitation of natural resources, which resulted in colossal deforestation and degradation of forest resources as well as depleting wildlife resources.

This trend has led to more innovative collaborative models that seek to empower local people to participate in the management of natural resources whilst also benefitting from them. This Bhattacharya *et al.* (2010) note that management of natural resources in many developing countries has gradually shifted towards a more participatory approach, which typically involves a collaboration between many sectors and stakeholders. Kotey *et al.* (1998) map the trajectory of forest policy in Ghana into four discrete periods: a consultative phase (1874-1939), the timberisation phase (1940-1953), the “diktat” (or centralised) phase (1954-1990s), and the collaborative phase (since 1994). In Ghana, the 1994 Forest and Wildlife Policy (as revised in 2012) advances collaborative approaches in forest management. The focus of this chapter is on the collaborative phase with an emphasis on the main policy framework. Consequently, the sections below map out the collaborative elements enshrined in Ghana’s Forest and Wildlife Policies of 1994 and 2012.

2.3 Collaborative Governance Elements in Ghana's Forest & Wildlife Policy

2.3.1 The 1994 Forest and Wildlife Policy

The main object of the 1994 Forest and Wildlife Policy was to promote the conservation and sustainable management of forest and wildlife resources with a view to maintaining resource sustainability, whilst at the same time optimising equitable distribution of benefits to all relevant stakeholders within the value chain (Forestry Commission of Ghana, 1994). Specifically, the policy was aimed at ensuring:

1. The sustainable management of Ghana's forest and wildlife resources, to preserve important soil and water resources and for conservation of biological biodiversity;
2. The development of viable forest-based industries, especially in secondary and tertiary processing, so as to satisfy domestic and international demand;
3. Public awareness and local community participation in forest and wildlife conservation, so as to maintain life-sustaining systems;
4. Research-based and technology-led forestry and wildlife management;
5. Effective capability at national and local levels for sustainable management of forest and wildlife resources.

This policy was structurally different from the colonial one of 1948, which was more exclusive and fortress in nature; the 1994 policy sets the agenda to facilitate the participation of local people in forest and wildlife management. The policy had inherent provisions that recognised the rights of local people to access forest resources to sustain their basic livelihood. These broad principles appear in section three of the 1994 Forest and Wildlife Policy. They entail the following:

1. The rights of people to have access to natural resources for maintaining a basic standard of living and their concomitant responsibility to ensure the sustainable use of such resources
2. The need to incorporate traditional methods of resource management in national strategies where appropriate;
3. A share of financial benefits from resource utilisation should be reserved to fund the maintenance of resource production capacity and for the benefit of local communities;

4. The need to develop a decentralised participatory democracy by involving local people in matters concerned with their welfare;
5. The government proposes to place particular emphasis on the concept of participatory management and protection of forest and wildlife resources.

In spite of the broader proposals for collaboration and the active engagement of local people and their livelihoods, actual implementation has not been significant as structural challenges remained. For example, the policy's intention to prevent the wanton exploitation of forest and wildlife resources in off-reserve areas did not achieve significant results as a result of the illegal felling of trees and illegal mining activities (Wiggins *et al.*, 2004; Teye, 2011).

It could be seen that although the broader principles sought to engage the local community, it appears they do not adequately deal with the other stakeholders who make for more collaborative governance. Put differently, although the 1994 Forest and Wildlife Policy sets a broader agenda for the inclusion of local people in the management of forest and wildlife resources, these broad proposals did not achieve many concrete results.

To optimise the quest for collaboration, the policy was revised in 2012 to give practical meaning and content to the approach of collaborative governance as well as specified directions to achieve this.

2.3.2 The 2012 Forest and Wildlife Policy: Collaborative governance elements

The 2012 Forest and Wildlife Policy envisions a paradigm shift from government-led towards a more collaborative governance of forest and wildlife resources which recognises the role of fringe communities, civil society, NGOs, the private sector and other relevant actors. The Policy establishes in clear terms specific measures that in principle seek to promote collaborative governance of forest and wildlife resources. To facilitate collaborative governance, the policy specifically mentions various actors or stakeholders who are relevant for collaborative natural resource governance in the Ghanaian context. For instance, provisions in the strategic direction 6.1.2 names the stakeholders and specifies the roles of traditional authorities, district assemblies, non-governmental organisations and community-

based organisations in forest and wildlife management. By recognising these actors and defining their roles, it is clear that the 2012 Forest and Wildlife Policy at least in principle envisages a networked system of governance or collaborative natural resource governance that has been conceptualised to mean a “new governance system that places emphasis on different stakeholders (forging alliances between state and non-state actors) to prudently and methodically govern natural resources” (Yeboah-Assiamah *et al.*, 2016:20). In his assessment of the 2012 policy, Adom (2017) contends that its acknowledgement of various stakeholders and interests and the multi-sectoral approach to forest and wildlife management is quite laudable as it is geared towards equity and fairness in the process.

In this new policy, unlike the previous one which was silent on collaboration, the 2012 policy provides clear guidelines, definitions and directions on the participation of local people in the management of forest and wildlife resources as stated in the strategic direction 4.1.1 of the policy.

Recognition of community members’ source of livelihood

The 2012 Forest and Wildlife Policy proposes making provision for alternative sources of livelihood for community members living around or close to forest fringe communities. The policy envisages the creation of employment opportunities and sustainable livelihoods for people who inhabit the forest fringe communities through forest plantation development (see strategic direction 2.1e of the 2012 Forest and Wildlife Policy). Through this process, Forest and Wildlife officers could pragmatically work at the operational level with local community members in a more collaborative way, since the latter would not be working voluntarily but would be duly compensated.

Community-wide incentive structure

In order to facilitate community-wide benefits from the proceeds of forest resources, the 2012 Forest and Wildlife Policy makes proposals for the adoption of a more deliberative approach in allotting or distribution of forest royalties among the resource owners, state and the users of the resources in a more equitable, transparent and accountable manner (see

strategic direction 5.1.1c). The issue of benefit sharing and allotment of forest rents had been a major challenge with the 1994 Policy, which had led to local stakeholders agitating over delays in payment and unfair allotments; in fact they sometimes never got paid but payments were carried forward as arrears. With the new policy proposing a more consultative approach to this process, the zeal and cooperation of local stakeholders in helping to manage forest and wildlife resources will be enhanced.

Recognition of indigenous knowledge

To facilitate active involvement of local communities, the 2012 Forest and Wildlife Policy incorporates and recognises the local institutions, customs, values, beliefs and cultural practices of forest fringe communities. This is against a backdrop that most forest and wildlife are effectively protected or sustained by the local institutions of community members; consequently recognising and incorporating them with a view to complementing them with formal institutions will help to optimise natural resource governance. To facilitate this, the strategic direction 1.5.1c of the policy stipulates the codification of the spiritual and religious or cultural values embedded in the narratives of natural sacred sites and wildlife resources, while maintaining their secrecy where applicable. The policy envisages promoting a recognition of the rights of local people including their customs and local belief systems, those institutions which have underpinned the management of the sacred sites or species and that any legislation which had obstructed this will be reviewed (strategic direction 1.5.1a). In short, the policy acknowledges and recognises the religious and cultural elements that underpin the protection of the forest and wildlife resources in the local communities. These spiritual and cultural beliefs include taboos and totemic practices that are viewed as potent for species protection and the sustainable use of forest and wildlife resources. The recognition given to the indigenous knowledge or local institutions and their role in forest and wildlife management would provide the impetus or incentive for local communities to sustainably manage forest and wildlife resources (Abdul-Baql, 2015).

2.4 Collaborative approach to wildlife governance in Ghana

In a quest to promote the robustness of wildlife management, the Wildlife Division of the Forestry Commission has established a Collaborative Wildlife Management Policy to enforce the provisions in Ghana's Forest and Wildlife Policy of 1994 as revised in 2012. The policy has instituted measures and mechanisms to promote the participation of various actors including local communities, civil society organisation, NGOs, locally-based groups and other stakeholders in wildlife management in Ghana. A key institutional model that was adopted to optimise collaborative wildlife management both in and outside of Protected Areas in Ghana was the Community Resource Management Area (CREMA) approach.

2.4.1 CREMA approach

CREMA is an acronym which means Community Resource Management Area; it denotes a geographically defined area endowed with sufficient resources where communities of farmers and other key stakeholders organise themselves for the purpose of sustainable resource management.

The CREMA approach adopted by the Wildlife Division of the Forestry Commission of Ghana is guided by a quest to create a 'win-win' situation where wildlife resources are effectively managed whilst community members do not become impoverished for harbouring the wildlife. Consequently, the underlying philosophy is that "if natural resources are given 'value' and communities are given the 'authority' to 'manage', then they will have the 'incentive' to sustainably manage and conserve natural resources". The argument is that people will manage wildlife and other resources when they are provided with sufficient incentive to do so. This arrangement is primarily an economic inducement with direct financial benefits that provide one of the strongest incentives for farmers and community members.

This approach is justified, fair and ethical along several indicators including, inter alia, from a *conservation point of view*, *rural development point of view* and a *political and economic point of view*. From a conservation perspective, CREMA envisions effectively protecting and managing endangered wildlife species and their habitats, as well as effectively safeguarding Protected Areas in Ghana. From a rural development point of view, the model

helps in improving the socio-economic livelihoods of people and their wellbeing because of the benefits. In the political sense, as CREMA is largely based on the use of local community stakeholders as primary drivers of wildlife management, it encourages participation, democracy and accountability in the resource community. Economically, CREMA promotes local economic development, as communities derive direct financial benefits as well as perhaps other external support which could diversify their livelihood sources. It is therefore evident that CREMA seeks to promote an eclectic system that synchronises ecological interests as well as socio-economic and political concerns.

Organisationally, CREMA's structure is designed along the prevailing social governance structure to make the system more legitimate. In that regard, the decision-making structures in resource communities become the instrument for enforcing CREMA. For example, in Ghana the rural communities have their own governance arrangement mostly headed by chiefs, who have sub-chiefs and traditional cabinets (council of elders) that help in the governance process. CREMA hinges on these governance structures for promoting the local management of resources. This is also in line with local land tenure arrangements in Ghana where local people and families own the lands. To ensure corporate governance, CREMA members are required to develop context-dependent operational rules codified into a Constitution, which is legitimated by the respective District within which the community is located through a by-law. The written Constitution is very important in the operations of CREMA as it clearly establishes the function of the organisational structure, the two committees mentioned above as well as other relevant bodies. The governance structure of CREMA has two components: a Community Resource Management Committee and a Community Resource Executive Committee.

2.5 Collaborative governance in action

The CREMA epitomises a paradigm shift where communities, people, land owners and land users are given the mandate and opportunity to govern and manage forest and wildlife resources within the territories of the CREMA and, more importantly, enjoy some socio-economic benefits. In other words, the CREMA approach offers community-protected areas

a contextual process to manage wildlife resources prudently and appropriately. The CREMA approach of Ghana typifies the CAMPFIRE model, which is a Zimbabwean community-based natural resource management programme (Child, 1996). CAMPFIRE stands for Communal Areas Management Programme for Indigenous Resources, and was one of the first programmes to regard wildlife as a renewable natural resource, while granting ownership and management to indigenous peoples in and around the protected areas.

Ghana's CREMA model had been in the formulation, reformulation and pilot phases for close to two decades before assuming the status of an authorised governance mechanism used by Wildlife Division of Forestry Commission pending full backing from Ghana's Parliament. The CREMA model denotes a governance mechanism whereby the Wildlife Division cedes the authority and responsibilities for management of wildlife to rural communities living with and close to wildlife resources. Conceptually, it entails a territorially defined area endowed with peculiar natural resources where the people organise themselves for the purpose of the sustainable management of their natural resources. The main object is to provide the incentives for local community and various stakeholders to integrate wildlife management into their farming and land management systems as a legitimate land-use alternative. According to Amanor and Brown (2003), resources will be more efficiently, equitably and sustainably managed if decision-making is brought closer to the primary users.

Before designing and instituting these governance models, key conveners or the Forestry Commission need to brainstorm on at least three critical factors:

- (i) Is there a sufficient resource base to make such a programme viable? In other words, in what ways could actors optimise financial gains from the resource without compromising its sustainability?
- (ii) Does the community have the ability to formulate and develop enforceable rules? In other words, is the prerequisite social capital needed to initiate a workable system available?

- (iii) Is there an enabling policy and legislative environment? In other words, what are the informal institutions and how best could actors get formal legislation to underpin the resource protection?

2.6 Formal agencies relevant to wildlife governance in Ghana

2.6.1 Ministry of Lands and Natural Resources

The Ministry of Lands and Natural Resources is the overarching policy formulation and enforcement entity charged with management of Ghana's lands, forest, wildlife and mineral resources. The Ministry is charged with, among other things, reviewing, updating, harmonising and consolidating existing Ghanaian legislation and policies relevant to forest and wildlife resources.

2.6.2 The Forestry Commission

Section 269 of the 1992 Republican Constitution of Ghana sets the scene for the establishment of a contemporary Forestry Commission (FC), and provides broad guidelines on its composition and functions. The contemporary Forestry Commission of Ghana falls within the ambit of the Ministry of Lands and Natural Resources established under the Forestry Commission Act (1999, Act 571); it is a subdivision under this Ministry which is charged with safeguarding and regulating the governance, access and sustainability of Ghana's forest and wildlife resources.

2.6.3 Wildlife Division

The Wildlife Division (WD) is one of the divisions of Ghana's Forestry Commission under the Ministry of Lands and Natural Resources. The WD is charged with safeguarding the conservation, sustainable management and development of Ghana's wildlife resources for the socio-economic benefit of all segments of society. It is responsible for the regulation and management of all wildlife in the country and administers wildlife Protected Areas (PAs), facilitates Wildlife Sanctuaries and also administers coastal Ramsar Sites in the country.

2.7 Chapter summary

This chapter has presented a contextual overview of collaborative governance in the Ghanaian setting with a peculiar focus on wildlife governance. Relevant sections of the 1992 Republican Constitution; an overview indicating trajectory of forest and wildlife governance, the 1994 Forest and Wildlife Policy, Forest and Wildlife Policy (amended in 2012). It also discusses the CREMA model, which demonstrates collaboration on natural resource management in action at the community level. The next chapter of the study discusses the general methodology, sources of data and processes followed in carrying out the study.

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Chapter Three

Research Methodology and Study Context

3.1 Introduction

This chapter discusses the general methodology employed in carrying out the study. The chapter presents the research paradigm, design and approach to the study, and sources of data. The chapter also describes the sampling technique and data-gathering process, the study population, sample size and sampling techniques. The chapter also outlines the methods of primary data collection, data-analysis methods as well as the data-management approach. A final section of this chapter presents an overview of the Boabeng-Fiema Monkey Sanctuary, which is the study context.

3.2 Research paradigm

The complexity and heterogeneity of actors in collaborative natural resource governance requires a transdisciplinary research (TD) approach, which is deemed more appropriate to co-design and co-produce knowledge on institutional designs, and how best they are (or could be) enforced in the management of forest and wildlife resources. There are overlaps between community members' exploitation of those resources for survival (socio-economic issue) and resource protection (ecological issue), as well as in cultural values, and local conservation systems vis-à-vis formal governance and conservation structures. In collaborative natural resources governance the stakeholders are a multifaceted group, hence the institutional design as well as its enforcement requires an integrated approach. It is therefore prudent that a study on this phenomenon adopts a more iterative and transdisciplinary process that co-designs and co-creates contextualised knowledge which is viewed as legitimate and usable.

Transdisciplinary research focuses on complex societal phenomena and emphasises the relevance of creating a process that stimulates mutual learning from diverse values, goals

and resources that individuals contribute. In other words, TD is focused on co-designing the study and co-producing knowledge that is more usable and relevant to the academic community as well as to the users (Pohl *et al.*, 2008; Lang *et al.*, 2012). A TD approach offers an opportunity to address the governance of complex socio-ecological phenomena by integrating an array of theoretical and methodological approaches across the socio-ecological space (Evely *et al.*, 2010; Lang *et al.*, 2012). Nicolescu (2008) maintains that TD should not be conceptualised as a new discipline or super-discipline; it is a complementary form of research focusing on the correspondence between the external and internal world, i.e. between object and subject (Nicolescu 2008 cited in Mobjork, 2010).

An ideal TD research process requires a more participatory approach that entails exhaustive collaboration between all stakeholders in all phases of the research project; however, because of the practical constraints of an individual PhD dissertation, it was deemed appropriate to adapt the process. Consequently, the study adopted the consultative typology of TD, which Mobjork (2010:56) conceptualised to mean that non-scientists are only partially engaged in the knowledge-production process and are involved only at certain points.

In the problem-framing phase and the design, a range of actors from the disciplines of public administration, environmental governance and ecology were instrumental in shaping and reshaping the problem. In the data-gathering phase non-scientists (local community members and practitioners), who included traditional leaders, assembly member (councillor), farmers and youth groups, and past and current officers from the Wildlife Division of the Forestry Commission dominated the process in reshaping the problem, design and knowledge-production process.

3.3 Design and approach to the study

The study adopted an ethnographic design. Ethnography is an indigenous approach where researchers task themselves to undertake a systematic investigation of beliefs, processes, social interactions and behaviours, including the distinctive phenomena of relatively large group of people; the process entails participation and observation over a period of time

(Denzin & Lincoln, 2011; Reeves *et al.*, 2008). The overarching goal of this design is an exploration, description and explanation of other cultures and contextual phenomena, and not to test a quantitative hypothesis (Barbour, 2007; Atkinson & Hammersley, 1994). Throughout the study the research was positioned within a prevailing knowledge system by recognising the information and knowledge base of participants. A key asset that enabled the research was the cultivation of social relationships and intermediaries to achieve unhindered access to key participants (see Chapter Nine). A limitation of ethnography is that since it is confined to a particular context, the outcomes or conclusions cannot easily lead to generalizations, the findings however could be adapted to suit different contexts. This study was more exploratory and adopted the use of indigenous approaches that were more participatory and qualitative in nature to generate knowledge on the theory and practice of collaborative natural resource governance. Developing generalisations was beyond the scope of this PhD dissertation. The design helped to co-produce relevant knowledge which although contextual to BFMS could be adapted to suit many other similar contexts.

3.4 Sources of data

Both primary and secondary sources of data were used for the study. Primary sources included data elicited from key participants such as the traditional authorities (chiefs and traditional priests), unit committee members, farmers, youth groups, management committee members, local residents and officers from the Wildlife Division of Forestry Commission (the specifics are discussed in Chapters Seven to Nine).

3.5 Sampling techniques

To encourage the co-designing and co-production of knowledge, the study involved an interplay of skills, expertise and experience drawn from the scientific disciplines and concepts including Public Management, Policy Implementation, Environmental Governance, Ecology, Institutional Analysis and Neo-Institutionalism. Experts from outside academia, include, those from Forest and Wildlife Division of Ghana, retired wildlife official, local chiefs, traditional priests in charge of monkeys in the study area among others

were integral part of the co-production of knowledge. The purposive sampling technique was used in the identification of relevant individuals and stakeholders. Additionally, the snow-ball sampling technique was used to get additional relevant actors who were identified at any point in time to participate in the process through referrals. This is because a TD worldview is iterative and involves a learning process that has no specified end point. In some instances, group interviews that were more deliberative and often took the form of informal focus group discussions (FGDs) were conducted (see Chapters Seven to Nine).

3.6 Data collection

The complexity and iterative nature of TD research goes beyond a unified data collection process. This point is well argued by Wickson *et al.* (2006:1051): “the implication of this is that TD researchers go beyond a linear application of a static methodology and aim for an evolving, dynamic, or responsive methodology that is iterative and an ongoing part of the research process”. Rather than adopting a linear approach, TD researchers respond to and reflect on the particular problem and context being studied (Elzinga, 2008).

This study was carried out through various brainstorming meetings where participants discussed the research concept at stake in a way that enabled participants tell their own stories, especially regarding how the current institutional designs evolved over time and the complexities of resource governance on the ground. To propel these stories and discussions, the researcher acted as a facilitator as a way of stimulating discussions. Additionally, in-depth interview techniques were used to collect data from participants. In-depth interviews provide an opportunity to obtain more details about an issue or experience, and are especially useful for exploring experiences and the facts from participants. This instrument enabled participants to express their views and experiences in their own words and gestures. Because this method elicits people’s own views and accounts, it had an additional benefit of uncovering issues or concerns that had not been anticipated or considered by the researcher. The in-depth interviews were guided with the aid of a semi-structured interview guide which captured the main objectives of the study (see Appendix 1). More importantly, participants were allowed to tell their stories without restrictions.

3.7 Data analysis

Data analysis refers to a process which entails an attempt to formally identify themes and to construct ideas as they emerge from the data and then attempt to validate these themes and ideas. The common steps in the analysis process involving soft data entail identification of themes, verifying the selected themes through reflection on the data and discussion, categorising the themes and recording of support data for the categories (Brockopp & Hastings-Tolsma, 1995).

All proceedings with participants were later transcribed into words which has been sorted out into appropriate themes and used in the discussions. Data were analysed using inductive thematic analysis based on issues emergent from the observations and data gathered as common to people-centred studies (Reeves *et al.*, 2008). The researcher analysed and examined the responses noting similarities and differences. A further step was to identify specific topics or themes in the narratives. In the course of presenting the analysis, participants' narratives have been used where necessary to emphasise a particular point being expressed.

3.8 The study context: Boabeng-Fiema Monkey Sanctuary (BFMS)

This study uses the unique case of the Boabeng-Fiema Monkey Sanctuary (BFMS) in Ghana, West Africa. Boabeng-Fiema comprises two neighbouring communities, Boabeng and Fiema, which have similar beliefs and practices, hence the term 'twin community' for them. This twin community is located 20 km north of Nkoranza District of the Brong Ahafo Region (a transitional zone in Ghana), which is about 230 km from Accra, the capital of Ghana. The study area demonstrates a typical collaboration between formal and informal governance mechanisms in the management of wildlife.

Boabeng-Fiema is a rural community with a population of approximately 1,900 people (GSS, 2010). BFMS lies in the transitional zone between the southern rain forest and dry northern savannah, and it has a mean annual temperature of 26 degree Celsius with a mean rainfall of 1,250 mm. The region experiences a double maxima rainfall pattern; the main

rainy period is between March and June, whilst the lean season occurs in September. The vegetation is a mixture of original forest, degraded forest, woodland and savanna (quoted in Attuquayefio & Gyampoh, 2010). The climatic conditions and physical characteristics of the area makes it suitable for farming activities, with over 80% of the working population largely engaged in farming. The soil allows for the cultivation of staple foods crops including maize, yam, groundnuts, cassava and oil palm. Subsistence farming is practised, with crops grown mainly to feed the immediate family, with the surplus sold for additional income.

BFMS is a unique site in Africa where the two different species of monkeys – the black-and-white colobus monkey (*Colobus vellerosus*) and the mona monkey (*Cercopithecus campbelli*) – continue to flourish in large numbers and interestingly co-exist somewhat harmoniously with humans in the Boabeng and Fiema villages, as they have since the a least 1830s. The monkeys are protected and revered as “offspring of the gods”, *daworo* (female goddess of Boabeng village) and *abodwo* (male god of Fiema village). Legend has it that a great warrior entered the forest with his gun and discovered a shrine (which remains in Boabeng forest as *daworo*) which was guarded by two special monkeys; the monkeys did some mysterious things which made him consult a seer, who explained that the monkeys are ‘children’ of the shrine or the *daworo* god and should never be killed or harmed. Spiritually, the god of Fiema *abodwo* is the husband of *daworo*, the latter told the husband that if you want to marry me, help me take care of my children and that is the reason why both gods became caretakers of the monkeys in Boabeng-Fiema.

The BFMS case presents distinctive complexities, because the Boabeng-Fiema communities are surrounded by the Boabeng Forest, which is inhabited by the *mona* and *colobus* monkeys. The forest is demarcated into a core zone which is not available for farming activities (main economic activity), but to accommodate monkeys; then there is a buffer region, which indicates the boundaries where farming activities are permissible. Even though the core forest is reserved for the monkeys, they nonetheless trespass on people’s farms and destroy crops; they also troop into people’s homes to ‘steal’ food and cause damage to backyard crops. Although the monkeys originally used to be confined to the Boabeng and Fiema

communities, they have extended their range to seven neighbouring communities which has increased the complexities associated with dealing with them. Finally, the protection and sustainability of the monkeys have been underpinned by an interplay of the ‘government’ (formal) and ‘traditional’ (informal) institutional forces with their respective governance structures. This makes the BFMS a test case for an institutional assessment of collaborative natural resource governance. Figure 3.1 below illustrates BFMS in the context of Ghana.



Figure 3.1: Map of BFMS

Source: BFMS Office, 2016

Black and white colobus (*Colobus vellerosus*)

In terms of kingdom, class and order, the *colobus vellerosus* belongs to the *Animalia*, *mammalia* and *primates* classifications respectively (Mittermeier *et al.*, 2013). The *colobus vellerosus* is predominantly black and displays smallest amount of white fur which occurs in the form of a broad, snowy beard and frowzy facial fringe. It is this reason why they are also called black-and-white colobus. These species inhabit native semi-deciduous forests of Tropical West African countries including Ghana, Benin, Côte d'Ivoire, Nigeria and Togo. The black and white colobus in most of these countries is threatened either by hunting or deforestation (Campbell *et al.*, 2008).

Colobus vellerosus is listed as vulnerable species in the IUCN Red List (IUCN, 2010) and are highly protected under the African Convention (listed as Class A). The species are locally called “fo” (pronounced as ‘phour’) in the Boabeng-Fiema communities. They are not so friendly to visitors (unlike their mona monkey counterparts) and are hardly seen in the homes and surroundings of the communities for food supplements because they feed predominantly on herbs and other micro organisms in their habitats.



Figure 3.2: Black and white colobus monkey

Source: Photograph taken by Field Assistant

Mona monkeys (*Cercopithecus campbelli*)

Mona monkeys are common primate species which inhabit tropical rainforests of West Africa. The mona monkeys have fur which is reddish-brown with white underparts and have their faces marked by pale bands across the forehead and thin black stripes between their eyes and ears. These species are lively and are one of the most widely exhibited members of primate species in Africa. The mona monkeys in Boabeng-Fiema Monkey Sanctuary are locally referred to as 'kwakuo' who could be found all over the homes and surroundings of the communities, especially, in the mornings and evenings during which they come to access food supplements from people's homes. They remain friendlier to visitors and receive groundnuts and bananas from them.



Figure 3.3a: Human-friendly *mona* monkeys

Photograph taken by Candidate



Figure 3.3b: Human-friendly mona monkeys feeding on banana and groundnuts
Source: Fieldwork, 2016 (Photograph by Field Assistant)



Figure 3.3c: Human-friendly *mona* monkeys

Source: Photograph taken by Candidate



Figure 3.3d: Human-friendly *mona* monkeys

Source: Photograph by Field Assistant

3.9 Chapter summary

The chapter has provided a general overview of the methods, approaches and procedures employed in carrying out the study. It has discussed the transdisciplinary research paradigm, which provides the broad philosophy underpinning the study. An indigenous research approach, which enabled the researcher to get into closer contact with the practices and belief systems of the participants, was deemed appropriate and also made the study more participatory. The chapter also details the sources of data for the study as well as the

sampling techniques. The main instruments and processes for primary data collection are presented and their appropriateness justified. The data-management process is also discussed in the chapter. The chapter ends with an overview of the Boabeng-Fiema Monkey Sanctuary, which is the context for this research. As was initially indicated, the chapter provides only a general overview of the methodology, as each of the subsequent chapters (duly published) have sections on their respective methods. The next chapter presents a published peer-reviewed article that details the rationale, appropriateness, philosophy and processes involved in transdisciplinary approach as applicable in collaborative natural resource governance research.

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Chapter Four

Transdisciplinary Approach to Natural Resource Governance Research¹

Abstract

Purpose: Natural resources in contemporary times are mostly managed by a collaborative governance approach which hinges on complex institutional designs (rules, norms and strategies). Many studies have been designed and carried out to assess collaborative governance and the various institutional designs underpinning them. The main object of this paper is to unpack the methodological gaps in natural resource governance research (with an emphasis on co-management) and to conceptualise the appropriateness of a transdisciplinary (TD) research approach.

Design/methodology/approach: The paper adopts a critical stage review of relevant theoretical and empirical literature on natural resource governance. It discusses the complexities inherent in natural resource governance and juxtaposes these with the inherent weaknesses in methodologies employed by existing studies on the concept. We make a case for a TD research methodology that links scientists, practitioners and society in a joint problem design and solution process.

Findings: The study observes a ‘fuzziness’ in the collaborative governance phenomenon, but notices a methodological gap in existing studies on the concept. The paper describes TD as a ‘tailor-made approach’ to researching complex societal issues and makes a case for its adoption in natural resource governance research.

Keywords: Institutional assessment, natural resource governance, transdisciplinary, natural resources, co-management, collaboration

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4.1 Introduction

Protecting the environment and its resources has been a key goal championed by the global community which featured in the erstwhile Millennium Development Goals (MDGs) and were also very prominent in the Rio+20 outcome document “Sustainable Development Goals” as well as in various classic and contemporary international ratifications. Whilst earlier thinking on natural resource management tended to focus a great deal on the role of national governments and appeared to view the existence of communities as being detrimental to management and conservation, there has been a paradigm shift towards one that regards communities as strategic partners in natural resource conservation and management. After assessing research outcomes of the 1990s, Agrawal and Gibson (1999:630) observe a “break from previous work on development which considered communities to hinder progressive social change”. They noted that writings from the 1990s “champion the role of community in bringing about decentralisation, meaningful participation, cultural autonomy, and conservation” (Agrawal & Gibson, 1999:630). This “repentance” or turnaround is fundamentally attributed to a key narrative by Ostrom (1990) that local communities, when granted sufficient property rights over local forests, can self-organise and develop local-level institutions to regulate the sustainable use of natural resources. In a recent study Ojha (2014), however, maintains that community-based natural resource management (CBNRM) should be linked with the work of other actors (collaboration or co-management) in order to strengthen capacities to counter the shortfalls associated with mutually exclusive approaches.

Generally speaking, all natural resources could be underpinned by co-management; however, those with supportive property or tenure rights possess suitable attributes that strengthen the basis and processes of collaboration (Borrini-Fayerabend *et al.*, 2004:69-70). Collaboration for effective governance could be applicable to all natural resources, but is more pronounced in forests and wildlife resources, fisheries and coastal resources, grazing lands, among others. Even with regards to non-renewable resources such as oil and mineral deposits, although partnership arrangements used to be largely uncommon, there are emerging trends facilitating co-management (Mate, 2001; McCay & Acheson, 1987). For the purpose of this paper, natural resources as used here involve those that have clear

property and tenure systems (eg. forests and wildlife) with more or less manifest and latent (potential or plausible) stakeholders who have claims and entitlements to the resource.

The idea of collaboration in managing natural resources has become a pragmatic approach to solving natural resource management problems by partnership, owing to the difficulty for indigenous communities to effectively manage natural resources on their own, because of the complexities and heterogeneity of contemporary societies. On the other hand, there is a plethora of evidence to support arguments that centralised management of local resources is equally problematic (Carlsson & Berkes, 2005). Co-management of resources is not feasible without proper designs for the distribution of power, responsibilities and relationships among actors. This makes the role of institutional arrangements highly distinctive in natural resources co-management processes and policies. The concept of social scale has been used to describe the different dimensions of institutional size, various actors and their representation, as well as power-sharing arrangements, whose dimensions range from individuals to networks of organisations, involving *inter alia* the rules, laws, policies and norms that govern the extent of resource-related rights and management responsibilities (Gibson *et al.*, 2000; Cumming *et al.*, 2006).

Although recent publications and policy documents on natural resource governance appear to place an emphasis on institutions or rules and their analyses (see Yeboah-Assiamah *et al.*, 2017; Fischer *et al.*, 2014; Petty *et al.*, 2015; Arts *et al.*, 2014), the methodological approaches do not really make for a more holistic analysis. Whilst most of these studies appear to assess the role of institutional design in natural resource governance, the approaches adopted do not enable them to adequately explain how these institutions have evolved or been shaped over time. For instance, Fischer *et al.* (2014:168) write, “our findings suggest that such insights into historical institutions are absolutely indispensable for the design of today’s co-management arrangements ... research and applied conservation work need to understand historical relationships between the relevant actors to make contemporary resource governance sustainable”. However, throughout that study the presence of community or other relevant actors is not readily evident in the analysis; such a

study requires people or community members to tell their stories in the form of narratives which would clearly bring out the socio-cultural and ecological factors that have shaped the institutional arrangements. Institutional arrangements, their relevance and challenges in natural resource governance have been addressed in a fragmented way by scholars adopting somewhat mono-disciplinary perspectives, which may lead to conclusions that do not really reveal the underlying factors underpinning contemporary natural resource governance policies or institutions. In a study by Maciejewski *et al.* (2015:21) the authors themselves observe a major limitation by remarking that “while our analysis shows that socioecological elements inevitably interact across multiple scales to produce positive and negative outcomes, we do not investigate the mechanisms that produce cross-scale feedbacks and scale mismatch”.

Adequately assessing institutional dimensions, institutional evolution and implications for natural resource co-management requires a transdisciplinary and holistic study that engages with multiple stakeholders and community members in co-designing and co-producing knowledge on the institutional processes underpinning the particular resources. The main object of this paper is to provide a review of the contemporary literature on natural resource governance (co-management and institutional designs) with a view to conceptualising the appropriateness of a transdisciplinary (TD) research approach. The paper conceptualises, through an illustrative framework, the key actors to be involved in such TD studies. The paper is underpinned by the following key research questions: To what extent do the prevailing approaches help link the researchers to the researched? To what extent do research outcomes really make known the voices of the researched? And to what extent does a TD research outcome influence natural resource policies and their enforcement?

4.2 Conceptual overview

The essence of this review is to tease out the complexities associated with natural resource co-management as well as the complexity of the corresponding institutional underpinnings and multi-layer stakeholders. This section discusses the concept of co-management and its ramifications, as well as the stakeholder theory which underpins the study.

4.2.1 The concept of co-management

Coming to the realisation that natural resources management and conservation processes are multifaceted and involve different stakeholders, the traditional bureaucratic and state-centric approach is rapidly making way for a more inclusive model that recognises and involves a network of actors who have a stake in the resource in question. This process has become known *inter alia* as ‘collaborative natural resource governance’ or ‘co-management’ (Yeboah-Assiamah *et al.*, 2016). The concept connotes an approach to solving environmental problems by bringing together a network of stakeholders who are drawn together in an arrangement that addresses issues of power and responsibility. This reflects a definition by Berkes *et al.* (1991:12) that describes co-management as “the sharing of power and responsibility between the government and local resource users”. On their part, Borrini-Feyerabend *et al.* (2000:1) conceptualise co-management as “an arrangement whereby two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources”. The operational phrase here is “fair sharing of the management functions, entitlements and responsibilities”; this should be the hallmark of co-management regimes, but it should be viewed as a continuum and not static. Carlsson and Berkes (2005:67) maintain that “the system should be understood as a process in which the parties and their relative influence, positions and activities are continuously re-adjusted”. The foregoing argument also reflects the wise counsel by Garaway and Arthur (2004:33) that “there have been increasing calls for us to learn from our actions and from our mistakes, acknowledging that we can often learn as much, if not more, from why things did not work as we expected as from when they do”. This makes the role of learning, adapting and readjustment absolutely critical to the success of co-management processes. In a subsequent publication Borrini-Feyerabend *et al.* (2004:69) define co-management as “a partnership by which two or more relevant social actors collectively negotiate, agree upon, guarantee and implement a fair share of management functions, benefits and responsibilities for a particular territory, area or set of natural resources”. They explain co-management as involving a coalition of stakeholders drawn together to manage a particular resource, and such a relationship is maintained and sustained through sharing power and mutual responsibility.

The co-management of natural resources is a pragmatic approach to address a complex phenomenon through an array of stakeholders. Muller (2010:143) thus highlights the point that “it is therefore not surprising that the 1990s were hailed as the ‘Age of the Network’ characterised by modes of governance that link actors in the public, private, community and voluntary sectors”. See figure. 4.1 for a network analysis of actors in natural resource co-management.

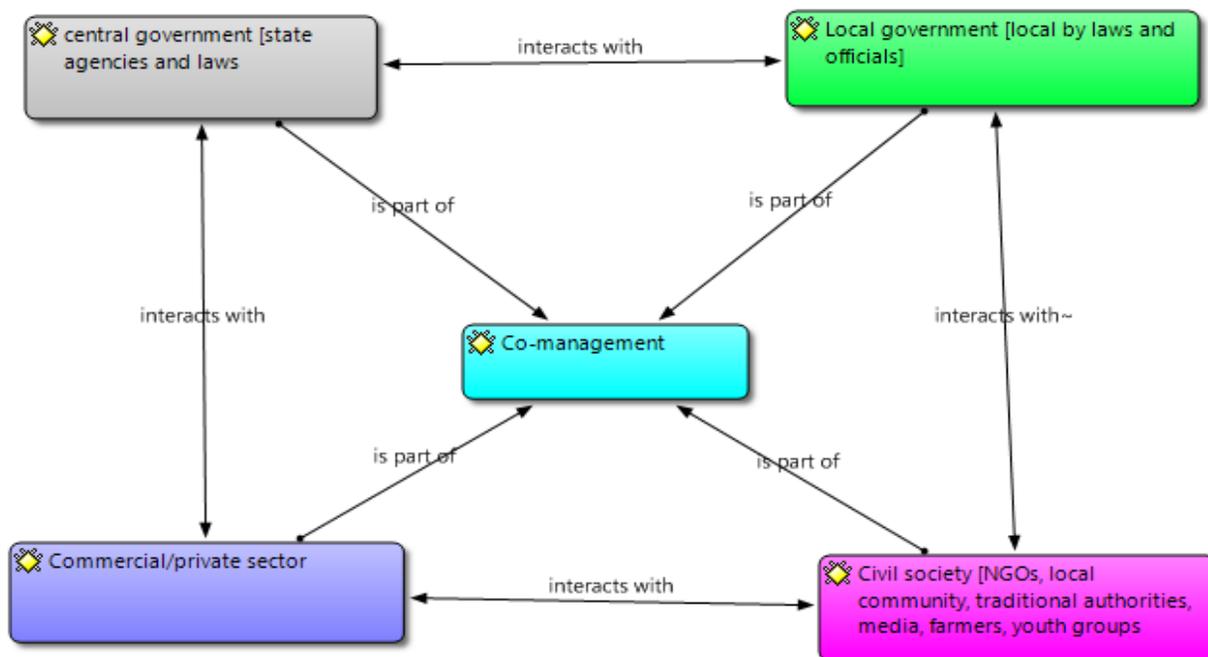


Figure 4.1: A network analysis of natural resource co-management

Source: Modelled by authors using ATLAS.ti

The framework above indicates that co-management efforts for effective natural resource governance need to be cross-sectorial and encompass the reasonable interests of all stakeholders in managing the said resources. There is a relationship among all actors (iterative), hence the interaction is not unidirectional but intersectional. Each stakeholder interacts with the others so as to enable the effectiveness of the co-management process. The interplay of actors from diverse or heterogeneous backgrounds and interests (see Table 4.1) would lead to proper problem identification and boundary analysis, which in turn makes for a holistic problem definition and consequent policy formulation that is shared and agreed upon to a greater extent. It is true that conflict may inevitably occur because of the diverse

and mostly contradictory interests of stakeholders, but at the heart of the political process or any purposeful endeavour is conflict resolution and consensus building (Heywood, 2004). It is far better to confront the hurdles and address them head on than to ignore pressing issues and encounter implementation hiccups or Type (III) errors in the problem-solving process. A Type (III) error occurs in the policy process when the right policy solutions or effective policies are formulated but for poorly identified problems. To avoid this error, it is imperative to take the time to embark on a broader consultation to involve wider interests in order to appreciate the real problem, its scope and boundaries (Dunn, 2004).

Table 4.1: Generalised interests of stakeholders in co-management

Actors	Interests
Central government	Stated mandate over a given resource, sector or territory. Largely interested in productivity of the resources and their protection
Local government	District or municipal authorities who control natural resources as part of their governance or jurisdiction mandate. Mostly interested in managing jurisdiction conflict
Commercial/private sector	These are business and industry entities (local, national and international) who have economic interests in the resources, e.g. tourist operators
Non-governmental organisations	Local, national, international agencies interested in environment and/or development issues) whose domain encompass the resource and territory. Largely interested in representing and defending interests of local people
Local resource users and groups	Involves local and non-local, direct and indirect, organised and non-organised users who derive subsistence and economic benefit. Also includes a recognition of resource for cultural or religious purpose

Adapted from Borrini-Fayerabend *et al.* 2004 (see Rathore, 1997; Triantafyllidis, 1996 for further reading)

4.2.2 Theoretical framework

Wherever there are natural resources, different stakeholders will lay claim to aspects of those resources. People and groups have different attributes that attach them to a particular resource. For instance, three main primary stakeholders, with varying levels of influence, are identified by Duane (1997), as will be discussed in this section. The argument is that managing natural resources entails dealing with some complexities and higher stakes; therefore any research that seeks to understand the institutions or rules underpinning the management of particular resources needs to understand the respective points of view of the various stakeholders. It is only when one appreciates the complexities involved that one will understand the need to adopt a transdisciplinary analysis approach. This chapter is therefore underpinned by stakeholder theory.

4.2.2.1 Stakeholder theory

A common theme that runs through the understanding of what constitutes a ‘stakeholder’ is ‘influence’ – the ability of stakeholders to influence the realisation of organisational goals. The level of influence of stakeholders is very important, which suggests that three dimensions – the organisation or entity in question, the particular goals to be realised, and the context – are critical in stakeholder analysis. After a cursory analysis of about twenty-eight definitions of the concept of stakeholder, Mitchell *et al.* (1997) suggest three distinctive characteristics: (1) power, (2) legitimacy, and (3) urgency.

Power involves the ability to influence the actions of others to do things to bring about a desired outcome. This ‘ability-to-do’ notion is advanced by Salancik and Pfeffer (1974), who recognise a fundamental attribute of those with power as “the ability ... to bring about the desired outcomes they desire” (cited in Mitchell *et al.*, 1997:865). Therefore, in natural resource governance, especially in rural areas, there are individuals and groups who are relatively powerful and have the ability to influence the outcomes of resource conservation or protection. It is imperative to identify various stakeholders irrespective of the strength of their power; however, a context-dependent approach is highly desirable.

The concept of *legitimacy* generally refers to the perception of the rightfulness of an action or entity which has influence on how people react or respond. In the words of Suchman (1995:574), it is “a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs and definitions”. The notion of legitimacy is a subtle one, and since it is more of a perception and socially constructed, embedded in conventions, usages, practices, history and norms, it suggests that the particular context of any intervention is key in identifying stakeholders. For instance, in natural resource management in rural African communities, a network of stakeholders that does not include traditional chiefs will be more likely to face legitimacy deficits, which in turn means that policies which emanate from such studies are likely to face enforcement challenges.

The final attribute of stakeholders is *urgency*, which involves the sensitivity of the claims made by particular groups or individuals to the resource in question for which immediate attention might be required. This point is well explained by Jones (1993) as the extent to which stakeholder claims call for prompt attention. Jones further argues that this ‘call for attention’ is mainly driven by two key indicators: “time-sensitivity”, which refers to the degree to which managerial delay in responding to the claim or relationship is intolerable to the stakeholder; and “criticality”, which measures the worth or relevance of the claim or relationship made by the stakeholder (cited in Mitchell *et al.*, 1997:867).

In reality the dynamics of stakeholder engagement changes over time; Freeman (2010) observes that it may change depending on the strategic issue at stake. Mitchell *et al.* (1997) argue that if a stakeholder possesses only one of the three attributes (power, or legitimacy, or urgency), they are referred to as *latent stakeholders* and therefore possess minimal stakeholder salience. Stakeholders who possess only the attribute of power are referred to as *dormant stakeholders*; those who possess only the attribute of legitimacy are classified as *discretionary stakeholders*, whilst holders with a sense of urgency are *demanding stakeholders*. On the other hand, if stakeholders possess two of these three attributes, their relevance or salience will be higher. Stakeholders who possess both power and legitimacy

are referred to as *dominant stakeholders*; those with legitimacy and urgency are *dependent stakeholders*, whilst those with the attributes of power and urgency are *dangerous stakeholders*. Stakeholder salience is highest when stakeholders possess all three attributes; such individuals or groups are *definitive stakeholders*. These dynamics or attributes change or are shaped within a timescale and in accordance with the issues under consideration.

The theory is relevant to this chapter, which basically argues that any research or study on the governance of natural resources and the associated institutions needs to identify the key stakeholders, so that reasonable brainstorming may be carried out among relevant actors. Effectively identifying various communities for purposive engagement provides a solid springboard for the development of social capital, which includes trust, norms and networks of relationships that could lead to more informed and widely acceptable policy outcomes (Putnam, 1993; Wondolleck & Yaffee, 2000). However, the co-management of natural resources presents some complexities especially in the determination of stakeholders. For instance, moving from the traditional notion of communities as homogenous and relatively small with shared norms, the contemporary literature underscores a notion of community as more heterogeneous and conflictual (Agrawal & Gibson, 1999). Duane (1997) identifies three main types of communities (stakeholders) which it is critical to engage or call upon for effective participation in collaborative natural resource governance.

1. Communities of place: these are stakeholders who are tied to physical space through geography – in other words, the physical or administrative borders where the resource in question is located needs to be engaged. This is critical as most ecosystems or natural resources span two or more geographical units; engaging one party and neglecting the other could create more conflict than not starting any engagement process at all, because the neglected places would perceive sabotage and state/external support for the others.
2. Communities of identity: these are individuals who are also tied to each other through social characteristics and may also be scattered in more than one place. In any negotiation regarding a particular resource, especially in the African setting, where there are various ethnic groups, which has often been a source of brutal conflict, it is important to identify which social groups have a stake in the

resource. Community of identity could refer to the religious, cultural or blood ties that bind a group of people together. One cannot fail to appreciate the significance of the invisible bonds of informal institutions or traditional institutions here.

3. Communities of interest: these are individuals and groups who may not be bonded by social or family relations or by geography, but their commonalities lie in the benefits they receive from a particular resource or the cost they impose on it.

These three primary stakeholders (at times membership may overlap), together with an array of other secondary communities such as interest groups, private actors, non-governmental organisations, all need to be engaged effectively.

Proper scoping would enable government agencies to decide which communities are relevant and at what point in time; this is what the American public policy analyst William Dunn refers to as “boundary analysis” (Dunn, 2004). Dunn posits that in problem structuring, proper boundary analysis helps in identifying relevant stakeholders, who can provide a more holistic view of the problem to be solved; such a holistic view enables effective solutions that do not result in a Type (III) error.

Carlsson and Berkes (2005) present seven key complexities which should not be taken for granted, otherwise co-management of environmental resources will face real implementation hiccups. Therefore advocates and practitioners of co-management processes should take into consideration the complexities of (i) the State and its agencies, (ii) the community and its heterogeneity, (iii) the dynamism and iterative nature of the system, and (iv) the (enabling) conditioning factors that exist to support the system. Other complexities associated include complexities of (v) co-management as a governance system, (vi) co-management as a continuum involving adaptive learning and problem solving, and (vii) the complexities of the ecosystem producing the resources in question. The state is a major stakeholder in all natural resource co-management efforts; in contemporary times modern constitutions and formal institutions provide the state and its agencies with the power and authority to manage and regulate natural resources. The State is complex and, in most cases, more than two state

agencies are in charge of managing natural resources and perhaps each of these may have various arrangements of its own with the communities or stakeholders (Carlsson & Berkes, 2005). In some cases other stakeholders who are to be recognised by the State and its agencies are explicitly or implicitly mentioned, but the actual authority resides in the State. The particular role of the state institutions and agencies as well as coordination is critical for the success of co-management models; they need to serve as catalysts and allow other stakeholders enough responsibilities and authority to deliberate (Muller, 2010).

This chapter has attempted to demonstrate the complexities associated with natural resource co-management as well as the corresponding institutions that underpin these processes. What appears paradoxical is that most studies that undertake research on this ‘complex’ phenomenon are tempted to adopt a reductionist approach (see Maciejewski *et al.*, 2015), or ignore the input of communities in the study (Fischer *et al.*, 2014). This point has been forcefully argued by Borrini-Fayerabend *et al.* (2004:157), who observe that “conventional research on natural resource management is an activity carried out by experts (usually outside experts), which involves local actors only as informants or labour. Local people are asked to provide information, but are not let to elaborate on the context or meaning of such information, and even less allowed shaping questions, defining problems or testing solutions”. Appropriate research that informs policy and consequently the quality of environmental management adopts a more comprehensive form that goes beyond the traditional disciplinary boundaries and reductionist approach towards greater TRANSDISCIPLINARITY.

4.3 Methodology

The chapter undertakes a critical stage review of classic and recent empirical studies, mainly drawn from journal articles and scholarly books. The following four search domains – *Scencedirect*, *Emeraldinsight*, *TandFonline* and *Google Scholar* – were largely used based on their relevance to the study and accessibility to the researchers. The literature search involved all terms approximately related to institutionalism in natural resource co-management: “institutions and co-management”, “rules and power sharing in co-

management”, “institutionalism in natural resource governance”, “institutions and collaborative environmental governance”. These and other search terms were combined in different ways to obtain a large pool of literature relevant to the study. The large pool of articles from these sources was initially sorted for relevance by skimming through their abstracts. After the selection was made, all abstracts were independently reviewed by each of the three authors. At the end of the process, the authors met to eliminate duplicates and made a shortlist of abstracts for detailed and systematic review. Throughout the process, whenever opinions differed over inclusion of a particular paper, a final decision was subsequently made following discussion and a majority decision by the three researchers. The purposive sampling technique was used to select the appropriate literature from the secondary sources relevant to institutions, co-management and transdisciplinarity.

4.4 Discussion: Towards Transdisciplinary Research (TD)

In this section the chapter discusses the philosophical assumptions underpinning a TD research approach; this we do by discussing its ontology and epistemology with the aid of models. The section ends with a discussion of the ‘four-phase’ process involved in undertaking the TD study and its appropriateness to natural resources governance research.

A TD approach connotes research that cuts across academic boundaries, actors, fields and approaches in a process of co-designing and co-producing practical knowledge that is more transformative. The complexity of social phenomena (natural resource governance) and the focus on disciplinary boundaries made Brewer (1999:328) comment in exasperation that “the world has problems, but universities have departments”. The complexities of contemporary and future socio-ecological phenomena (challenges) require a solution (research process) involving a collaboration between researchers, ideas, disciplines and fields from diverse orientations.

Reviewing relevant literature on TD, Pohl and Hirsch Hardon (2007) observe four key trends facilitating TD research. Firstly, TD takes into account the complexity of an issue – meaning

the complex system of factors that together explain the issue's current state and its dynamics; it addresses both science and society's diverse perceptions of an issue. Secondly, TD sets aside the idealised context of science in order to produce practically relevant knowledge. Thirdly, it deals with the issues and possible improvements of the status quo that are involved in balancing the diverse interests and inputs of individual stakeholders and disciplines (Pohl, 2005:1161). Finally, TD research is more oriented 'towards the common interest'. For instance, Blaikie (2006) maintains that in spite of the theoretical benefits of co-management, at the end of the day it is what actually occurs in the field that determines its worth. If co-management of natural resources could indeed create value (Leach & Sabatier, 2005; Mandarano, 2008; Muller, 2010; Rogers & Weber, 2010), this has much to do with the institutional designs and enforcement complementarities. It is therefore essential that TD brings stakeholders on board who are able to synthesise ideas. Perhaps it is through this iterative process that co-management is viewed as a process of continuous learning to improve collaborative outcomes (Cundill & Rodela, 2012; Reed *et al.*, 2014).

The complexity and heterogeneity of actors in co-management of environmental resources requires a transdisciplinary research (TD) approach, which is deemed more appropriate to co-design and co-produce knowledge on institutional designs, and how best they are (or could be) enforced in the co-management of natural resources. The growing consensus on the complexity of environmental resources has made TD an emerging design that underpins contemporary research (Lang *et al.*, 2012; Ignatieva *et al.*, 2015).

With natural resources co-management, however, the situation is more complex and 'ill-defined'. In this case there are overlaps between community members' exploitation of the resources for survival (economic issues) and the need for resource protection (ecological issues), and between dealing with local protection and conservation systems vis-à-vis formal governance and conservation structures. In co-management of natural resources the stakeholders are multifaceted and consequently the institutional design as well as enforcement requires an integrated approach. It is therefore prudent that a study of this

phenomenon should engage in a more iterative and transdisciplinary process that co-designs and co-creates contextualised knowledge that is viewed as legitimate and usable.

Transdisciplinary research focuses on complex societal phenomena and emphasises the relevance of creating a process that stimulates mutual learning from the diverse values, goals and resources that individuals contribute. In other words, TD is more focused on co-designing a study and co-producing knowledge that is more usable and relevant to the academic community and users (Lang *et al.*, 2012). A TD approach offers an opportunity to study and proffer hands-on solutions that address complex governance issues by integrating an array of theoretical and methodological approaches across the socio-ecological space (Lang *et al.*, 2012).

4.4.1 Ontology of TD

Ontology deals with the nature of reality; in other words, it answers the question of what constitutes reality. Obviously, owing to the iterative process and collaborative nature of TD, it definitely has a contested view of reality relative to the various actors in the knowledge-production process. Relativism is the view that reality is subjective and differs from person to person (Guba & Lincoln, 1998). Reality emerges when consciousness engages with objects that are already pregnant with meaning (Crotty, 1998). There are multiple levels of reality, that is, perspectives and worldviews which are mediated by a ‘Hidden Third’ (explained below). Hence it is imperative to seek diverse perspectives on any human problem because the intention is to integrate many levels of truth while generating new TD knowledge (Nicolescu, 2010). TD ontology recognises the complex and dynamic relationships among multifarious realities organised at three levels, culminating in at least ten realities as discussed below:

1. ***The internal world of humans:*** The level of reality where human consciousness flows, that is, the TD subject (this entails, *inter alia*, political, social, historical and individual realities);
2. ***The external world of humans:*** The level of reality where information flows including *inter alia* environmental, economic and cosmic/planetary realities;

3. ***The Hidden Third:*** The level mostly latent and embedded in peoples' experiences, interpretations, descriptions, stories, representations, images and formulas. (This includes the culture and art, religious and spiritual belief systems). TD acknowledges these multiple realities and attempts to incorporate them in knowledge production (Nicolescu, 2010; McGregor, 2012).

4.4.2 Epistemology

The root of the concept 'epistemology' is the Greek word *episteme*, which simply means 'knowledge'. Epistemology is concerned with what constitutes knowledge and the processes involved in obtaining knowledge (Trochim, 2000). It also indicates the relationship between the researcher(s) and the participants or the problem being investigated, the processes involved in knowing as well as what constitutes acceptable knowledge (Krauss, 2005).

As with its varying ontology, TD epistemology involves an emergent knowledge obtained through ideas that have been synthesised from the interaction between different social actors who are integrated into an expanding field of research inspired by scholars from diverse backgrounds together with practitioners and community members by bridging the barrier between science and society (Flinterman *et al.*, 2001; Regeers & Bunders 2003; Nicolescu 2012). The entire process entails active consultation with and participation of the communities of practice, which involve *inter alia* the research team, practitioners and community members (see Regeers & Bunders, 2003). If research is conducted in this way, the research outcome is able to identify (1) how institutions in the co-management process have behaved in the past, (2) the forces that have shaped contemporary institutions as well as the enforcement laxities, and (3) how actors want future institutional arrangements (with the necessary requirements) to address natural resource challenges. The above could be achieved through a TD process whose outcome produces three main forms of knowledge: *systems*, *target* and *transformation knowledge* (Pohl & Hirsch Hardon (2007), as explained in Figure. 4.2.

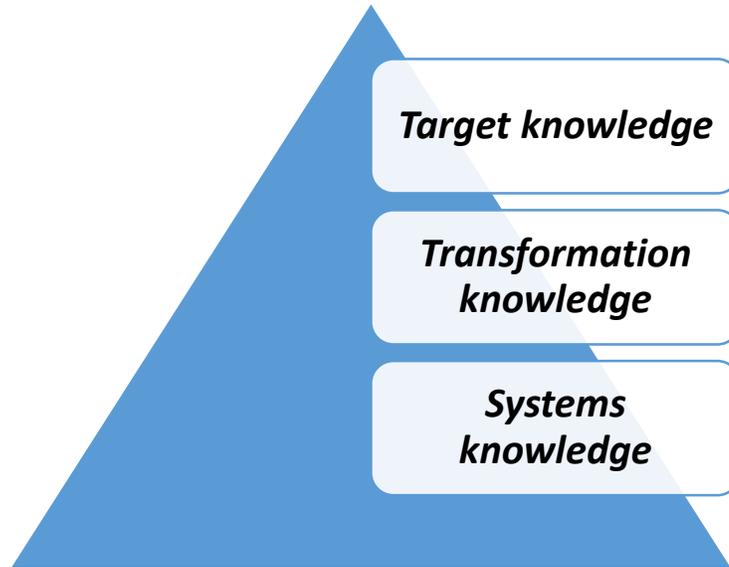


Figure 4.2: Knowledge obtained from TD in co-management research

Source: Adapted from Pohl & Hirsch Hardon (2007); Messerli & Messerli (2008)

Systems knowledge seeks answers to questions on the origins of co-management and its corresponding rules and power relations (institutions), possible development of the institutions, benefit structure as well as interpretations of the institutional arrangement.

Transformation knowledge seeks answers to questions about the socio-technical, legal, cultural and other mechanisms required to act, so as to transform existing practices and introduce desirable ones. It seeks knowledge to shape the transition from the current to a target situation (what it is and how to get there).

Target knowledge seeks answers to questions related to the determination and explanation of the need for change, improvements in the *status quo*, desired goals and appropriate practices. It seeks knowledge about a desired or ideal situation, suggesting a zeal to move a step ahead to improve or transform the situation.

A more reductionist approach may mostly stop at seeking *systems knowledge* by perfectly modelling the prevailing challenge or situation (Maciejewski *et al.*, 2015). A TD process jointly carries out this phase, forecasts for a desirable situation, and designs the requirements for such transformation or brighter future. With the TD participatory process the solutions are more context-specific and legitimate, and compliance would also be less problematic

(Walter *et al.*, 2007; Pohl, 2008). A TD research approach adopts a multi-sectoral and iterative process that harnesses knowledge and expertise from academia, practitioners and community members.

Any attempt to arrive at more holistic and transformational knowledge requires a team of researchers from inside academia (diverse backgrounds and disciplines), practitioners and state agencies (who have more practical experience and are crucial in enforcing research outcomes). More importantly, there is a need to involve different sections of the resource community, who possess contextual information and who are mostly the primary resource users (they will be the ones affected by the institutions as well as crucial when it comes to enforcement of local natural resource institutions). Involving community members and paying attention to local stakeholders (e.g. traditional authorities, landholders, those with access rights) in research on natural resource governance helps to avoid legitimacy challenges (Brown & Lassoie, 2010) and it enables effective adoption, enforcement and monitoring of research outcomes (Górriz-Mifsud *et al.*, 2016). Various groups who have a stake in the tenure right systems, including vulnerable and marginalised groups, need not be relegated to the background. In discussing an integrated policy network model, Teye (2013:70) contends that by neglecting vulnerable groups during research on natural resources and the associated policy formulation phase these “marginalised groups [will be] able to depend on their networks with forest guards to harvest forest resources illegally”. It is within this context that community members should be actively engaged in the research process, so that the outcomes would largely include ‘community ownership’ and hence enforcement will gain relative legitimacy and patronage with less sabotage.

Drawing these actors together in a joint research process through various phases of interaction, TD produces more context-relevant research outcomes.

4.5 Application of the TD Research Process: from theory to practice

This chapter argues that bridging the gap between theory and practice depends not so much on the good intentions of the researcher as on the process itself. The researchers can, by following certain process design specifications, try to maximise the probability that the outcomes of a TD project will embody the TD paradigm's philosophy of co-production of societally relevant solutions. The chapter proposes that a four-phase iterative approach should form the basis for the design of a TD study (see schematic view of the TD process in Figure 4.3 below). The four fundamental phases are the *initiation phase*, *formulation phase*, *execution phase*, and *communication and utilisation phase*.

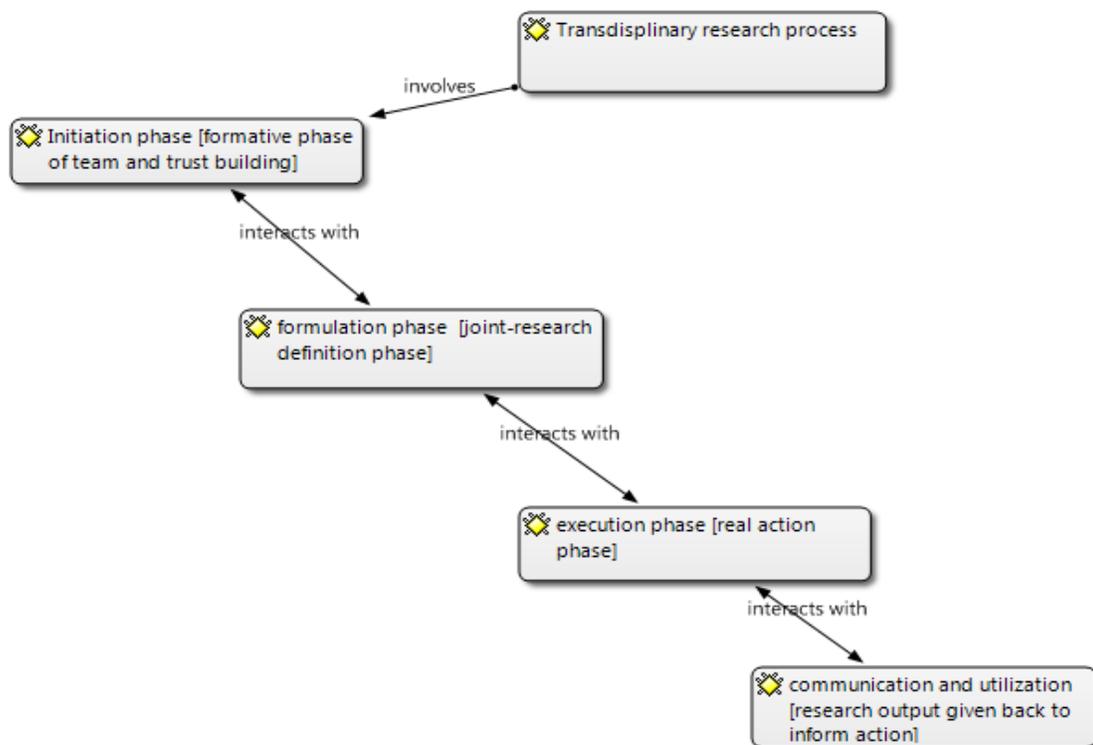


Figure 4.3: An iterative four-point TD process

Source: Author

The phases are inter-linked and iterative, where feedback is always obtained from one process to the other as well as through a 'backward loop'. Each process interacts with the others in a more comprehensive form and is not purely unidirectional (i.e. the phases are closely interwoven).

The *initiation phase* (also known as the formative phase of team and trust building) involves recognition of the research problem or interest, where the relevant research team is built around the research concept. The convener or team leader needs to communicate the concept (preliminary problem observation or research interest) to potential (relevant) team members to get them to buy into or express interest in being part of the research project. The team is to be drawn from relevant academic disciplines, practitioners and community members. The phase requires a familiarisation process and an account of the modus operandi of the team, allotment of specific tasks, meeting periods and venues. It also involves familiarising themselves with the research area and individuals or groups associated with the phenomenon or case to be researched (see Norris *et al.*, 2016 for strategies in TD team formation).

The *formulation phase* (also known as the joint-research definition phase) involves active brainstorming which produces and synthesises knowledge, ideas or opinions from a variety of actors across disciplines, practices and orientations on a particular research interest or problem. The paper conceptualises this as ‘formulation’, because it requires the generation of various ideas, alternatives and possible problem definitions and approaches; these are then synchronised and synthesised. This is the critical phase during which the team of researchers reaches an appreciable level of agreement on ‘common terms’ regarding the research project; this involves *inter alia* jointly defining and developing the research concept, designing the objectives and appropriate questions as well as the approach (Schäfer, & Kröger, 2016). If the research project is a dissertation, this stage involves actively engaging with project supervisors, reviewers from other faculties, practitioners and community members. This approach, especially engagement with non-academics (practitioners and community members), helps to define the research problem and how best to carry out the project. In this way the real-world problem therefore serves as a boundary object that draws together various stakeholders with experience, expertise or some other ‘stake’ to jointly proffer solutions (Clark *et al.*, 2016; Lang *et al.*, 2012).

The *execution phase* represents the action part of the research process, which involves a search for a *joint solution* through appropriate methods, designs and approaches adopted to

reconcile the various form of knowledge and perspectives coming on board. The TD process enables the researchers' idea to be executed or carried out in a more functional and dynamic way; here the procedures, specific approaches and time lines are drawn to guide the process (Lang *et al.*, 2012). What makes this interesting is that all participants design the most feasible and nearly best approach with respect to the context.

The *communication and utilisation phase* serves as the ultimate goal of TD research as it seeks to address real societal (natural resource governance) problems. This final phase involves communicating the co-designed and co-created research outcome (emergent knowledge) to relevant actors and authorities to be implemented in a way that brings about a significant improvement in the current situation. In TD this phase is executed with relative ease and, furthermore, knowledge is more likely to be enforced to bring about societal improvement, since the respective stakeholders (practitioners and community members) were involved in the co-creation process, and hence the co-designed solutions would be deemed legitimate and easily applicable (Walter *et al.*, 2007; Schäfer, & Kröger, 2016).

4.6 Relevance of TD Research for Natural Resource Governance and Institutionalism

On the basis of the review so far, we have argued for a TD approach in carrying out research that addresses institutional assessment of natural resources co-management. The reasons for implementing a TD approach are briefly outlined below.

Firstly, natural resource management has gone through an evolution, from being largely bureaucratic and state-centric through to community-based management to co-management or collaboration. The contemporary emphasis is on co-management, which involves power sharing, and power sharing requires institutions to structure it. The process is inter-relational and involves a complex range of stakeholders, which in turn requires a TD research approach to understand the trajectory and performance of institutions. A study that adopts a TD approach will be able to elicit target, systems and transformation knowledge (see Figure 4.2).

The intricacies, high stakes and complexities associated with the co-management of natural resources, coupled with context-specific issues, require a TD knowledge that is co-created and developed from the specific context. Especially from the later 20th century, the management of natural resources moved from the archetypical fortress approach towards adopting a networked system which is now referred to by various names, *inter alia* environmental governance, collaborative process, co-management, joint forest management, and community-based natural resources management. Though conceptually each of these varies slightly, the underpinning similarity among all of them is an emphasis on multi-actor governance, the interplay of takeholders with divergent interests, and a network of individuals and groups who jointly manage natural resources (Agrawal & Gibson, 1999; Carlsson & Berkes, 2005). For instance, Carlsson and Berkes (2005) argue that co-management should not be viewed as a two-way process, just between the State and community; this will make it seem that the community is simply a homogenous entity. However, it is important to note that actors within the community are heterogeneous and diverse. Co-management of environmental resources involves power-sharing arrangements, mutual responsibilities and benefits (Leach *et al.*, 1999; Blaikie, 2006). This suggests that co-management of environmental resources is a complex, ‘fuzzy’, ‘wicked’ and ‘ill-defined’ phenomenon that requires a more transdisciplinary process to assess the effectiveness of the institutional arrangements underpinning contemporary co-management processes.

Institutions have a backward and forward loop, in that they have a past as well as contextual factors that have shaped contemporary institutions which underpin natural resource co-management. More importantly, TD research produces, among other things, transformation knowledge, which is required to address prevailing laxities in institutional processes and enforcement. This will make it relatively easier to co-opt members since they co-created the solutions and way forward.

Finally, natural resources per se, especially forest and wildlife resources, are ‘fuzzy’ in nature in the context of sustainable development. For instance, whilst a major goal of foresters may mainly be to ensure ecological protection, the goal of the local people is largely

to use the same resources for their primary survival. Because of this, the interplay between the three main values of sustainable development – *economic, social and environmental* – and how to strike a meaningful and agreed balance between them is highly complex. Therefore, a study of how and why institutions have developed, how they shape people's behaviour as well as their enforcement needs to adopt systems thinking, because the entire process is complex and fuzzy, and the stakes are high. The TD approach encourages researchers to co-develop more workable and contextual strategies that facilitate human-environment interactions and eventually boost the resilience of social-ecological systems.

It should, however, be acknowledged that the iterative nature of TD study, the stakeholders involved, its ontological and epistemological flexibilities make the process somewhat laborious, albeit useful, to provide effective research outcomes that impact on society.

4.7 Conclusion

This chapter has reviewed the contemporary literature on the co-management of natural resources. The chapter has observed that, even though recent publications tend to emphasise the role of institutionalism in natural resource governance, there is a need for a more complex systems analysis. It is prudent for researchers to adopt a more all-encompassing approach that links academics and practitioners and more importantly community members in the research process. Institutional design in natural resource governance is an interesting study in that the relationship between actors, their responsibilities and powers in any particular co-management regime has a rich history often embedded in the narratives or stories of the community stakeholders, which could better be appreciated if researchers adopt a transdisciplinary approach that links academia (lead researchers) to the non-academic world (practitioners and community members). Because it is just not enough to assess natural resource institutions and rules, TD aims at integrating science with society to co-produce relevant knowledge that would help solve natural resource governance problems and also to strengthen institutions and their enforcement. TD has a problem-solving focus; its active inclusion of practitioners and landholders/communities throughout the research phases makes the communication of research outcomes to communities very much easier and more

readily accepted, and they thus command greater legitimacy, which makes solutions easier to implement or enforce to improve governance of resources (Benham & Daniell, 2016). In other words, TD involves a study with landholders/communities to co-create legitimate and practicable solutions towards finding an institutional system that encourages the sustainable use of natural resources in the service of poverty reduction and the empowerment of marginalised communities/people.

The more reductionist (traditional) approach of designing purely quantitative models to unilaterally assess complex resource governance issues and attempt solutions hardly commands legitimacy these days and conclusions may end up fading away in academic journals, which means they may not really impact on the study communities per se. The future of communities, resources and the ability to link research to policy and implementation requires a TD process which recognises *systems knowledge*, *target knowledge* and *transformation knowledge*, all of which are relevant to solving societal problems. It is high time researchers on resource governance adopted a more TD approach to incorporate scientific knowledge into the knowledge and experiences of practitioners as well as the local knowledge of community members so as to co-produce more legitimate knowledge that would have a greater impact on society. The TD approach to assessing resource governance issues offers a ‘tailor-made approach’ to solving real societal problems. When one wants to have a suit made for oneself, one goes to the tailor to be measured and the suit is cut and sewn appropriately based on the specific size and specifications. Similarly the TD approach suggests that in knowledge generation and proffering solutions to complex societal problems, the specific context, actual practitioners and people are to serve as points of contact and active participants in the research process. On the other hand, if one wants to buy an already made suit, one usually goes through a tedious process of trying on different suits (sizes vary based on designer or country of origin) before identifying which one of the alternatives fits one’s size and shape relatively well. This is far more tedious than the other scenario where the measurement is done *in advance* and would wear it to check appropriateness after perhaps a little alteration. Societies cannot go through such trial-and-error processes of importing other knowledge into communities experimentally. In short, the

specific complexities of societies and their realities should be factored into the knowledge-production process. Involving researchers, communities and practitioners more closely for the purpose of conducting research and structuring the problem brings out and synthesises new information and ideas which may not have occurred to the researchers individually, or if they had just sat in their armchairs to design questionnaires to be filled in by community members and practitioners.

4.8 Chapter summary

The chapter has provided a general conceptual overview of collaborative governance and the multiple actors as well as interests in natural resources governance, which it did by deploying the stakeholder theory. Observing the multiple actors and stakes in the collaborative governance process, the study makes a case for adopting the transdisciplinary (TD) research paradigm. The chapter discusses the conceptual overview as well as the ontology and epistemology of the TD approach and its appropriateness for natural resource governance research. The final part of the chapter provides a four-phase framework which guides researchers in embarking on a TD research process. The next chapter of the study provides a conceptual and theoretical contribution to natural resource governance by discussing a framework for collaboration in natural resource governance.

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Chapter Five

A Framework for Collaborative Natural Resource Governance²

Abstract

The complexities of the post-NPM era have resulted in a new governance regime based on ‘collaboration’, a network-based model that links various stakeholders (state and non-state actors), ostensibly to maximise public value. The ‘consensus model’ has its underpinning ‘rules of the game’, without which collaborative outcomes may end up being conflictual and counter-productive. Adopting a critical stage review, this chapter draws mainly from theoretical and recent empirical literature to unpack the factors that catalyse collaborative natural resource governance. The chapter reflects on these to design an ‘ABC framework’ aimed at providing signpost to agencies, governments and conveners of collaboration on how to execute this *socio-technical* process to maximise value. The ABC framework hinges on three broad pillars: *A*dopting and advancing human skills, *B*uilding integrity and legitimacy, and *C*reating a sense of attachment to the resource in question. It discusses these with specific indicators synchronised from recent collaborative experiences described in the literature.

Keywords: collaboration, environmental governance, complexities, stakeholders,

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5.1 Introduction

A much trumpeted approach to forest resources governance, especially from the 20th century, is one that adopts a network governance regime, a multi-actor-based approach (Muller, 2010). This approach has become very popular and emanates mainly from lessons derived from the failure of the former regime, which tended to be too bureaucratic, centralised, state monopolised and, worse of it all, regarded local communities as destroyers of the environment and resources (Agrawal & Gibson, 1999). The thinking of that time was based on environmental management that depended much on the technical know-how and expertise of state agencies, a bureaucratic and monopolised environmental regime; however, there has since been a paradigm shift towards what is known as environmental governance. The term *governance* suggests that various actors, including state agencies, are involved. According to Mitchell (2013), the concept of environmental management involves “actual decisions and actions concerning policy and practice regarding how resources and the environment are appraised, protected, allocated, developed, used, rehabilitated, remediated and restored, monitored and evaluated” (Mitchell, 2013:7). The notion of management connotes a hierarchical, top-down policy process where state agencies are pervasive and mostly influence policies through command and control, as well as a great deal of reliance on expert knowledge. However, with the ‘age of networks’ that developed mostly in the late 1980s and early 1990s, there has been a paradigm shift towards an emphasis on ‘people’, ‘stakeholders’ and ‘communities’, where policies on natural environmental resources are devised through a deliberative democratic process (Chambers, 2003). This approach has become known as, *inter alia*, collaborative environmental governance or co-management.

Singleton (1998:7) defines co-management as associated with “governance systems that combine state control with local, decentralised decision making and accountability and which, ideally, combine the strengths and mitigate the weaknesses of each”. The process through which state agencies forge links with resource communities, local leaders and groups and local institutions promises value to both state agencies and local communities. However, in most cases, it appears that state agencies tend to be oblivious of the *cumulative net value* of collaboration, and are often tempted to think that value flows only to their partners or community members. Wondolleck and Yaffee (2000) provide a critical teaser

that if we were to ask for a fundamental reason as to why agency staff would want to collaborate with other actors or community members to manage natural resources, we are likely to hear laughable responses from agency staff. Some of these answers would perhaps be “the law requires this”, or “it is politically correct” or an “agency leader’s mandate”, among other ridiculous answers, which suggest that most people do not know the actual value of collaborating with communities. We argue in this chapter that collaborative environmental governance, when effectively carried out, provides a win-win solution for both the state agencies and the communities in question. The value it provides to state agencies is summarised in an argument by Putnam (1995) and forcefully brought home by Wondolleck and Yaffee (2000). The idea of collaboration is the foundation for developing ‘social capital’ – trust, legitimacy, norms and networks of relationships – which could lead to a better, more effective and efficient policy outcomes (Putnam, 1995; Wondolleck & Yaffee, 2000). A more appropriate reason for collaboration and effective participation of communities is that “collaboration can lead to better decisions that are likely to be implemented and at the same time, better prepare agencies and communities for future challenges” (Wondolleck & Yaffee, 2000:23). ‘Value’ as used in this chapter denotes the extent to which natural resource collaboration provides mutual benefits to state agencies and the collaborating communities. See Figure 5.1.

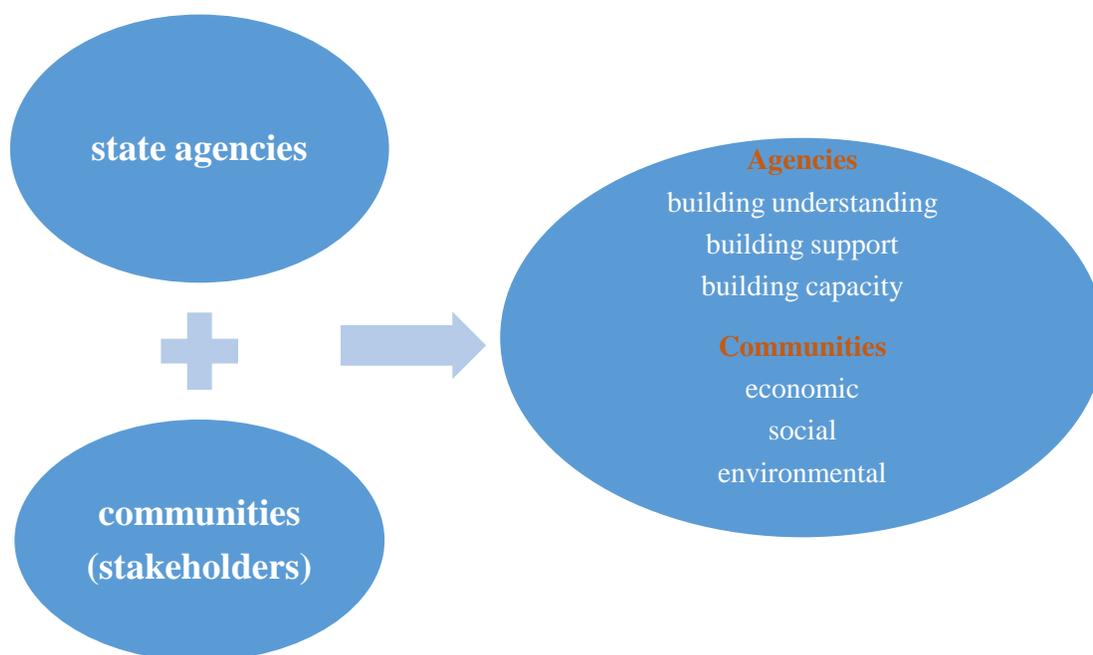


Figure 5.1: Value of collaboration to agency and communities
Developed from Wondolleck and Yaffee (2000)

Whilst the above is the ideal value expected from collaboration, there is ample empirical evidence to suggest that poorly devised collaboration has unintended consequences that are even more devastating than the situation which prevailed before the flawed collaboration (Mwakaje *et al.*, 2013; Silva & Mosimane, 2013; Kamoto *et al.*, 2013; Scheba & Mustalahti, 2015; Thondhlana *et al.*, 2015). Recent evidence suggests that this governance regime may at times result in elite capture, poor accountability, low community involvement (Kamoto *et al.*, 2013; Thondhlana *et al.*, 2015); domination by expert knowledge and community co-optation and disillusionment (Ribot, 2009; Scheba & Mustalahti, 2015); the potential to create new conflicts and even rekindle latent ones (Castro & Nielson, 2001; Thondhlana *et al.*, 2015). Collaboration ideally ought to come with benefits; if these benefits appear marginal or illusory to the participants, then the sustainability of the process appears bleak. For instance, Scheba and Mustalahti (2015:8) put it succinctly: “in Mihumo/Darajani there was a general feeling of deep disappointment. ... very little has materialised of what was promised; frustration, anger and disappointment about the lack of benefits have become dominant feelings in the village”.

Given such experiences, among others, prospective collaboration or co-management arrangements with communities or groups are likely to face initial challenges. How could practitioners and conveners approach collaboration so as to meaningfully overcome these hurdles? Using a critical stage review, this article discusses pointers essential to achieving natural resource collaboration; this we do through an ABC framework.

5.2 Methodology

This chapter analyses existing theoretical and empirical studies, mainly drawn from journal articles and relevant books, to assess the challenges encountered in collaborative natural resource governance. The literature search covered all terminology as approximately related to collaborative natural resource governance: “collaborative natural resource management”, “CNRM”, “networked environmental governance”, “co-management”, and “collaborative environmental governance”. In the process, we combined adjectives related to common obstacles faced in the collaborative processes; these words included ‘challenges’ ‘constraints’ ‘problems’, ‘setbacks’ and ‘hindrances’. Finally, we also included adjectives related to ways of enhancing the process; these words included ‘value’, ‘enhancing’ ‘promoting’ ‘successful’ ‘effective’. The different adjectives and the concept of collaborative natural resource governance (CNRG) were combined in different ways to obtain a pool of more relevant literature on the study. The following three search domains were mainly adopted based on their relevance to the study and accessibility to the researchers: *Scencedirect*, *Tandonline* and *Google Scholar*. The large pool of articles from these sources was initially sorted for relevance by skimming through their abstracts. After this heuristic process, all abstracts were independently reviewed by author and two supervisors. At the end of the process these met to eliminate duplicates and made a shortlist of abstracts for detailed and systematic review. The individual themes raised in each paper were then categorised and in various stages; through this, we were able to arrive at a more comprehensive classification of factors (ABC framework) which combine most of the elements discussed in the review papers and the relationships among them.

5.3 Literature review

Co-management of natural resources promises high public value (see Figure 5.1), yet contemporary experiences suggest that such processes are mostly challenging, albeit not impossible to manage in practice (Hahn *et al.*, 2006; McClanahan *et al.*, 2009). Since co-management is socio-technical in nature, the complexity of societies and groups makes such ventures laborious; however, recognising some of these potential challenges and adopting the right skills required for collaboration, could make the process more effective. This section highlights some key issues that constrain the collaboration process and discusses pointers to help address them.

5.3.1 Common constraints agencies encounter in collaborative natural resource governance

5.3.1.1 *Poor experiences of co-management arrangements*

Co-management arrangements are carried out with socio-economic and ecological benefits attached; however, observations tend to suggest that some co-managements appear not to have been very successful in qualitatively reducing poverty levels of communities and have not been effective in empowering the ‘have-nots’ in societies where these models have been implemented (Jentoft, 2000; Jentoft *et al.*, 2003; Bene & Neiland, 2004; Kamoto *et al.*, 2013; Scheba & Mustalahti, 2015; Thondhlana *et al.*, 2015). In some cases co-management processes end up reinforcing or even increasing the disparity between the poor and the rich by buttressing the existing social order. In other words, actors who are economically poor and politically weak appear not to experience any real impact in terms of equity, effective participation and benefit sharing, as observed by Wilson *et al.* (2006) in the fishery cases of four study countries – Philippines, Bangladesh, Cambodia and Indonesia; the same applies to India’s forest management (Nayak & Berkes, 2008). With such experiences and news around, community members and organisations who might be inclined to open up to collaboration do so with some scepticism, which mostly affects prospective co-management processes. This point has been brought home forcefully by Wondolleck and Yaffee (2000:58): “*mistrust, a general sense of wariness and scepticism frequently pervades all sides of the collaboration equation due to past interactions, stereotypes and a societal context that breeds mistrust. In most cases, the people may not trust forest officials, perhaps*

because of previous experiences with them and could be vice versa". This may have implications for doubting the actions and inactions, information and even approaches adopted or suggested by partners. This is a hurdle that needs to be overcome from the outset.

5.3.1.2 Prejudices and scepticism

In the light of the above experiences, it may be that scepticism, prejudice and cynicism are natural; and even in situations where there is no prima facie reason to be sceptical, it may still be latent. Bazerman describes this as the "myth of the fixed pie", where individuals in most cases have preconceptions that "their interests directly conflict with the other party's interests, even when creative win-win solutions are possible" (Bazerman, 1986:128). Yaffee (1997) notes that a major challenge is competitive human nature which drives out cooperative behaviour, and that individuals and groups have a tendency to promote competitive and egoistic tendencies. But in the real world in most cases this zero-sum game hardly occurs in natural resource management (Wondolleck & Yaffee, 2000). Groups form identities and boundaries for a variety of sociological and psychological reasons, and those boundaries keep them apart even when they share some common interests (*ibid.*). Kaplan and Kaplan (1982) point out that individuals develop cognitive models that help them to understand and act on their world, and other individuals with whom they socialise reinforce those models. Because of this, an issue may be conceptualised quite differently by different groups and that will make communication between them difficult. Therefore, the characteristic of agencies or conveners of collaboration is critical and they should be viewed as unbiased and trustworthy. If stakeholders have a reason to doubt the credibility of conveners, "other stakeholders may refuse to participate or even try to subvert the collaborative attempt" (Gray, 1989:72). In a study using four US planning experiences, Lachapelle *et al.* (2003) observe some distinct challenges that affected the process; these included lack of agreement on goals and a lack of trust. In a recent study of the Pendjari National Park in Benin it was observed that distrust, scepticism and prejudices led to 'picking and choosing' in the selection of stakeholders for engagement: "the management considered the CPLs (*Chasseurs Professionels Locaux* or Local Professional Hunters) as outsiders and they excluded them from the park management ... [they] were stereotyped as antagonists of

the system” (Idrissou *et al.*, 2013:73). This eventually made the process more prone to distrust, conflict and subsequent disequilibrium.

5.3.1.3 Rationality of actors and groups

For groups to collaborate, each actor or party needs to allow for a degree of compromise; coming into a negotiation with a winner-takes-all mentality or a hard position weakens collaborative efforts. Consequently, a *prima facie* challenge that may hinder most collaborative arrangements is perhaps the *homo economicus* nature of man and groups (Hobbes, 1947; Wilson & Dixon, 2012). Man is by nature selfish and competitive and adopts a *winner-takes-all* stance; in other words, rational actors are keen to be engaged in *zero-sum* games (von Neumann & Morgenstern, 2007). A widely applied model to explain the competitive and selfish motives of man regarding public assets is Hardin’s “tragedy of the commons”; Hardin posits that “each man is locked into a system that compels him to increase his herd without limit – in a world that is limited” (Hardin, 1968:1244). From the foregoing, it is evident that rational actors and the zeal for self-maximisation may create initial hiccups in collaborative arrangements, but this is not to say that they are not doable. In his five-point schematic assessment of common challenges that affect natural resource collaborative governance, Yaffee (1997) notes that individuals and groups have a predisposition to short-term rationality which may blind them to long-term rationality. He argues that people are inclined to make decisions that appear effective in the short run, even if the long run would be problematic. In a recent study of the Kgalagadi Transfrontier Park in South Africa by Thondhlana *et al.* (2015), a majority of study participants (80%) suggested that SANParks rules sanctioned by the San Traditional Sub-committee do not necessarily represent the utilitarian or collective interests of the San people, but mostly appear to be born out of the particularistic interests of the ‘traditionalists’³.

³ The San community comprises mainly two categories of population apparently divided into *traditionalists* and *modernists*. The ‘traditionalists’ strongly identify with the traditional San culture, a belief in subsistence use of resources and seek to establish institutions that restore and protect the San traditional values (Thondhlana *et al.*, 2011). The ‘modernists’ regard land as a pathway out of poverty and that institutions should allow land inside and outside the KTP be used productively and sustainably (Thondhlana *et al.*, 2011).

Wondolleck and Yaffee (2000) discuss and broadly classify the problems associated with co-management, among other things, into institutional/structural and process challenges. These are discussed and illustrated in the sub-sections below:

5.3.1.4 Institutional and structural barriers

Using two cases from Spain, Pecurul-Botines *et al.* (2014:3497) observe that where local institutions appear formidable, forging or adopting a new form of natural resource governance collaboration appeared relatively more difficult than in the case where there was an institutional vacuum. This has implications for agency officials who operate at the operations level in devising practical workable approaches. However, state agencies are mostly underpinned by rigid and inflexible policies that could affect adapting to a context. Put differently, the red tape and burdensome procedures are frequent obstacles that may hinder effective collaboration. Lack of administrative flexibility in agency procedures for implementing agreements may frustrate cooperative efforts, especially at the local level. The lack of discretion allowed to field officers to undertake some collaborative decisions at the operations or field level may frustrate their efforts. Again, different organisations and groups may have differences in data-collection methods, analytical techniques and evaluation tools, which at times can make it quite frustrating for these groups to combine information in useful ways (Wondolleck & Yaffee, 2000:57). The study by Lachapelle *et al.* (2003) in the USA also observed that rigidity in process design, procedural obligations and requirements were critical barriers that affected environmental planning and collaborative processes.

5.3.1.5 Process challenges: technical

Since collaborative efforts involve a socio-technical process of building bridges among individuals with different and mostly competing interests, the process requires a prudent approach to communication, problem solving, team building and decision making. If any of these processes are not handled professionally and with tact, they may even create greater problems than the challenges for which solutions are sought. Poor management of the process, inadequate process skills, poor stakeholder or network analysis mostly produce unintended consequences in collaborative environmental governance.

Firstly, unfamiliarity with the process may often lead agencies not to appreciate the importance of the process and the need to allot adequate time and attention to it. Gray (1985) has noted that “convenors and negotiators frequently underestimate the critical role of process in ensuring successful collaboration”; consequently, much attention is given to the substantive issue without giving the necessary attention to the preliminary process itself. The background checks, team building, scoping, stakeholder analysis and network formation phases are critical to the actual process itself, because a flawed pre-process (preparatory stage) would bring with it baggage laden with suspicion, scepticism, mistrust, neglect, powerlessness, among others. The collaborative governance of Pendjari National Park in Benin was not sustainable because “the project did not start with the information, negotiation and engagement of all relevant stakeholders” (Idrissou *et al.*, 2013:73).

Secondly, there could be lack of process skills among many agency officials and convenors of collaborative environmental governance. The problems associated with managing collaborative efforts suggest the need for effective process management, as well as interpersonal and relational skills, yet few agency officials have the required expertise and knowledge of them. Some of the essential skills include setting ground rules, management of data, creation of a congenial climate, communication and human skills, and empathy. In most cases natural resource agency officials appear not to have sufficient public relations and communication skills; this is reflected in a response from a forest service official that “We have a lot of technically competent people, but they would have done something else for a career if they were interested in people; they are not the best of communicators” (Wondolleck & Yaffee, 2000:65). However, in this collaborative initiative, expert forest resource managers first need to adapt to a new role, which requires them to move from the ‘expert opinion’ role in traditional environmental management to an empowerment role as a facilitator, broker or catalyst.

Finally, the process of managing tension between the process and the world around it usually creates a challenge for the process. In most cases, the peripheral activities that occur outside the official collaborative process could have an effect on the process; for example, if

members of the partnerships are engaged in conflicts on issues outside the partnership, this may have a ripple effect. Stakeholders who participate in collaborative efforts are often bound by the perspectives and procedures of their groups. This point was noted in a group task-solving model that observed: “despite their desire to work together and create a visionary proposal, most members were constrained by their political orientations and the viewpoints of their associations; and as leaders of their groups, they represented their groups’ points of view and were reluctant in this public forum to compromise or change these” (Roberts & Bradley, 1991:221)

5.3.2 Addressing the challenges of collaborative governance

From the foregoing section one might be tempted to get scared with hindsight, but the task is not impossible. Building bridges among groups, organisations and stakeholders requires tact and adequate skills in order to get things right. The literature on cooperation conceptualises human nature as largely egoistic and driven by self-interest; therefore, the driving force behind collaboration among groups is for actors to view a project as mutually beneficial. Processes that work at building understanding, trust and relationships between disparate groups can help create a climate in which collaboration can develop (Wondolleck & Yaffee, 2000:66-68). For instance, Castro and Nielson (2001:236) indicate key factors required for successful collaboration, including “the nature of the negotiations, the intent and content of the agreement (including acknowledgment of local rights and decision-making powers), the institutional arrangements contained in it, the manner of implementation, and the continued commitment of the participants”. This suggests that there is a methodical approach to achieving effective process.

Owing to the value it promises, scholars have attempted to provide various measures to help make environmental collaborations more productive. Because CNRG is primarily a technical process (requiring skills, expertise and experience of state agencies), there have been various exclusive studies on this theme in the literature (Jones, 2004). For instance, Reed *et al.* (2013:304) posit that “our examination ... reveals that local officials within the same agency and operating with the same policy directives can indeed shape present practices and long-term trajectories for ongoing collaboration because of their skills,

interpretations of their mandates, exercise of formal or informal power, and other relationships”.

On the other hand, many other scholars have advanced a need to devise practical approaches for CNRG, paying equal attention to a non-technical (political, economic, socio-cultural) context of the forces inhibiting or enabling key collaborative processes (Nelson & Agrawal, 2008; Edwards & Steins, 1999). For instance, Edwards and Steins (1999:207) maintain that “context must be integrated as part of analysis of specific CPR (natural resource) situation”. The ‘context’ could be based on the nature of the natural resource in question, actors involved and peculiar issues at stake. Whilst context of community is imperative, it is more important to acknowledge the bigger picture, with its own the peculiarities and dynamics; this attempts to correct a simplistic notion of community “as a small spatial unit, as a homogenous social structure, and as shared social norms” (Agrawal & Gibson, 1999:630). This point has been brought home forcefully by Plummer and Hashimoto (2011:232), who state that “an understanding of context should play a more central role in issues related to adaptive co-management and, more broadly, collaborative conservation”. More related to context, the issue of ‘institutional fit’ has been stressed by scholars. It is conceptualised as the manner in which institutions are integrated within the biophysical and social context within which they operate (Folke *et al.*, 2007).

Recognising context is not just enough, the ‘good will’ or ‘good faith’ of agencies and conveners as well as the approach contributes to legitimacy of the process. For instance, using the Agoua Forest Management case of Benin, Iddrissou *et al.* (2011a:130) observe that “if potential problems are not properly discussed at the beginning, conflicts emerge during implementation”. Information should be accurately disseminated and all social actors should be engaged early on in the planning process to ensure their cooperation and overcome the limitations of hierarchical planning processes (Díez *et al.*, 2015). The role of social learning, trust and managing expectations has been highlighted; Davies and White (2012:168) write: “satisfactory outcomes require investment of all stakeholders in learning, building trust and establishing mutual goals, and the explicit allocation of resources to support the processes

required ... explicitly recognizing that ‘collaborative’ partners may not have equal power, influence or interests is essential to avoid differing expectations that could lead to disengagement”. Perceived legitimacy is also linked to the perceived quality of deliberation, and stakeholders’ level of policy support and their views about the procedural fairness appear strongly related to instrumental substantive considerations rather than any deliberative or democratic qualities of the participatory process (Birnbaum *et al.*, 2015:448). The authors maintain that such process opens up the space for social learning and exchange which could “facilitate the development of new, better informed and shared views, and to stimulate public-spirited (as opposed to private-instrumental) views and orientations among the participants” (Birnbaum *et al.*, 2015:448). In their study they posit that “certain distinctively deliberative elements associated with the identification of common ground and shared understandings likely served as a catalyst for bridging disagreements and for advancing the joint preferences of stakeholders” (Birnbaum *et al.*, 2015:457).

To make way for such trust and good faith in CNRG, emphasis has been placed on a need for neutrality in the brokerage process, hence a neutral arbiter who does not have greater stakes in the resource in question. In an empirical study by Ford *et al.* (2002), a collaborative process ended up in a prolonged conflict which failed to create a new reality by deconstructing stakeholders’ perceptions; this they explain was due to the stakes all the parties had in the issue or process. Consequently, Gray (2003:32) argues that “since reframing requires perspective taking, it is often difficult for parties to reframe without the help of a neutral third party or someone who does not have a direct stake in the conflict”.

More importantly, the role of institutions has been discussed as linchpin in CNRG (Saarikoski *et al.*, 2010; Idrissou *et al.*, 2011a). With this in mind, Idrissou *et al.* (2011a), for instance, conceptualise participation (or here, collaboration) as interaction between frames, social cohesion and institutions (including informal institutions). The nature of the rules, power and benefit arrangements has implications for success of CNRG. Although the role of formal institutions has been amplified in the literature, recent studies have observed that as the collaborative process gets started, progressively informal institutions and

relationships emerge and even become decisive in the further implementation of the process (Idrissou *et al.*, 2011b).

In addition, the agency-community relationship has been discussed in the CNRG literature. Some scholars have debated the approach, nature and role of state agencies in the collaborative process (Agrawal & Chhatre, 2007). In a case study in Himachal Pradesh, the authors observe that “the success of local resource governance institutions may be adversely affected by the close involvement of higher-level government officials in decision-making processes. Greater autonomy to local actors is associated with better resource-related outcomes” (Agrawal & Chhatre, 2007:83). This point has been advanced by Coulibaly-Lingani *et al.* (2011), who express a need to build and empower local environmental governance structures as well as involving elected local leaders, traditional village leaders and representatives from various stakeholders to serve as a more viable option to accommodate conflicting interests and resolve struggles for decision-making power among local actors than simply devolving power to local administrative authorities. They caution that state agencies to serve as facilitators or advisory groups with greater powers given to the local people (p. 484). For this to succeed, community actions and role of local structures and groups are quintessential. The role of individuals, groups and organisations at the local level working through networks has a tremendous effect on collaborative processes and outcomes in terms of increased transparency, accountability and participation at the community level (Khanal, 2007:23).

To maximise the utility of local participation in natural resource governance, it is also critical to have collaboration between those community members as well as inter-association harmony (Thakadu, 2005). Social networks comprise actors who are tied to one another through socially meaningful relations (Prell *et al.*, 2009; Scott, 2012). The creation of social networks is essential to the success of cooperation and conflict management in the natural resource governance context. Scholz and Wang (2006) argue that in the context of institutional enforcement and people’s compliance with ecosystem restrictions, social networks could have a higher potential even than the existence of formal restrictions (Cross

et al., 2002; 2006). Social networks provide a great deal of impetus to collaborative governance processes by the facilitation, generation, acquisition and diffusion of different types of knowledge and information about the natural resource in question (Crona & Bodin, 2006; Schusler *et al.*, 2003) as well as the mobilisation and allocation of key resources for effective governance (Carlsson & Sandstrom, 2008; Carlsson & Berkes, 2005). This facilitates actors' commitment to ground rules whereby each agrees to engage in monitoring the enforcement processes of collective rules (Dietz *et al.*, 2003; Scholz & Wang, 2006) and also helps in conflict management and resolution (Hahn *et al.*, 2006, cited in Bodin & Crona, 2009). These and other related factors for a successful collaborative natural resource governance have been illustrated in table 5.1 below.

Table 5.1: Factors for effective CNRG

Factors	Sources
Skills and experiences of agencies	Jones, 2004; Reed <i>et al.</i> , 2013
Context and institutional fit	Folke <i>et al.</i> , 2007; Nelson & Agrawal, 2008; Plummer & Hashimoto, 2011)
'Good will' of agencies and quality of approach	Idrissou <i>et al.</i> , 2011; Davies & White, 2012; Birnbaum <i>et al.</i> , 2015
Role of institutions, power relations, benefits	Castro & Nielson, 2001; Buizer & Van Herzele, 2010; Saarikoski <i>et al.</i> , 2010; Idrissou <i>et al.</i> , 2011
Greater autonomy to people and groups	Agrawal & Chhatre, 2007; Coulibaly-Lingani <i>et al.</i> , 2011
Community and group harmony, social network, stakeholder approach	Crona & Bodin, 2006; Khanal, 2007; Prell <i>et al.</i> , 2009; Lin & Chan, 2011; Scott, 2012
Neutral arbiter	Ford <i>et al.</i> 2002; Gray, 2003; Berkes, 2009; Margerum, 2011
Relating to the natural resource	Wondolleck & Yaffee, 2000

Source: Authors' compilation from recent literature, 2018

5.4 Discussion: The ABC Framework

With lessons drawn from the empirical review, together with theoretical studies and practical experiences with natural resources collaboration, this section synchronises and discusses key prerequisites for collaboration. Whilst there could be other factors that bother roles of communities or other entities (such as individuals, groups, private sector), the focus of this framework is to reflect on those that greatly bother on what agencies and conveners could do to enhance the process. As a guide, we present a socio-technical approach, referred to as the ABC framework, which involves three iterative processes that explain a central idea – an effective collaboration process. This is illustrated in figure 5.2 and table 5.2:

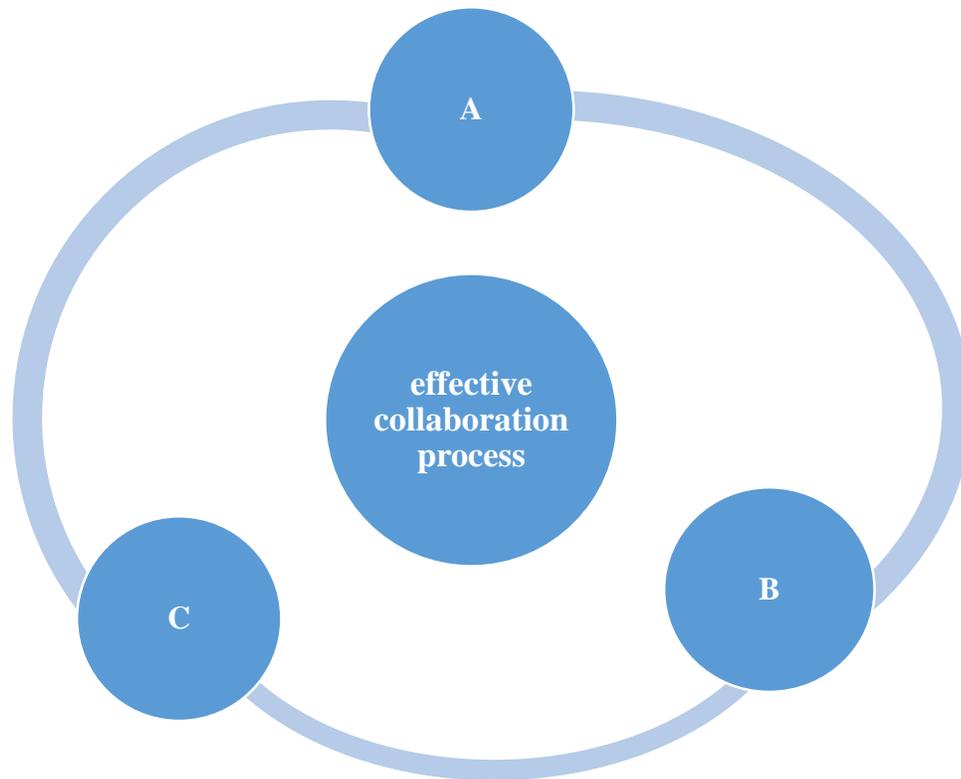


Figure 5.2: ABC framework

Source: Developed by authors

Table 5.2: Key to the ABC framework

Acronym	Meaning	Methods or Approach
A	Adopting and advancing human skills	Communication (at different levels), stakeholder engagement, people interaction
B	Building integrity and legitimacy	Institutions and benefit systems, role of bridging organisations and neutral broker, good will, adequate autonomy, network
C	Creating a sense of attachment to the resource	‘Fitting to context’, local focus, sponsoring field trips, clean-ups, being part of activities such as festivals

The process should be regarded as an iterative activity in that it is not a neat linear process, but socio-technical in nature; whenever the need arises to engage other stakeholders, this should be done. This is because “as the social actors get involved, they bring about refinements and improvements in defining, understanding, deciding and taking action – but a good beginning positively affects all future outcomes” (Borrini-Feyerabend *et al.*, 2004:146). The process should not be rushed through as if it were unidirectional in nature, lest it may end up as a Type (III) error, or serious implementation challenges. This error occurs when the right solution is adopted but for a wrongly diagnosed or structured problem (Dunn, 2004)

5.4.1 Adopting and advancing human skills

The power of communication, stakeholder assessment and engagement

Human skills and relationship management is a first step in building a collaborative team and even carrying across an agency’s message. A good message poorly packaged or ill-communicated would hardly sell. The power of communication and engagement with people is critical to arrive at a mutually beneficial discussion and negotiation. For instance, Wondolleck and Yaffee (2000) debunk the widely touted framework of the *prisoner’s dilemma*, which has underpinned most research publications, ostensibly to rationalise the complexity of managing human behaviour in collaborative efforts. They agree, however, that in the case of the ‘prisoner’s dilemma’, if the two prisoners (kept in separate cells with no interaction) had cooperated and remained silent without confessing, their prison sentence would have been minimised. But because they were driven by “individual, rational choices promoted by self-interest, mistrust and lack of communication”, they did not cooperate with each other and this in turn led “to an individually and collectively suboptimal outcome” (Wondolleck & Yaffee, 2000:49-50).

Wondolleck and Yaffee (2000) consequently argue that though this metaphor has underpinned much research that explains human behaviour in cooperative and collaborative processes, most real-life human interactions are fundamentally different from what the two prisoners faced. They note “individuals have the ability to communicate directly with one another and often have the ability to establish rules of the game together ... most will

continue to interact with each other” (Wondolleck & Yaffee, 2000:50). Therefore, the kind of dilemma faced by the two prisoners appears very latent in most real human interactions, who should apply the power of communication and ‘rules of the game’ effectively. Borrini-Feyerabend *et al.* (2004) use the notion of ‘social communication’ and argue that it is the linchpin of the negotiation among representatives of various interest groups on concrete decisions, such as collaborative processes (Habermas, 1984). This form of engagement should not be a façade or disguised co-optation, but should be constructive and be based on adequate information. Scholars and practitioners advocate the value of meaningful engagement and warn against hypocrisy; “negotiations, however, are not meaningful if they happen in an ‘information vacuum’, with only a few people aware and concerned about what is being discussed and what consequences the decisions will entail” (Borrini-Feyerabend *et al.*, 2004:155).

On the selection of actors for negotiation, Turnhout *et al.* (2010) explain that there is mostly an intentional or unintentional marginalisation of some actors. This occurs because agencies may place restrictions on who is to be involved in the process and negotiation space; assumptions about the issue at stake; and expectations about process outcomes and people’s behaviour towards them. However, in all these assumptions proper scoping and inclusion of relevant actors should be the hallmark. Agencies at times adopt an illusory mechanism; instead of broadening the approach, relevant information and the dialogue are confined to the individuals holding positions of power and local privilege, and therefore the agency may not get the broader picture of the prevailing situation (Delville, 2000). The ABC framework maintains a need for conveners or agencies to foster ‘good will’ by being open in the process through active engagement with all relevant interested parties and granting adequate autonomy (Agrawal & Chhatre 2007; Coulibaly-Lingani *et al.*, 2011a; Idrissou *et al.*, 2011a; Birnbaum *et al.*, 2015) The framework ensures that the right approach is used to scope and identify all relevant stakeholders based on their *power*, *legitimacy* and sense of *urgency* (Freeman 1984; see also Reed *et al.*, 2009 on stakeholder analysis).

In a recent study on actors and collaborative governance of the Kgalagadi Transfrontier Park in South Africa, Thondhlana *et al.* (2015) observe that while in principle the process was supposed to be underpinned by inclusiveness and participatory decision making, these have become elusive to most of the people because the process appears too restrictive and does not promote meaningful participation of all relevant stakeholders. Consequently, real issues might be developing on the blind side of outside agencies. Therefore, informal discussions with a number of local actors is a useful approach. With a context-dependent communication strategy, all the interest groups need to be well informed, knowledgeable and aware of the issues on the table. According to Borrini-Feyerabend *et al.* (2004), the communication strategy could be personal, involving one-on-one conversations with key actors, or interpersonal among a few individuals; or social, involving groups such as a local community (see also Cundill *et al.*, 2013; Moorman *et al.*, 2013). Communication tactics needs to be proactive and adaptable even within the same socio-cultural and ecological setting, depending on context. The approaches include, *inter alia*, community meetings, posters, maps, drawings, poetry, debates, films and photos, radio, the print media, street theatre and other folk media (Borrini-Feyerabend *et al.*, 2004). In a project in Congo Brazzaville some conservation issues and associated information were recorded on cassette tapes which were then, among other things, distributed to the drivers of public transport, where people could listen to them and perhaps initiate some discussions even prior to the project (*ibid*).

5.4.2 Building integrity and legitimacy

Institutional arrangements and a non-stakeholder referee or neutral arbiter

A fundamental point in building legitimacy would depend to a large extent on how ‘rules of the game’ structure power and responsibility relationship, benefits to be derived and costs imposed on breaching the terms. This is important right from the beginning and becomes even more relevant as the process advances (Idrissou *et al.*, 2011b)

An important element that serves as ‘a glue’ to bond actors together is trust (Lewicki, 2006; Lijblad *et al.*, 2009). In this trust-building project the parties involved as well as the social context within which the process occurs have great influence. The propensity for communities to trust is mostly derived from their cultural identity, personality, previous

experiences and also perceptions about the actors involved (Gray, 2003; Dewulf *et al.*, 2009). The data about ‘the trustee’ or agency relates to perceived trustworthiness, which is the people’s perception of the ability and magnanimity of the trustee (agency) to act in the interests of the ‘trustor’ (community) as well as the perceived integrity to execute the people’s shared principles. Collaboration in most cases involves compromises, sacrifices, benefits and power relationships. It appears problematic when a major stakeholder in the process turns around to assume the position of arbiter or referee; this may naturally lead to *prima facie* suspicion and a feeling of distrust. As has been discussed in the previous section, mistrust is anathema to collaboration (Redpath *et al.*, 2013:102). To encourage trust and legitimacy among actors, Berkes (2009) advocates the need for a bridging organisation that would help mediate between formal actors (government) and the other actors (including community members and informal institutions). The role of this bridging organisation is reflected in the framework below.

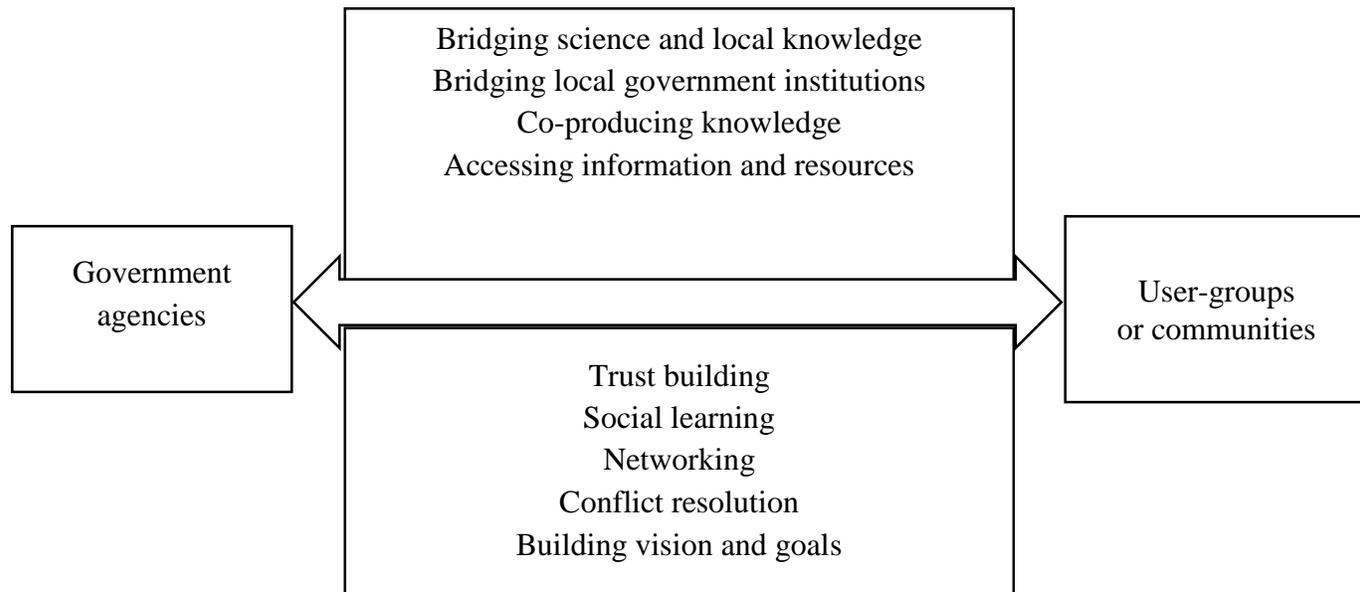


Figure 5.3: Bridging organisations in collaborative environmental governance

Source: Berkes (2009)

The role of bridging organisations in co-management cannot be over-emphasised. The credibility of bridging organisations is very important to enhance their legitimacy as well as obtaining the confidence of stakeholders. These organisations mostly mediate between state actors and other stakeholders. This is against the backdrop that most people mistrust and are suspicious of state agencies – whether rightly or wrongly, founded or unfounded, justified or unjustified. The presence of a neutral arbiter tends to neutralise or at least reduce this legitimacy deficit, which will in turn inject vibrancy into the process. In a discussion of the peculiarity of brokers in collaborative natural resource arrangements, Margerum (2011:65) explains that it “can be challenging for a broker to convene a group when they are considered a stakeholder, because participants may be suspicious about their motives; alternatively, the broker may be able to convene the group, but may not be able to easily lead it because they are a significant stakeholder”. Margerum summarises indicators to measure broker legitimacy in Table 5.3.

Table 5.3: Indicators of a broker’s legitimacy at all three levels

Collaborative type	Factors influencing broker legitimacy
Action	<ul style="list-style-type: none"> • Broker connections to the community often an important factor • Government-based brokers can make convening more difficult
Organisational	<ul style="list-style-type: none"> • Broker validity includes both personal connections and organisational affiliation • Resources to initiate consensus building an important aspect of legitimacy
Policy	<ul style="list-style-type: none"> • Broker validity includes both policy-level reputation and connections • Resources to initiate consensus building is an essential aspect of legitimacy

Source: Margerum (2011)

5.4.3 Creating a sense of attachment to the resource

'Fitting to context', Merging with or living the community way

To win the trust of the community and obtain the 'social currency' required to forge collaboration between communities/stakeholders and agencies, it is imperative for conveners to 'fit into the latter's context' or empathise with them. In other words, live the community way, feel the community way and perhaps attempt acting in the community way; the activities of agencies and conveners should fit the society (Folke *et al.*, 2007; Wondollock & Yaffee, 2000).

Wondollock and Yaffee (2000:68) indicate the factors that have proven to help bridge the gap between state agencies, communities and other partners. They highlight key themes: *a sense of place or community, highlighting shared goals or fears, developing a common vision, and capitalising on compatible interests*. We maintain that the 'Wondollock-Yaffee' factors discussed below could be adaptable and contextualised to facilitate prospective collaboration.

A sense of place or community

Most successful collaborative projects got started through strong identification with a geographic location, a biophysical feature or a community which serves as a springboard from which the collaboration was further developed. This starts with agencies or interested parties trying to identify themselves with the resource concerned. For instance, the Applegate Partnership involved industry, community groups, federal agencies and environmental groups; its success could partly be attributed to the fact that all the actors had a strong attachment to the Applegate River Watershed. The process was initiated and it flourished through, *inter alia*, field trips and community events as well as a local focus. The authors discuss how *field trips and community events* that are tied and linked to the particular resource enhances legitimacy and nurtures collaboration. Agencies or prospective collaborative partners could sponsor some community programmes such as clean-ups, sporting events and festivals, among other things (Wondollock & Yaffee, 2000). When such efforts are applied, they promote a sense of place in connection with the particular resource,

and they encourage actors and community members to direct their routine actions and efforts towards an ultimate goal in actions geared towards the particular resource in question. This semblance of community outreach through social events is very important in that it draws communities to support the objectives of agencies; as a programme director pointed out, “despite all the statutes on the books that mandate water-quality protection, the laws still don’t protect rivers; people do” (quoted in Wondolleck & Yaffee, 2000:74). Getting various actors to identify with the particular resource provides a powerful symbolic association that encourages people to reframe their identity and their perceptions of groups that have traditionally been classified as ‘outside’ or ‘inimical’ to their community or interest.

Secondly, there is a need to have a *local focus*; programmes perceived as ‘local’ in nature have a higher tendency to elicit identification with a place. Collaboration is positively enhanced by the physical proximity of the stakeholders and this means that local-level initiatives have a greater chance of reaping the added advantages associated with geography, possibility of shared language, common values and norms (Gray, 1985); people perceive a possibility of sustaining protracted and long-term interaction (Wondolleck & Yaffee, 2000). A pragmatic approach to build legitimacy and local focus is to hire and train people from the community to assist in operational activities; this is because people become sceptical when new groups come into their communities for partnerships. This means that even with the right kind of information and proposal, ‘the carrier’ and the approach matter most. For instance, in Congo Brazzaville a collaboration project encountered initial opposition to penetration from the local people until a person of local tribal descent understood the issue at stake and agreed to visit the local communities and initiate a series of open negotiations. That intervention, and the views of the people heeded, suggests that until local people or stakeholders accept the ‘carriers of information’, even a genuine call on them to engage in discussions may fall on deaf ears (Borrini-Feyerabend *et al.*, 2004:156)

Shared goals or interests

Collaborative arrangements become natural when stakeholders or actors realise that they share some commonalities in terms of interests and objectives. For instance, the Oak

Opening project in Ohio provides a classic example of how shared interests could forge collaborative governance. The project coordinator notes “all these agencies were working towards the same thing, and it was just getting everybody to sit down and realise we’re all working towards the same goals” (quoted in Wondolleck & Yaffee, 2000:79). Members realised that it was imperative for them to cooperate in order to get some of their shared goals accomplished.

In an attempt to get started through acknowledging a shared goal, it is at times better to find objectives above and beyond any immediate conflict. In other words, there should be a superordinate goal which is far above the current conflicts between groups or stakeholders. For instance, researchers deliberately activated conflict between cabins at a summer camp and tried to find out which approach could best foster cooperation among the groups. The approach that worked perfectly was the introduction of a superordinate goal above their current misunderstanding. For instance, the camp’s water system broke down and the groups had to fix it together. Also, when competing cabins went on trip and the bus broke down, this time too all the boys pulled together to fix it and get back to camp. A bigger and immediate superordinate goal helps individuals and groups to come together to cooperate, notwithstanding any pre-existing misunderstanding on other issues (Wondollock & Yaffee, 2000).

5.5 Summary and conclusion

Collaborative natural resource governance offers prospects for both state agencies and collaborating partners, especially resource communities. This chapter has argued that although the process has intrinsic value, a poorly designed and adopted collaborative enterprise could be catastrophic and could even worsen the situation that used to exist or the so-called problem that needed to be addressed. We have highlighted potential challenges that are commonly faced by conveners of natural resource collaborations; these include, *inter alia*, overt rationality of actors and groups; prejudices and scepticism; institutional and structural barriers; and technical challenges with the process itself. Unpacking these challenges is not intended to scare agencies from undertaking collaboration, but creating

awareness of the potential pitfalls to be faced in itself serves as a partial solution to the problems; this will not only prevent initial disappointment but encourage fortitude to forge ahead. More importantly, the chapter argues that collaboration involves a socio-technical process; we have therefore discussed some skills and procedures that could be adapted to suit the particular context. The key factors discussed revolve around: the power of communication, interaction and engagement; mediating and neutral brokers between major stakeholders; proper scoping, stakeholder and network analysis; developing a sense of place or community with actors; identifying with the people's shared goals or interests.

We conclude that collaborative natural resource governance should be viewed as socio-technical in nature, an art and a science with its own *socio-technical* rules. This is because it requires key competences, skills and procedures in bridging barriers among people and groups. Being oblivious of these ground rules and approaches may deepen conflict, even escalate new ones, which may make the 'promised values' of collaboration seem increasingly elusive (see also Borrini-Feyerabend *et al.*, 2004:368 on how poor consultation led to a co-management debacle). Poor community engagement is a socio-technical error, which suggests that it is not mostly the case of the message or the content, but how the message carrier is able to identify and engage appropriately with important actors at the local level.

Adopting an ABC model helps; indeed. Thondhlana *et al.* (2015:128) explain that "communities are unlikely to invest in collaborative governance unless local institutions can ensure the benefits of this outweigh the costs". Prospective processes thus need to be tactical through applying the ABC model, firstly, by *advancing human skills* through communication and engagement with relevant actors at the local level and, at best, manage expectations. The scoping process for relevant and influential stakeholders is important; for instance, Cox *et al.* (2014:54) demonstrate how religious institutions could have an important role to play in at least eight of 15 governance functions they discussed. This reinforces the essence of social capital as well as how local institutions and culture could be more relevant to active engagement in collaborative processes, which could help "lower

transaction costs” and enable the system to be “self-enforcing”. Secondly, the scepticism, mistrust and people’s prejudices could be reduced by *building integrity and legitimacy* through the involvement of neutral brokers. Finally, there is a need to *create a sense of attachment* to the resource in question and to the local people. Although we regard the management of collaborative processes as an art and a science, or as being socio-technical in nature, the ‘socio’ attached to our typology suggests it is not too rigidly methodical, but accommodating, flexible and context-dependent.

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Chapter Six

Institutional Analysis in Natural Resource Governance⁴

Abstract

Natural resource governance is enhanced and structured by rules, norms and strategies; this makes institutionalism quintessential in the natural resource governance discourse. Undertaking a retrospective analysis of classical theoretical literature and recent empirical experiences of natural resource institutions, this chapter discusses institutional analysis as it pertains to the natural resource governance context. Synthesizing from the relevant literature, this review designs and discusses an analytical framework to illustrate how formal and informal institutions structure natural resource governance. The key elements in the framework are: *biophysical element*, *process and institutional element*, *behavioural choice element*, *enforcement mechanisms* and an *outcome element*. The chapter argues that for formal rule to be more effective greatly depends on its relationship with the informal institutions and more importantly their enforcement complementarities. The study consequently discusses key elements that influence the effectiveness of natural resource rule enforcement. This review concludes that both formal and informal institutions serve as catalysts to reinforce natural resource governance; however, the two could also combine to form a clandestine network to facilitate unethical resource exploitation. The chapter puts forward the view that it is not institutions *per se*, but the “nature of interaction” between formal and informal institutions together with the “enforcement mechanisms”, which will to a large extent determine the kind of resource outcomes.

Keywords: institutionalism, natural resources, formal institutions, informal institutions, enforcement

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6.1 Introduction

Modern thinking on sustainable development (SD) maintains that the philosophy of development should view each of the three SD values (economic, social and environmental) as complementary and not substitutory (Tafon & Saunders, 2015; Hartanto *et al.*, 2003). Research has been advanced for a need to adopt an approach that seeks to harmonise natural resource protection, on the one hand, and people's reasonable usage for socio-economic purposes on the other hand, *albeit*, in an uneasy relationship (Gbedomon *et al.*, 2016; Nkhata, *et al.*, 2012; Silva & Mosimane, 2012). Achieving such balance requires appropriate access and tenure rights on the part of people and groups together with a robust institutional underpinning which will help drive sustainable behaviours (Leach *et al.*, 1999; Ceddia *et al.*, 2015).

Scholars contend that even in situations where there are access and tenure rights systems, their enforcement may not be effectively guaranteed when exclusively left in the hands of formal state regulators, especially in the developing world (Gauld, 2000; Sundar, 2000). Merging the above goals (socio-economic and ecological imperatives) requires a prudent approach that defies exclusive management of state agencies. In other words, there is a need to balance formal institutions with community attributes⁵ to avoid legitimacy challenges (Brown & Lassoie, 2010) and to enable effective monitoring (Górriz-Mifsud *et al.*, 2016). This is largely because of the widespread failure of centralised management of natural resources in the 1970s, which brought to the fore the realisation that achieving resource sustainability cannot be achieved without effective participation of relevant stakeholders (Brown & Lassoie, 2010; Mohanty, 2004). There has, therefore, been an increasing movement away from the archetypical centralised administration towards more collaborative governance based on active participation of various actors at the local level (Deguigninet *et al.*, 2014; Evans *et al.* 2006; Hulme & Murphree 1999), which adequately

⁵ Community attributes include the number of agents involved, heterogeneity of their values, interests and power, as well as the levels and types of social capital they possess (Paavola & Adger, 2005:356); relations among groups and individuals (Coleman, 1990); networks of more or less institutionalized relationships of mutual acquaintance or recognition; social obligations and connections (Bourdieu, 1986:248); institutions, the relationships, the attitudes and values that govern interactions between people (North, 1990).

recognises people's rights and benefits (socio-economic development) in the conservation process (Nelson, 2004; Haller *et al.*, 2008).

The centrality of collaborative natural resource governance hinges on how the 'rules of the game' structure the power, benefit and responsibility relationships between state agencies, local agencies, the people and other various stakeholders. Owing to the complexities (the nexus between attainment of conservation and delivery of local socio-economic benefits) associated with natural resources and multiple stakeholders involved, 'institutions' are required to structure patterns of interaction (Brown, 2003; Saunders, 2011). They help to mediate and structure interactions (Ensminger, 1992; Agrawal, 1995; Gibson, 1999). Any meaningful assessment of natural resource governance cannot rule out the centrality of institutions and the way they shape conceptions and values of people regarding particular resources and their management (Ostrom, 1990; Agrawal & Gibson, 1999; Agrawal, 2001; Cleaver, 2012). The main objective of the chapter is to provide a critical overview of 'institutions' in the context of natural resource governance and to illustrate, with the help of a framework, how formal and informal institutions structure natural resource governance. More importantly, the chapter discusses key measures to enhance the enforcement of formal and informal rules to maintain a balance between natural resource protection and people's socio-economic usage.

This chapter is organised into five main sections. Section one provides a general introduction and background; section two conceptualises the nexus between formal and informal institutions. The levels of formal rules are highlighted whilst three different connotations of informal institutions are conceptualised in this section. The third section provides a brief methodology. Section four discusses the natural resource institutional framework depicting six key elements. With the use of empirical literature, the framework demonstrates how formal and informal institutions structure natural resource governance. The final section provides the conclusions drawn from the study.

6.2 Conceptual overview: institutions

North (1991:97) conceptualises institutions as “the humanly devised constraints that structure political, economic and social interactions; they consist of both informal constraints (sanctions, taboos, customs, traditions and codes of conduct), and formal rules (constitutions, laws, property rights)”. The author notes that human societies have devised and adopted institutions in an attempt to create order and reduce uncertainty in exchange. North’s definition appears to emphasise ‘institutions as a constraining mechanism’; however, institutions should not just be seen as constraints but also as ‘enabling’ mechanisms that provide rights and benefit systems, powers and responsibilities and choice sets. This study therefore, defines natural resource institutions *as mutually shared codes and prescriptions that regulate human actions and their relationships by constraining and enabling people’s choice sets regarding a particular biophysical element; as well as the means and strategies for ensuring compliance.*

The definition is premised on the fact that institutions serve as the ‘rules of the game’ that underpin common pool resources management or governance, the absence of which may lead to the ‘tragedy of the commons’ where “each man is locked into a system that compels him to increase his herd without limit – in a world that is limited” (Hardin, 1968:1244). The combination of both formal and informal institutions tends to define the choice set available to actors, which provides them with a set of transaction costs,⁶ and who by acting rationally will embark on actions with least costs (Paavola, 2007). The mention of ‘institutions’ connotes a ‘shared understanding between entities or parties’; this is mostly devised by individuals, groups and communities to guide repetitive interactions organised by *norms* and *rules* (Ostrom, 1990). *Norms* as used in institutionalism suggest moral behaviour, ethical standards or patterned (conventional) ways of doing things; they are shared prescriptions largely enforced by participants themselves (Ostrom, 1999a). *Rules*, on the other hand, connote regulations characterised by enforcement complementarities, enforced by

⁶Although transaction cost implications have not been given much recognition in natural resource governance research, they do elucidate the implications of institutional designs for governance outcomes (Paavola, 2007; Paavola & Adger, 2005).

designated agencies, processes and procedures in a more predictable manner, usually by a third party (Crawford & Ostrom, 1995).

6.2.1 Distinguishing between formal and informal institutions

6.2.1.1 Formal institutions

Imperial (1999) discusses formal institutions as those that include laws, policies, regulations (rules and prescriptions) which forbid and permit, together with the expected outcomes and sanctions associated with deviation. According to the institutionalist school of thought, formal institutions are closely related to the corridors of state, its agencies, officials and state-sanctioned activities (Boussard, 2000). From that perspective, they are conceptualised as all actions, principles, procedures and agencies involved in the act of controlling the organised instruments of the state and the political process (Friedrich, 1953; cited in Lauth, 2000). Lauth (2000) therefore states that formal institutions involve the prescriptions, instruments and instructions that are largely codified, having the status of constitutional clauses and laws that are guaranteed and sanctioned at multiple levels largely by public agencies. Formal institutions as used in the context of natural resources governance are therefore characterised by:

- (i) National and federal constitutions, statutes, laws, directives and local government laws regarding natural resources;
- (ii) the activities, procedures and operations sanctioned by state agencies and officials, e.g. forest agencies and officials;
- (iii) rules that are authoritatively passed (with public or state power) to govern a particular resource and to shape relationships between stakeholders and the resources;
- (iv) rules that are generally binding with prescribed enforcement complementarities;
- (v) adequate certainty of outcomes when one deviates from such rules and generally not borne out of discretion.

From the above account, it is evident that formal institutions and structures are designed to, among other things, regulate how humans interact with natural resources (see Paavola, 2007). The ability to structure the interaction to a large extent depends on the effectiveness

of the enforcement mechanisms. The rules which structure human-nature interactions and actions are organised on three main levels (see Table 6.1).

Table 6.1: Levels of formal rules

Level of rule	Elucidation
Operational rules	Decisions about when, where, and how to do something, who should monitor the actions of others, how actions should be monitored, what information should be exchanged or withheld, and what rewards and sanctions will be assigned to combinations of actions and outcomes (e.g. appropriation, provision, monitoring and enforcement)
Collective-choice rules	They influence operational activities by determining how operational rules can be changed and who can participate in these decisions (e.g. policy making, management and adjudication)
Constitutional-choice rules	They influence operational rules by determining who is eligible to participate and collective choice rules by determining how they are changed (e.g. governance and modification of constitutional decisions)

Adapted from Imperial (1999); Kiser and Ostrom (1982)

The *operational rules* (also known as *surface-level* rules, see Thomson & Freudenberger, 1997) involve the routine decisions at the local level dealing with *when, where, how* and *who* questions; the directives to sustainably use or manage a given resource system and the authority to change, enforce or selectively neglect to apply a given set of rules is a *collective choice* right. Those who can make such collective choices are determined by *constitutional choice* rules, including the fundamental question of who owns the land and its resources. In effect, the three levels of rules together with their enforcement provides directions to individuals and groups in their actions and inactions with respect to how people access natural resources by way of indicating what is detestable, permissible, the extent of access and the cost of deviation. The point has been made by Ostrom (1999b:51) that ‘the working

rules' or 'rules in use' involve "the set of rules which participants would make reference to if asked to explain and justify their actions".

Apart from the centralised rules, political decentralisation (devolution) has enabled local governments and communities to have their own by-laws for regulating natural resources. Additionally, through administrative decentralisation of state agencies (de-concentration), many local communities have within their jurisdiction personnel, offices and structures of state to represent and enforce the directives of the central agency. For instance, Agrawal and Ostrom (2001) observe the role of forest councils (FC), which formally govern vast territories of at least three districts in Kumaon (India); this indicates how formal institutions underscore natural resources governance through decentralisation. As part of the local (operational) rules sanctioned by the council, villagers have been given permissible parameters, beyond which the villagers cannot cut down trees.

6.2.1.2 Informal institutions

The mention of 'informal institutions' may connote different meanings at different times. This suggests that informal institutions may elicit more than one meaning depending on the context. Helmke and Levitsky (2004:727) define informal institutions as socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels. From the above definition and its context, the conceptualisation of informal institutions hinges on some indicators which include, *inter alia*, (i) social and cultural beliefs and norms, (ii) mostly not codified, (iii) non-state-sanctioned regulations, (iv) systems enforced by actors (local people) themselves, and (v) rarely could mean clandestine activities such as bribery and corruption. In the latter regard, Helmke and Levitsky contend that "informal institutions are used to virtually connote any behaviour that departs from, or is not accounted for by, the written-down rules" (Helmke & Levitsky (2004:727)).

Informal institutions as tradi-cultural systems and norms

Informal institutions have been discussed as involving the traditional governance arrangements, including chieftaincy and priesthood systems as well as cultural belief

systems. These are mostly seen in the developing world, where traditional systems continue to wield influence. In a retrospective analysis of eight (8) natural resource governance cases from the southern African context, it was observed that one element which ranked very prominently was the essential role played by traditional leaders. The authors observe that where traditional leadership was strong and legitimate, their influence had a corresponding impact on the sustainability of environmental resources (Shackleton, *et al.*, 2002; Larcom *et al.*, 2016). One unique trait associated with traditional institutions and environmental conservation is the animate role attached to the resources that makes their protection more like a ritual and linked to the people's wellbeing. Shackleton *et al.* (2002) have noted that natural resources in the African context have not only been considered for the products and valuable ecological services derived from them, but those resources such as trees, animals, water bodies and aquatic lives, and mountains have also been the linchpin of the people's religion and cultural beliefs and were to be kept free from abuse by human activities.

From this perspective institutions connote customary rights or pre-existing rules passed down from generation to generations, ostensibly to protect, maintain and sustain natural resources within a particular context and mostly not codified into law (Otsuka & Place 2002). They are promulgated, monitored enforced and sustained within the culture and narratives of a given community, even though this may appear questionable to people from a different culture or context. For instance, Colding and Folke (2001) assess the role of 'social taboos' (resource and habitat taboos – RHTs) in natural resource and biological conservation. They group the RHTs into six categories, depending on their role in natural resource conservation and management.

Table 6.2: Taboos and natural resource regulation

Category of taboo	Function
Segment taboos	Regulate particular natural resources withdrawal
Method taboos	Regulate methods of natural resources withdrawal
Temporal taboos	Regulate access to natural resources in time
Life-history taboos	Regulate withdrawal of vulnerable life-history stages of species
Specific-species taboos	Total protection of species in time and space
Habitat taboos	Restrict access and use of resources in time and space

Source: Colding and Folke (1999)

Table 6.2 demonstrates how informal institutions tend to control and regulate, through traditional and cultural belief systems, the way people interact with particular natural resources within a particular traditional area. Some particular taboos could have more than one conservation value (see Berkes *et al.*, 2000; Colding & Folke, 2001; Negi, 2010). In a study in northern Ghana, Millar (2003) notes that the traditional informal institutions and belief systems have major conservation value, which becomes more robust when combined with modern democratic elements.

In spite of the conservation values associated with traditional belief systems, in most cases they tend to be downplayed in the design of natural resource governance frameworks; this has been a major cause of the failure of most environmental management regimes in the global south (Fairhead & Leach, 2004:13; see also Kamoto *et al.*, 2013). Osei-Tutu *et al.* (2015) contend that the fortress approach adopted by central governments to govern natural resources overruled and undermined most of the then existing informal local institutions. Observing the relevance of functional institutions in a study context in Ghana, the authors argue for “effective incorporation of informal local institutions in forest management (which) requires effort to revitalise traditional institutions, and where necessary develop new ones” (Osei-Tutu *et al.*, 2015:34)

Informal institutions as outside the proper sphere of official space

The idea is that acceptable behaviour, actions and groups organise their interactions within the formal space, adopting proper channels of communication and procedure. Consequently, any acts, actions, behaviours or activities developed outside of formal law or formal space and channels, are usually viewed as ‘informal sectors’ or ‘informal economies’ (Guha-Khasnobis *et al.*, 2006). Any arrangement or transaction outside of formally established rules, procedures and practices could be viewed as *informal*. In that regard, norms and routines that formal enforcement agents and forest resource users enter into (outside of laid-down procedures) constitute an informal institution. These may be “acceptable norms” generated out of good will, or “unacceptable norms” propelled by dubious motives (Teye, 2013a) or social relations (Nunan *et al.*, 2015). Whilst the former is largely advocated the natural resource governance literature, the latter have not been adequately discussed in the literature.

This chapter argues that any clandestine activity which occurs ‘within a black market’ or blind side of formal institutions should be viewed as an informal institution. For instance, if forest officials bend the rules and acceptable norms to solicit financial favours from loggers, the action occurs outside proper sphere of official rules, procedures and established norms, and it then becomes corruption viewed as informal institution. It is within this context that Robbins (2000) conceptualises “informal institution” to connote any behaviour that departs from, or is not accounted for by, the written-down rules. This also reflects a view of Helmke and Levitsky (2004:727), who define informal institutions as “*socially shared rules, usually unwritten, that are created, communicated and enforced outside of officially sanctioned channels*”. The concluding phrase “*communicated and enforced outside of officially sanctioned channels*” is to be understood in this regard, because the authors had initially identified terms such as “clientelism, corruption, clans and mafias”, and it was within this context that they gave their substantive definition. This perspective is also shared by Pacheco *et al.* (2009:7), who define informal rules as those occurring “*out of the reach of formal judicial frames in any level of decision-making and elaborated outside of official spheres*” (Lauth 2000; Brinks, 2003; Casson *et al.*, 2010). These include activities such as bribery and

corruption, clientelism, nepotism, favouritism, and illicit use of discretion. Put differently, this typology of informal institutions applies when rules and acceptable norms (habits, values and practices) are illicitly bent, side-stepped or massaged to render them impotent, so that unethical and illegal transactions could operate freely. For instance, Teye (2013a) observes how corruption through neo-patrimonialism encourages exchanges between top officials of the Forest Services and timber contractors in Ghana, which affects formal monitoring and enforcement of rules.

Informal institutions as community sanctioned activities

Informal institutions have also been viewed as shared approaches that are adopted and locally enforced by particular communities through their own leaders. Firstly, people self-organise to create, apply and enforce rules to protect and manage a given resource system when the perceived benefits outweigh the costs, and the said communities can pursue such ends without the interference of a third party (e.g. the state).

In most natural resource communities, people form groups to communally enforce rules and norms in an effort to collectively protect their interests. These informal groups such as watch dog committees, community protection groups, youth groups and gender-based groups tend to augment the work of formal state agencies. For instance, Ballabh *et al.* (2002) illustrate how informal groups contribute to natural resource governance in India. They observe how since 1996 a village 'Parwara' has formed three Woman Forest Protection Committees, each comprising 13 members, and demarcated their forests into three parts, with each committee having a monitoring role over their assigned territories. They monitor forests to assess the damage done and the extent of encroachment on monthly basis.

These community-sanctioned committees have been present in India where Van (forest) Panchayats emerged as a response to the people's movement against forest reservation at the beginning of the 20th century. This culminated in the phenomenon of Forest Protection Committees geared towards addressing the severe degradation of natural (particularly forest) resources (Bhattacharya *et al.*, 2010). These village committees were so successful in the

protection of forest resources that they did not even want to join the formal Joint Forest Management (JFM), which they believed may reduce their effectiveness (Ghate, 2000).

6.3 Methodology

The chapter undertakes a literature analysis of theoretical and empirical studies mainly drawn from journal articles and scholarly books that are relevant to natural resource institutional analysis. The research initially began with the framing of key search phrases and questions to help sample relevant literature for the review. The author therefore keyed in structured phrases and questions (variously) to help identify a large pool of literature. Three main search domains – *Scencedirect*, *TandFonline* and *Google Scholar* – were mainly used based on their relevance to the study and accessibility to the researcher. The search process involved the use of key phrases and questions related to institutionalism in natural resource governance. For instance, “institutions and natural resource governance”, “rules and power sharing in co-management”, “institutionalism in natural resource governance”, “formal and informal rules in natural resources” were used. These phrases were at times posed in question form and keyed into different search engines to obtain a large pool of literature relevant to the study. This large pool was initially sorted for relevance by scanning through their abstracts. The search process pooled out close to 150 peer-reviewed articles. After sorting them, all abstracts were independently reviewed by the author and two project supervisors. At the end of the process, the three met to eliminate duplicates and made a shortlist of abstracts for detailed and systematic review. The study finally agreed on some 90 relevant sources; however, in the process of writing up and analysis, other equally relevant materials especially from the journal *Forest Policy and Economics* were added (included in References). The evidence that emerged from the materials was analysed using content analysis; the researcher classified the content into themes, especially in the discussion section.

6.4 Discussing institutional analysis in Natural Resource Governance

The discourse on natural resource institutions involves interplay of rules, norms, structures and actors together with their interactions. Institutional analysis involves the task of “identifying the possible multiple and overlapping rules, the groups and individuals affected by such rules and the processes by which the particular sets of rules change in a given situation” (Agrawal & Gibson 1999:638).

Any study aimed at adequately assessing natural resource institutionalism ought to schematically analyse (i) the institutional arrangement; (ii) the nature of the institutional arrangement (whether polycentric or hierarchical); (iii) the action arena to determine the extent to which different stakeholders or actors make informed decisions; and (iv) the rules and strategies that structure relationships between actors and resources. See Table 6.3.

Table 6.3: Institutional analysis

Element	Meaning
Institutional analysis	The process of analysing the design and performance of institutional arrangement
Institutional arrangement	The structure of the relationships between the institutions involved in some type of common endeavour (action arena)
Polycentric institutional arrangement	One that has multiple centres of shared or overlapping authority
Hierarchical institutional arrangement	One that has a clear hierarchy of authority
Action arena	Those individuals or organisations that make decisions based upon information about how actions are linked to possible outcomes and the different costs and benefits attached to actions and outcomes
Rule	Prescription that forbids, permits, or requires some action or outcome and the sanctions associated with failing to follow a rule. They can be formal (e.g. laws, policies, regulations, etc.) or informal (e.g. behavioural norms).

Source: Adapted from Imperial (1999)

6.4.1 How institutions structure natural resource governance: A framework

On the basis of the review above, we provide a graphical view of how institutions underpin and influence outcomes in natural resource governance, with empirical evidence from the literature. Largely drawing from the works of Ostrom (2005), Oakerson (1990), North (1991) and Ostermeier (1999), this study adapts the institutional analysis and development design to discuss a conceptual framework to explicate how natural resource institutions structure relationships and outcomes in natural resource governance. See Figure 6.1.

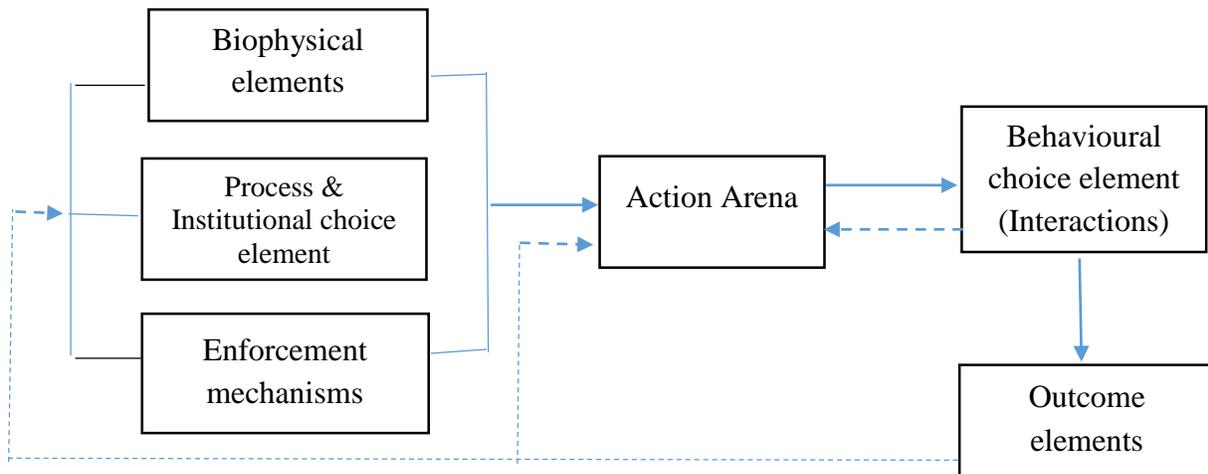


Figure 6.1: Natural Resource Institutional Framework

Source: Author, adapting ideas from Ostermeier (1999); North (1991), Ostrom (2005)

From the framework (Figure 6.1), institutional analysis involves a biophysical element which interacts with a process and institutional element (together with enforcement mechanisms). The interplay between the biophysical element, institutions and enforcement determines the behaviour of stakeholders or actors towards the natural resource. This interplay determines how actions generate particular behavioural choices (including the costs and benefits associated with particular actions and inactions) and the ensuing natural resource outcomes. The framework discusses five elements; *biophysical element*, *process and institutional element*, *behavioural choice element*, *enforcement mechanisms* and an *outcome element*. The main object here is to assess how process and institutional elements together with enforcement complementarities produce behavioural choices and particular

resource outcomes. The chapter discusses this using evidence from different contexts drawn from the empirical literature.

6.4.1.1 Biophysical element

A *biophysical element* refers to the particular natural resource (common pool resource) available in the community which has various stakeholders. The biophysical element could be a forest resource or reserve, wildlife, marine and aquatic resources, or mineral resources. These are natural endowments available to the community and mostly have societal values and economic demands, which could perhaps mitigate the poverty situation of community members. The biophysical element has numerous potential uses and users, which largely entails an interplay between conservation goals and local socio-economic demands on the resource. Even at the local level there are interlocking demands and stakeholders; this requires clearly defined ‘rules of the game’ to ensure positive, sustainable or equitable outcomes. Put differently, biophysical resources have multiple stakeholders who may perhaps want to use the same resource for conflicting purposes. Blyth *et al.* (2011) explain that human preferences evolve and it is more likely that different societal members and interests will develop different preference clusters, which means a significant variation within populations; and “individuals may have multiple and often conflicting preferences” (p. 12). The argument is that these are common pool resources – and therefore subtractable and non-exclusive, which in turn makes such resource systems problematic, because positive outcomes require collective action (Ostrom *et al.*, 1994; Williams, 1998).

6.4.1.2 Process and institutional element

Owing to the potentials inherent in the biophysical element, a second component, *a process and institutional element*, is crucial in order to prevent a ‘tragedy of the commons’ syndrome, where “each man is locked into a system that compels him to increase his herd without limit – in a world that is limited” (Hardin, 1968). The role of institutions is, therefore, quintessential in the ordering of human relations, preferences and choices. Institutional arrangements are conceptualised as the interplay of formal rules and state agencies (at multiple levels), on the one hand, and informal institutions and norms, on the other hand (North, 1991). This arrangement together with the subsequent processes collectively

provides a framework that shapes natural resources and also provides incentives that determine how people behave and interact with the resource and among themselves. Ostrom (2011) provides six key pointers useful for analysing the operationalisation and efficacy of ‘rules in use’ in the natural resource governance context. These are illustrated in Table 6.4.

Table 6.4: Institutions and natural resource governance

Forms of rules	Elucidation
Position rules	What criteria are used to promote people from ‘ordinary member’ status to a position or a specialised task, for example, chairperson of a wildlife management committee?
Scope rules	What is the level of knowledge and understanding with regards to what is permissible and forbidden (geographic and functional domains)? Are there documents (including maps) to delineate who can access from which territory?
Choice rules	What is the awareness level with regards to acceptable, required or mandatory resource harvesting technology or approach? For instance, must forest users use some cutting tools and not others?
Aggregation rules	What is the awareness level with respect to the rules affecting the choice of harvesting activities? For instance, do people need prior authorisation or consent of others?
Information rules	What kind of information needs to be kept secret and what must be communicated publicly?
Payoff rules	What is the extent of sanctions that could be imposed for breaking any of the five rules above? How do people monitor rules to ensure compliance and who is responsible for sanctioning non-compliance?

Adapted from Ostrom (2011:20-21)

Table 6.4 shows that working rules structure natural resource governance by providing clear guidelines and answers to the above elements via *position provisions*, *scope provisions*, *choice provisions*, *aggregation provisions*, *information provisions* and *payoff provisions*. These provisions are critical to regulate how individuals and groups interact with or approach natural resources. Though institutions are useful, their relevance is more determined by the

extent to which they interact or forge alliances with one another to elicit the preferred patterns of behaviour from societal members (Ostermeier, 1999). The institutional process remains the cornerstone for social interaction by assigning roles, enhancing actions and constraining behaviours; they are also critical to the decision-making process and determine the extent to which decision making should be open or closed, who should be involved as well as how conflicts are managed in society (ibid.). Institutions have deliberately been designed (they also evolve) with societal and organisational embedded values, interests, goals and resources that constrain or enable human behaviour in society (North, 1991; Hodgson, 2006; Leftwich, 2007; see also Kiser & Ostrom, 1982 as discussed in Table 6.1). The ‘process’ and ‘institutional element’ in natural resource governance (see Figure 6.1) essentially provide the arena and choice sets for relevant stakeholders to organise, structure and carry out their tasks in an orderly way, whilst providing the appropriate mechanisms and channels to effectively address concerns through a well-established procedure or norms of practice (Habermas, 1984). The argument is that, without the procedure and institutional structures, individuals and groups will find it difficult to interact among themselves and with the common pool of resources; more problematic will be the way to resolve any misunderstanding that may arise.

6.4.1.3 The enforcement mechanism

A third element, the *enforcement mechanism*, is a crucial part of the institutional process. Gibson *et al.* (2005) maintain that it is fundamentally critical to achieve the desirable outcomes in natural resource management. Among other factors, including ‘high level of social capital’, ‘presence of formal organization’ and ‘people’s degree of dependence on forest products’, Gibson *et al.* (2005) rate ‘institutional enforcement and monitoring’ to be the most critical for a consequent improvement of forest management interventions (Ghate & Nagendra, 2005). The institutionalist school of thought argues that there should be rules, which are well known and effectively enforced so that they are internalised. North (2005) states that achieving effectiveness through institutionalism involves an interplay between three important elements: *the formal rules, informal norms and their enforcement characteristics*. Institutions become less relevant if they are unable to structure human interaction; without the tools, skills, personnel and requisite level of autonomy to forge a

link between rules and their enforcement to adequately enable or constrain human actions, institutions remain largely useless and dysfunctional.

In most cases, enforcing natural resources rules to elicit preferred human actions or behaviour (conformity) becomes quite problematic. Agrawal (2003:257) notes that “actual human behaviour, even in the context of well-enforced institutional rules, is unlikely to conform precisely to institutional contours ... perfect enforcement is far too costly ever to be achieved”. Ballabh *et al.* (2002) use two cases from India to discuss the rise and fall of institutions involved in the management of forest resources. The study observes that although local institutions (Van Panchayat of Parwara) had been empowered to sanction offenders by slapping fines on them, enforcement has been problematic. Between 1992 and 1996 a default rate (in terms of fines and actual payments) of 79% was recorded (see p. 2161). In Garhmal village, however, there is no record of fines, even though there is evidence of frequent tree felling in the forest. These enforcement laxities are widespread, especially in developing societies where informal institutions (in the context of clandestine activities such as bribery, corruption etc.) make public officials illegally transact formal rules for material gains (Teye, 2013a). These empirical findings suggest that natural resource institutions are hardly effectively enforced. The biggest question is: How could we achieve enforcement effectiveness? This section discusses some key themes required to enhance effective enforcement of natural resource institutions.

Principles underpinning natural resource institutional effectiveness

Cox *et al.* (2010) provide some indicators for enhancing natural resource institutional effectiveness. The authors underscore that rules should possess some specific indicators that will enhance their influence in terms of regulating behaviours. This has been illustrated in Table 6.5

Table 6.5: Principles for NR institutional effectiveness

Principles	Elucidation
User boundaries	Should delineate clear and locally understood boundaries between legitimate users and non-users
Resource boundaries	Should delineate clear boundaries that separate a specific common-pool resource from a larger social-ecological system
Fit to local condition context	Appropriation and provision rules are to be congruent with local social and environmental conditions
Appropriation and provision	Appropriation rules are congruent with provision rules; the distribution of costs is proportional to the distribution of benefits
Collective-choice arrangements	Most individuals affected by a resource regime are authorised to participate in making and modifying its rules
Monitoring users	Individuals who are accountable to or are the users monitor the appropriation and provision levels of the users
Monitoring the resource	Individuals who are accountable to or are the users monitor the condition of the resource.
Graduated sanctions	Sanctions for rule violations start very low but become stronger if a user or users repeatedly violates a rule
Conflict-resolution mechanisms	Rapid, low-cost, local arenas exist for resolving conflicts among users or with officials
Minimal recognition of rights	The rights of local users to make and enforce their own rules are recognised by the government

Source: Adapted from Cox *et al.* (2010)

Generally, the principles emphasize the need for localizing the institutional design and monitoring. Observing enforcement laxities in India's JFM institutions, Singh *et al.* (2011:132) emphasise "an urgent need for the establishment of credible local monitoring, local rule-making and local enforcement systems in every village-level JFM organisation to facilitate local learning and adaptation. Further, local enforcement is often most effective in the case where forest management is initiated by the community".

Pandey (2010) also provides additional principles to underpin institutional arrangements of natural resources (forests) so that enforcement will be effective. See Table 6.6 below.

Table 6.6: Institutional effectiveness ‘fitting to context’

Institutions	Locally evolved institutional arrangements
Interaction	Stakeholders maintain frequent face-to-face communication
local enforcement	Continuous learning about the social-ecological systems, rule compliance, patrolling, guarding against unauthorised use, fines and sanctions in dealing with offenders
Monitoring and adaptations	Local monitoring is a powerful tool for management of ignorance among stakeholders and managers
Livelihoods improvement	Livelihoods improvement through employment, village development, sharing of goods, and sharing of service payments.
Generating and linking knowledge to action	Adaptive actions and contextualised enforcement enables the creation of ideas which result in solid innovations.

Source: Adapted from Pandey (2010)

Tables 6.5 and 6.6 provide principles to enhance the enforcement process and indicate how natural resource institutions could elicit compliance most effectively. How could such principles be converted from thought to action? The themes below are discussed to demonstrate how enforcement of natural resource institutions could be enhanced.

Adequate technical resources

Officials or agencies need to be tactful in the natural resource enforcement process; this is because natural resource issues involve maintaining a balance between political, social and technical imperatives.⁷ Enhancing institutional effectiveness requires some specific criteria

⁷ Natural resource issues involve a whole set of actors and stakeholders. It is not just about “providing technical solutions to objective problems of development and environmental conservation [but part of a bigger] political process” (Agrawal, 2003:258).

involving implementation resources, including personnel, finance, tools and equipment, technology, legal arrangements and autonomy. When these are poorly provided, natural resources rules will be poorly enforced and cannot elicit the preferred human behaviour and compliance. Agrawal (2003:257) argues that “when resources devoted to enforcement of institutions are limited, resource use patterns are far more likely to diverge from what rules specify”. For instance, if forest officials do not have the motor bikes or vehicles to detect, chase and arrest offenders, monitoring will be ineffective. Similarly, if the officials do not have adequate autonomy or powers to work without fear or favour, they remain toothless bulldogs. It should, however, be noted that too much discretionary power and autonomy without adequate accountability is likely to facilitate clandestine transactions and could foster corruption (Transparency International, 2010:2).

Attention to local power brokers and local politics

Concentrating solely on rules and resources (as above) becomes more structural in nature and that alone cannot meaningfully elicit effective enforcement. A critical criterion is *institutional complementarity*, which measures the extent to which formal rules are supported by the informal values and norms of people in the society or resource community (Helmke & Levitsky, 2004). Rule enforcement requires some form of local politics and crafting alliance with local power brokers. Agrawal (2003:258) maintains that “issues of agency, the mutually productive relationship between domination and resistance, and the creation of institutional arrangements can be understood only with greater attention to micro-politics”. Agrawal further explains that “management is not just about providing technical solutions to objective problems of development and environmental conservation [but part of a bigger] political process” remaining oblivious to this fact will render natural resource institutions ineffective. Understanding the local context has an added advantage of getting local support, which is much needed for monitoring purposes. Local monitoring is a powerful tool for institutional effectiveness; participatory monitoring helps engender locally relevant data, information and knowledge, and induces adaptive actions by stakeholders for putting knowledge into action (Pandey, 2010).

Blending management science with good governance principles

It is very important to involve community members and relevant groups in the enforcement process, but that alone would be useless without recourse to sound implementation and management science (Kabiri, 2004). Likewise, relying solely on rational science or a linear scientific approach will not produce effective outcomes. Arts *et al.* (2014) challenge linear accounts of governance processes and the role of knowledge in these processes as overly idealistic and mechanical. The authors argue that interventions cannot be externally imposed on a system, but local factors should always be an integral part of that practice. They maintain that the institutions people readily heed do not just emerge naturally or through a neat process, but are the result of a combination of history, context and practice.

Drawing inferences from (i) a *situated agency* gendered-mainstreaming policy in Forest Protection Committees in Andra Pradesh, India; (ii) a case where a *logic of practice* of artisanal loggers in Bolivia made them behave as indigenous community members to outwit laws; (iii) finally *performativity* in EBONE project (the European Biodiversity Observation Network, funded by the EU FP 7 programme), Arts *et al.* (2014) apply rational choice and neo-institutionalism lenses to argue that individuals and groups may not necessarily respond to the main logic of rules but in most cases may respond based on the historical and their own interpretation of the rules and how they best fit their context. The approach is based on an assumption that effective enforcement of rules and policies ought not to be regarded as a linear application of a set of external rules, but as an internal and dynamic process of interpretation and negotiation of policies in specific contexts (Fischer & Forester, 1993).

In a related empirical study, Weiss (2000:252) observes that policies (institutions) are more easily understood in the context of the institutional settings and through the interplay of interests and values of political actors than by the formal characteristics of the policy instruments. He concludes “in practical application, the informal functions of policy instruments are more important than their formal characteristics ... all three instruments presented (the case studies) were not primarily implemented in the way they were formulated in the law”.

Natural resources involve greater stakes, with an array of messy problems, needs and concerns in a context of multiple uses and users; paying attention to essential governance (human skills) principles is imperative. This point is forcefully brought home by Lockwood *et al.* (2010) that natural resource governance occurs in a context where “interests are diverse, and (involves) a coordination among public, private, and voluntary sectors”; it is therefore imperative for agencies to adopt good governance principles to enhance success (Lockwood *et al.*, 2010:997). The authors highlight and discuss eight principles that are relevant for enhancing institutional enforcement in a way to get the best results in natural resources governance. These good governance principles are: legitimacy, transparency, accountability, inclusiveness, fairness, integration, capability and adaptability (Lockwood *et al.*, 2010:1997). Good governance practices on the part of state agencies are critical to rule enforcement and there have been instances where the unscrupulous practices of agencies have undermined a process that used to perform very well when it was under community enforcement.

Ballabh *et al.* (2002) provide a typical case where Van Panchayats (forest protection committees) had provided vibrant systems when they were controlled, managed and devised by the local people. However, with the passage of time when these resources were placed under heavy control by the Forest Departments, involving the loss of autonomy of the people and their local structures, the consequence was conflicts and serious challenges to resource governance and institutional effectiveness. Ballabh *et al.* (2002) observed high rates of encroachment on forestlands and pilferage, exacerbated by bribery and corrupt transactions among forest officials and individuals or groups where the net social loss affected the entire society (Teye, 2013a). This suggests that neglecting sound management and good governance practices by the agencies leads to poorer outcomes, an implication being that by adopting good governance practices (sound science) and blending this with social capital will make rule enforcement more effective (Kabiri, 2004).

Social capital and network

As has been indicated above, enhancing institutional effectiveness also requires ‘social capital’ which is “the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalised relationships of mutual acquaintance or recognition” (Bourdieu, 1986:248). Bourdieu’s thesis is that *habitus* – structuring structures – operate and are enforced unconsciously through social norms and values that shape subsequent strategies and perceptions. The structuring process is developed, nurtured and eventually becomes institutionalised through strategies oriented towards inter-group collaboration and appeal to relevant opinion leaders. Through networks and trust building, individuals and groups are more likely to participate in the execution, monitoring and oversight processes of institutions. In other words, the nurturing of social networks is essential to the success of cooperation and conflict management in the natural resource governance context.

Scholz and Wang (2006) argue that in the context of institutional enforcement and people’s compliance with ecosystem restrictions, social networks could have a higher potential even than the existence of formal restrictions (Cross, *et al.*, 2002; 2006). An appreciation of the array of rules and norms, rooted in history and social relationships, nurtured and reshaped on a regular basis lead to the provision of a satisfactory explanation of how institutions could lead to preferred behaviour and outcomes (Cleaver, 2001; de Koning & Cleaver, 2012). The nurturing of social capital requires adequate cooperative activities and working relations; in their study Borg *et al.* (2015:96) contend that “the finding that there are more ties of trust *between* communities than *within* them suggests that trust has not been built on common goals or information exchange, but on working together... it is important to notice that ties and connections form between very different actors even though there are differences in their goals”. The above suggests that the use of information exchange, peculiar strategies aimed at advancing human skills to get relevant societal actors and groups on board is very feasible in natural resource governance, even though it may require some effort (Yeboah-Assiamah *et al.*, 2016).

The above notwithstanding, social networks could also be a source of laxities in the enforcement of natural resource institutions. In an empirical study Nunan *et al.* (2015) use the concept of critical institutionalism to discuss how institutions influence the governance of natural resources (fisheries) in East Africa and Malawi. They observe that enforcement of rules and regulations is affected by a range of socially-embedded institutions interacting with bureaucratic institutions. They note that friendship, kinship and peer relations facilitate the unwillingness of some fisheries stakeholders, including members of community-based co-management structures, to enforce regulations where there is a relationship with the offender. This means that social relationships could influence rule enforcement positively or negatively. There have been various studies on the positive effects of social networks: they promote the mobilisation and allocation of key resources for effective institutional enforcement (Carlsson & Sandström, 2008; Carlsson & Berkes, 2005). They facilitate actors' commitment to ground rules whereby each agrees to engage in monitoring the enforcement processes of collective rules (Dietz *et al.*, 2003; Scholz & Wang, 2006) Social networks also help in conflict management and resolution (Hahn *et al.*, 2006, cited in Bodin & Crona, 2009). On the negative side, they could serve as softer ground for informal activities including bribery, corruption, favouritism and nepotism. Nunan *et al.* (2015) observe that such relationships may provide opportunities to demand or accept bribes in return for allowing fishing during closed seasons or returning seized gear by officials which may hinder the effectiveness of rule enforcement.

Initiation and issues surrounding design of the institution

How did an institution come about? Was it initiated and designed through a more democratic and consensus approach? Or was it imposed on community members by government (forest and wildlife) officials? The politics behind the particular institution, the way it was structured and role of forest officials has major implications for policy effectiveness (Agrawal & Chhatre, 2007). There is a need to allow a greater space to enable local involvement in formulation and execution, instead of 'micromanaging' the entire process. Agrawal and Chhatre (2007), on the basis of an empirical study in Himachal Pradesh, maintain that "the success of local resource governance institutions may be adversely

affected by the close involvement of higher-level government officials in decision-making processes. In other words, to enhance institutional effectiveness there is a need to allow greater scope (power, responsibility and resources) to be controlled by local people, whilst state agencies act as facilitators (see Bryson *et al.*, 2014 on post-NPM governance). To prepare the context for this take off, Coulibaly-Lingani *et al.* (2011) underscore the need to design and resource (empower) community governance structures and to involve local leaders (elected officials, traditional leaders and representatives from various stakeholders) as far as practicable. In this regard, constitutional-choice rules that determine and grant decision-making roles should endeavour to open up the decision-making arena to varying actors and stakeholders.

Decentralisation in natural resource governance should not lead to elite capture, where only a few dictate the process, or to a ‘disguised’ form of centralisation where the forestry department indirectly determines local forestry affairs in spite of legally elected local bodies (Faye, 2015). Additionally, attention should be devoted to customary ownership and rule systems; there should be a recognition of the importance of tenure rights and security, especially of vulnerable and marginalised groups (Coulibaly-Lingani *et al.*, 2009:523; Lambini & Nguyen, 2014). Lambini and Nguyen (2014) reiterate a need to ensure the effective enforcement, monitoring and evaluation of these rights, which are equally imperative for the promotion of people’s socio-economic livelihoods and sustainability of the resource. Teye (2013b:70) contends that, in an integrated policy network model, neglecting vulnerable groups during natural resource policy and rule formulation, means that these “marginalised groups are able to depend on their networks with forest guards to harvest forest resources illegally”. Teye argues that in the formulation process, relevant stakeholders, including marginalised groups, should be actively engaged in order to strengthen the support base of the institutions when it comes to enforcement.

Demand side of enforcement

There is empirical evidence to suggest that the introduction of new institutions (such as forest legislation, norms and standards) faces enforcement challenges (Bartley *et al.*, 2008;

Lockwood *et al.*, 2010; Arts & Babili, 2012; Schure *et al.*, 2015). Case analyses from developing countries indicate that decentralisation reforms and institutions, instead of enhancing equity, enabling greater local participation and empowerment, fostering responsiveness of government to citizens and furthering conservation, may actually result in a transfer of power to private bodies, customary authorities and non-governmental organizations (Ribot, 2007; Tacconi, 2007).

The laxities in institutional enforcement could be structural challenges or clandestine activities between agencies and some resource users, which in the end would affect the people and national interest (Teye, 2013a). The exigency, therefore, for community members and all stakeholders (including NGOs, media, interest groups) to show much interest in the enforcement process, so that it yields equitable socio-economic benefits and resource sustainability without compromising the collective rules, cannot be over-emphasised (Pretty & Guijt, 1992). Pretty and Guijt (1992:22) adopt a concept of “primary environmental care” defined as “a process by which local groups or communities organise themselves with varying degrees of outside support so as to apply their skills and knowledge to the care of natural resources and environment while satisfying livelihood needs”. This suggests that local groups and other non-state actors have a role to ensure, monitor and demand sound natural resource governance from state agencies.

Observing enforcement challenges largely propelled by rent-seeking activities in Joint Forest Management institutions, Behera and Engel (2006:360) argue for “an independent vigilance system to monitor and supervise JFM activities at the village level to improve accountability ... the involvement of existing institutions, such as the panchayats as well as the identification and engagement of reputed and committed NGOs”. The demand side of enforcement has been underscored by Agrawal and Yadama (1997), who assess various forms of local participation (regular elections, frequency of meetings, or investment in monitoring and protection) in three district of Kumaon (Almora, Pithoragarh and Nainita). Of all the indicators of participation assessed, the authors observe that the most significant factor happened to be the level of investment in monitoring and guarding the particular

natural resources. In terms of implementation, the authors intimate that “unless local communities [possess and] exercise the rights to participate in protecting their resources and monitoring their condition, the benefits from other forms of participation may well be nullified” (Agrawal & Yadama, 1997:457). More related to this, Agrawal and Ostrom through a study of four Nepalese programmes underscore the role of local stakeholder participation in order for their interests to be met. Their conclusions indicate that people’s participation is not necessarily a requirement to kick start the programme (mostly externally initiated by donor support and pressure); local groups and stakeholders have to be active or else the decentralisation structures and institutions will be hijacked by elites and will not yield significantly to benefit the masses (Agrawal & Ostrom, 2001:507).

Make deviation expensive

Most people ignore formal and informal institutions because the cost of being caught or punished sometimes may appear less expensive. Individuals, groups and companies mostly flout rules with impunity because the sanctions appear not proportional to the gains they would obtain if not caught. Private individuals as well as state officials find themselves in this syndicate who transact (through bribery and corruption) rules for personal enhancement at the expense of natural resource efficiency and sustainability. This transaction flourishes when three key elements are prevalent: *opportunity*, *motive* and *cost of being detected*. Formal rules such as laws, local by-laws, constitutions and procedures are intended to significantly seal or counter opportunities for non-compliance. However, those who are to enforce these rules tend rather to *create the opportunities*, tend to give confidence for illegal access, entry and exploitation (*increase motive*) and *reduce the cost of being caught*. People who defy institutions, in most cases, do so with the help of state officials who aid and abet the process. For instance, Teye (2013b:70) argues that people in most cases use their networks with forests guards to harvest forest products illegally. He quotes an illegal operator who had this to say:

I have to buy fuel and also get something for the guards who have been nice to me always. ... If I have to take the wood to 'Somanya' myself, then I have to pay some money to the guys at the barrier (i.e., police), otherwise they can seize the wood (chainsaw operator, quoted in Teye, 2013b).

An empirical study by Ryvkin and Serra (2011) maintains that illegal transaction (corruption) is lowest when potential 'corrupters' and potential 'corruptees' are uncertain regarding each other's 'corruptibility' and have asymmetric bargaining powers. This suggests that, when citizens are certain or have sufficient information that an agency or official is ethically compromised he/she is more likely to have many visiting corrupt clients and deals. There is therefore a need to occasionally reassign officials so that they do not stay at a particular location for a long period. Routine reshuffling and operations by different sets of inspectorate teams is required to create uncertainties so that people will not be able to predict corruptibility easily. More importantly, offenders (both state officials and private people) should be given punishments commensurate with their offence or motive when apprehended. This will help reduce the desire to undermine institutions.

6.4.1.4 A behavioural choice element

Various scholars have argued that institutions are the humanly devised rules of organisation in which values, interests, goals, and resources that constrain or enable human behaviour in society have been embedded (North, 1991; Hodgson, 2006; Leftwich, 2007). Following from the institutional arrangement put in place and the kind of enforcement complementarities embedded in it, a fourth element, *a behavioural choice element*, which refers to the nature and pattern of interactions among members in the resource community, is determined. By resource community, Duane (1997) identifies three types of resource communities; *communities of place*, who are tied by physical geographical space; *communities of identity*, which are tied to each other through social characteristics; and *communities of interest*, whose commonalities are derived from the benefits they receive from the resource in question or the cost they impose on it. The institutions, and more importantly the enforcement complementarities, evoke particular behavioural outcomes likely to be exhibited by stakeholders.

How do institutions influence behavioural choice?

The literature indicates that human beings and groups mostly have a propensity to cooperate and collaborate, whilst they also reveal a disposition to act on the basis of self-interest (economic man) depending on the context (Thayer, 2004; Bowles & Gintis, 2005; 2011). Whether human behaviour or pattern of interaction would ‘comply with’ or significantly ‘deviate from’ acceptable norms greatly depends on the institutional arrangement and how it is designed and enforced. This suggests that institutional interplay and processes around a resource in question should be given special recognition in natural resource governance, because of the value of the resource to people, multiple interests involved and power plays. What makes institutions imperative in natural resource governance?

- (i) Institutions *influence human behaviour and group interactions by offering a choice set*; provide what is permissible and what is despicable. As Oakerson (1990:4) puts it, institutions “structure the alternatives available to individuals and groups by creating incentives and disincentives to choose one alternative over another” (Ostrom, 1990, 1999b; Imperial, 1999).
- (ii) Institutions determine *the approach and means by which people or stakeholders relate with the resource* in question. Nunan *et al.* (2015:204) state that “Institutions influence whether and how people get access to resources, how much they can access, when, for how long and access to which resources”.
- (iii) Institutions *determine the ‘who’ and ‘how’ resource decisions are made and enforced*. Nunan *et al.* (2015:204) write that institutions “influence whose voice matters in decision-making and what kinds of practices are accepted”.
- (iv) Institutions “provide information and counteract opportunism, and thus help human beings to overcome the constraints of co-operation” (Ballabh *et al.*, 2002:2163).
- (v) Institutions become the point of reference to resource stakeholders (users, state and local government agencies). Participants use institutional frames to pursue their actions. For instance, Ostrom (1999b:51) posits that “the working rules” involve “the set of rules which participants would make reference to if asked to explain and justify their actions”.

Engendering a corresponding compliance or acceptable pattern of interaction requires a complex set of joint actions which would basically determine how well the institutional elements and processes are carried out, embracing relevant stakeholders to reach some form of consensus. Poorly designed and enforced rules would make this kind of interaction quite hostile and inimical, and negative value may be obtained from the biophysical element.

Although formal institutions mostly underscore the relationship between stakeholders and have been amplified in the literature, recent studies have observed that in the natural resource governance process, informal institutions and relationships progressively emerge and even become decisive in the further implementation of the process (Idrissou *et al.*, 2011).

What do informal institutions do?

Enforcement of formal institutions related to natural resources has to deal with serious laxities, especially in the developing world. Iritie (2015:202) notes that “at the institutional and legal level, most countries, especially African countries, have a satisfactory framework for protected areas,... however, despite an abundance of laws and institutions, the framework is often ineffective and less strictly enforced for management of protected areas, and especially when there are economic interests [at stake]”.

Without informal institutions “filling in the vacuum”, there will be discrepancies in the institutional process. Informal institutions interact with formal institutions at various stages and levels, either by introducing defined meanings to the spirit of formal institutions by augmenting them, or competing with and at times attempting to substitute the formal institutions in a subtle way (Helmke & Levitsky, 2004). They explain the following roles of informal institutions

1. Individuals and groups design and adopt informal rules because the formal rules appear ‘half-finished’ in structuring interactions between actors. Helmke and Levitsky (2004) refer to these as complementary informal institutions, which include norms, procedures, routines that seek to “fill in gaps” either by addressing

contingencies not dealt within the formal rules or by facilitating the pursuit of individual goals within the formal institutional framework.

2. Informal rules emerge because formal rules may be obsolete, ineffective and perhaps poorly enforced. Consequently, informal institutions develop along the formal ones, because the former cannot completely replace the latter. Helmke and Levisky (2004) tout these as *accommodating informal institutions*, which create incentives to behave in ways that alter the substantive effects of formal rules, but without directly violating them.
3. Informal rules emerge when actors seek to pursue goals that are publicly detestable. Actions such as bribery and corruption by natural resource officials or agencies may make these officials bend the formal rules and substitute them with discretion or an approach that will substitute the spirit and letter of the existing rules.

Informal institutions do shape formal institutional outcomes in a less visible way by creating or strengthening incentives to comply with formal rules. They reinforce the *enabling* and *constraining* roles that are widely attributed to formal institutions (Grzymala-Busse, 2010). For instance, using *an analectic* from political governance, Helmke and Levitsky (2004) argue that the stability of the United States' presidential democracy does not just hinge on the formal rules laid out in the Constitution, but also on deeply ingrained in informal rules, which include, *inter alia*, minimal usage of certain formal prerogatives and adoption of a bipartisan approach to various pertinent issues. Relating the above to natural resource governance, this chapter argues that an effective relationship together with informal interactions between groups and stakeholders helps in no small way in the resource governance process. The argument is that informal institutions provide for diverse and effective monitoring mechanisms (largely enforced by groups themselves) which enhances the enforcement of resource governance rules and norms (Anderson *et al.*, 2014)

6.4.1.5 An outcome or consequence element

Finally, there is *an outcome or consequence element* that includes multiple outcomes, *inter alia*, environmental, economic, social and political. The nature, mechanisms and interaction between both formal and informal rules in natural resource governance yields a

corresponding outcome (value) to state agencies and community members – either positive or negative (Yeboah-Assiamah *et al.*, 2016). A positive value refers to an arrangement where an effective institutional process leads to economic growth among people, social cohesion, resource efficiency and environmental sustainability (three canons of sustainable development).

Benefits and rights systems enshrined in natural resource institutional arrangements seek to attain the right socio-economic and environmental outcomes through positive human attitudes (Hulme & Murphree, 2001; Scanlon & Kull, 2009). The types of benefits available to stakeholders and how they are distributed is important, because it influences the perception of whether benefits are meaningful, appropriate, sufficient and equitable (Scanlon & Kull, 2009; Silva & Mosimane, 2012). If promises regarding benefits are realised and prescriptions well enforced, institutions will engender compliance. However, in most cases, what is stipulated does not get realised, or the people's expectations never become concretised. For instance, Silva and Mosimane (2014) note that Namibian conservancies do provide economic benefits to some members, but fail to deliver community-wide improvements (e.g. improved infrastructure and services), and thus improve the livelihoods of a relatively small proportion of members. Given that scenario, agitated community members may encroach or openly defy the institutional restrictions which will have a negative impact on the resources in question.

The value becomes untoward when a poorly arranged institutional framework or weak enforcement tends to degrade the economic status of community members, provoke social upheavals and lead to environmental degradation. Poor enforcement of forest rules, for instance, yields negative value on natural resources and species sustainability. For instance, Transparency International (2008:1) states that “forestry officials and law enforcement officers who are in the pockets of corrupt logging firms often turn a blind eye to illegal activities that threaten the sustainable management of the forest's biodiversity”. The effect of poor institutional enforcement is not just environmental but also socio-economic. Moneys or royalties meant to be paid to resource communities or the state mostly get diverted into

private pockets because of corruption. For instance, Young (2005) states that of the total tax revenues to be collected from Ghana's forestry sector, an estimated amount of USD 100 million, is not reflected in state coffers. These huge sums may perhaps remain uncollected because of clandestine transactions between some state officials and large timber companies (Awudi & Davies, 2001). What remains common in these three references is that, according to the official government documents, huge amounts of money remain uncollected, but behind the scenes through informal arrangements (informal institutions as outside proper sphere), some state officials may engage in illegal transactions and so become compromised.

6.5 Summary and conclusion

The need to achieve significant progress in natural resource governance has reignited the discussion and scholarship on natural resource institutionalism. This chapter has noted that balancing socio-economic demands and natural resource protection requires an interplay of formal and informal rules. We discussed formal rules and their relevant roles, which include *influencing human behaviour and group interactions by offering them a choice set, determining the approach and means by which people or stakeholders relate with the resource in question and determine how resource decisions are made and enforced and by whom*. The chapter concludes that the interplay of formal and informal institutions that are effectively enforced provides has far-reaching consequences for natural resource governance (see Lambini & Nguyen, 2014:189). It is within this context that Giessen and Buttoud (2014) conceptualise natural resource (forest) governance to entail all formal and informal institutional arrangements; the interactions between relevant actors as well as the outcomes. We argue that for formal rules to be effective greatly depends on the enforcement complementarities (structures, procedures and mechanisms). The chapter has discussed key elements that influence the effectiveness of natural resource rule enforcement. The elements discussed are: *adequate resources; attention to local power brokers and local politics; blending management science with good governance principles; social capital and networks; issues around the design of the institution; demand side of enforcement and making deviation or non-compliance expensive*.

The chapter has also discussed informal institutions and conceptualised them in three main ways with an argument that they could provide both positive and negative consequences for natural resources. The chapter argues that when we forge a link between formal and informal institutions and counter the excesses which tend towards abuse, institutions produce positive behavioural outcomes and consequences for the social-economic lives of people without significantly compromising natural resource efficiency and sustainability. This review concludes that both formal and informal institutions serve as catalysts to reinforce natural resource efficiency; however, the two can also combine to form a clandestine network to facilitate unethical resource exploitation.

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Chapter Seven

Institutional Trajectory of Collaborative Wildlife Governance in Boabeng-Fiema Monkey Sanctuary⁸

Abstract

Natural resource governance is underpinned by institutions which evolve “circumstantially” over time. An attempt at understanding the contemporary institutions and governance structure of a resource requires an in-depth ethnographic enquiry. Adapting a four-phase institutional analysis framework, this study discusses the evolution and adaptation of wildlife governance structures and institutions using the unique experience of Boabeng-Fiema Monkey Sanctuary in Ghana. The study adopted a transdisciplinary research approach which was participatory and consultative. The key observations are that: wildlife institutions have gone through three main evolutionary phases: *a pre-collaborative phase*, which was exclusively underpinned by informal institutions; *a critical juncture stage*, where contextual challenges led to an adaptive response; and a contemporary phase, *a collaborative governance regime*, where the erstwhile informal institutions have been complemented by formal state structures and institutions to synergistically enhance viability of the wildlife species. In spite of the problems posed to community members by the monkeys (wildlife), the study still observes a cordial human-wildlife relationship. Based on the study outcomes, we derive four key conclusions which have implications for institutionalism and natural resource governance.

Keywords: institutions, collaborative governance, wildlife, natural resource, adaptive capacity

⁸ This chapter is an adapted version of a peer-reviewed article published as **Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2017) ‘Complex crisis’ and the rise of collaborative natural resource governance: institutional trajectory of a wildlife governance experience in Ghana. *Environment, Development and Sustainability*, 1-20.**

7.1 Introduction

Natural resource governance is a convoluted enterprise because it mostly involves trade-offs between the competing imperatives of balancing the requirements of ecological protection, on the one hand, and people's socio-economic wellbeing, on the other hand (Sayer *et al.*, 2013; Hirsch *et al.*, 2011). There are various empirical studies that highlight the recent destruction of natural resources resulting in colossal loss of biodiversity even inside protected areas (Muboko *et al.*, 2016; Brennan & Kalsi, 2015; Sharma *et al.*, 2014). In other words, most natural resources are in danger of near extinction at an accelerated rate and anthropogenic factors have been fingered as a major cause (Hansen *et al.*, 2010; Leakey & Lewin, 1997; Johnston *et al.*, 2006). Addressing this problem calls for an institutional arrangement that draws on the strengths of 'hierarchies' and 'community-based management' towards establishing a co-management regime underpinned by collective choice rules (institutional design) to avoid being caught in the tragedy of the commons syndrome (Carlsson & Sandström, 2008; Tang & Gavin, 2015). In this study co-management and collaborative natural resource governance are used interchangeably to refer broadly to a new governance system that emphasises collaboration between different stakeholders (forging alliances between state and non-state actors) to govern natural resources prudently and methodically (Yeboah-Assiamah *et al.*, 2016; Carlsson & Sandström, 2008).

Classic and recent studies of collaborative natural resource governance have sought to evaluate the efficacy of institutions in ecological resilience (Dietz *et al.*, 2003; Ostrom, 2009). According to Dietz *et al.* (2003), locally evolved institutional mechanisms governed by stable communities and reinforced by outside forces have successfully underpinned resources management over the years, even though these mechanisms often have to adapt to embrace renaissance in periods of disturbance in the social-ecological equilibrium. Each disturbance influencing the dynamics in the social ecological system calls for consequent learning and adjustment in the institutional and governance underpinnings. Sayer *et al.* (2013:8351) put it succinctly: "each surprise is an opportunity for learning, leading to the development of new understandings as a basis for revised strategies". Such critical circumstances provide windows of opportunity which permit the emergence of collaborations and facilitate new forms of governance to deal with ecological threats (Olsson

et al., 2006; Folke *et al.*, 2005). In that regard, scholars (Ison & Watson, 2007) contend that there is a need to examine the historical and relevant contexts within which institutions develop and evolve. For instance, Petty *et al.* (2015:8) apply historical ecology to assess two management regimes and conclude that “alongside history, community, perceptions of place and being must be considered critical datasets for interpreting the viability and sustainability of an SES (social ecological system)”.

This study examines the experience of the Boabeng-Fiema Monkey Sanctuary (BFMS) in Ghana, where institutions in wildlife management have been compelled to adapt and evolve over time into a collaborative governance regime. This study makes a contribution to the literature on how socio-ecological systems bounce back when faced with threats (Abel *et al.*, 2006). BFMS provides an empirical case of ecological viability and adaptive capacity in that it once experienced a ‘critical juncture’ or ‘branching point’ (referred to as ‘complex crisis’) which dramatically shaped the underpinning institutional design, management system and the ensuing human-wildlife interactions. In the next sub-section the chapter discusses the complexities associated with wildlife management and contextualises the study.

7.1.1 Complexities of wildlife management

Whilst natural resources management in general appears complex (Game *et al.*, 2014), even more complicated is the management of wildlife resources, which not only deprives people of large territories (to be preserved as reserves or sanctuaries) of their agricultural space, but the animal species migrate to buffer zones and encroach onto agricultural lands, causing havoc for farmers (Apollonio *et al.*, 2010; White & Ward, 2011; Horsley *et al.*, 2003). Consequently, wildlife protection remains a ‘wicked problem’, because there is no definite formulation of the problem, and the information required to understand the problem depends upon one’s idea for solving it (Rittel & Webber, 1973). The interlocking of wildlife and people is not a recent occurrence (Lamarque *et al.*, 2009) and mostly creates a conflictual relationship between wildlife and farmers, where the former are usually placed on the ‘wanted list’ of the latter (Distefano, 2005).

Whilst this unsavoury relationship is a global phenomenon, in Europe (Schley & Roper, 2003), America (Warren, 1997), Australia (Jones & Thomas, 1999) and Asia (Madhusudan, 2003) it is exacerbated where the majority of people depend directly on natural resources and agriculture for their socio-economic wellbeing, as is especially the case in Africa (Okech, 2010; Weladji & Tchamba, 2003). Wild animals have been regarded in some contexts as pests or vermin (Gandiwa, 2011), which made people during the colonial period adopt a strategy of destroying them nearly to the point of extinction in Zimbabwe, for example (Mhlanga, 2001).

In spite of the growing threats to wildlife sustainability, there are cases that have demonstrated resilience through time, despite some critical periods. It is usually argued that the ability of human institutions to remain flexible and adaptable over long-term trajectories is a *sine qua non* for both social and ecological resilience (Folke *et al.*, 2010; Ostrom, 2009). Understanding the prevailing institutional designs underpinning natural resources and their sustainability calls for a historical perspective (Petty *et al.*, 2015). This study (i) examines the institutional and governance design that underpins the Boabeng-Fiema Monkey Sanctuary and its adaptations over time; and (ii) discusses how adapted collaborative governance shapes people's behaviour (human-wildlife interactions).

7.2 Formal vs informal institutions

Imperial (1999) discusses formal institutions as including laws, policies, regulations (rules and prescriptions), along with the expected outcomes and sanctions associated with deviation. According to the institutionalist school of thought, formal institutions are closely linked to the state, its agencies, officials and state-sanctioned activities, including decentralised state agencies and local governments (Boussard, 2000; Tsai, 2002). Informal institutions in this context are conceptualised to mean traditional governance arrangements, including chieftaincy and priesthood systems as well as cultural belief systems (Yeboah-Assiamah *et al.*, 2017). This is mostly evident in the developing world, where traditional systems continue to wield influence in resource governance (Shackleton *et al.*, 2002). It has been noted that natural resources in the African context have been valued not only for the

products and ecological benefits derived from them, but resources such as trees, animals, water bodies and aquatic creatures, and mountains have been the linchpin of people's religious and cultural beliefs and were to be preserved from anthropogenic destruction (*ibid.*).

7.2.1 Theoretical overview

7.2.1.1 The theory of adaptive governance

The study is underpinned by the theory of adaptive governance. According to Dietz *et al.* (2003), the theory suggests the ability of natural resource governance systems to select feedback originating from both human and biophysical elements, including combined elements of the system, to address any prevalent or perceived threat to social-ecological systems. In refutation of Hardin's (1968) argument about human limits and a common dilemma, Dietz *et al.* (2003) contend that social groups have struggled successfully against threats of resource depletion by initiating and revising self-governing institutions, and that successful governance of the commons requires that rules evolve in tandem with changing circumstances. On their part, Koontz *et al.* (2015:148) define adaptive governance as "the ability of actors to change institutions in order to maintain or improve to a desirable state". This definition suggests that adapting to changing socio-ecological dynamics in most cases involves evolution or a deliberate adjustment of institutions. Adaptive capacity requires the need to (i) promote the active involvement of groups and stakeholders, (ii) encourage continuous environmental scanning and learning, and adjust accordingly, and (iii) marshal leadership capabilities as well as the resources for enforcement (Gupta *et al.*, 2010). Leadership in critical crisis periods emerges to play crucial roles in the transition towards adaptive governance of social-ecological systems; these roles include, *inter alia*, trust-building, initiation of partnerships by connecting key actors, managing conflict, and mobilisation of broad support for change (Westley 1995 cited in Game *et al.*, 2014)

Although the roles of community-based resource management and institutions have demonstrated capacity to effectively manage natural resources, they may not prove fully adequate to address major conflicts and challenges (Brosius *et al.*, 2005). Key constraints to community-based resource institutions and governance structures include lack of governing

authority, legitimacy, funding, adequate flow of knowledge and resources, and sustained leadership (Brosius *et al.*, 2005). In that regard, when the resources are faced with major threats or disruption, adaptive governance is implemented to bridge locally oriented resource management initiatives with government interests for the development of improved environmental governance policies (Scholz & Stiffel, 2005 cited in Chaffin *et al.*, 2014). Some scholars have discussed adaptive governance in the context of complementarity and synergistic arrangements between the state (its agencies and actors) and community-based institutional arrangements (local governance structures) in a more dynamic and adaptive mix towards finding a solution to the complexities in natural resource governance (Nelson *et al.*, 2008). The idea of adaptive governance connotes a shift from the archetypical typology of institutions as static, rule-based and rigid towards one that accepts dynamism, continuous learning, adjustment and readjustment to deal effectively with changing patterns of ecological threats (Olsson *et al.*, 2006).

7.2.1.2 A conceptual framework

Since the study discusses the institutional trajectory of BFMS, it adapts a four-level institutional analytical framework from Williamson (2000). This is illustrated in Figure 7.1.

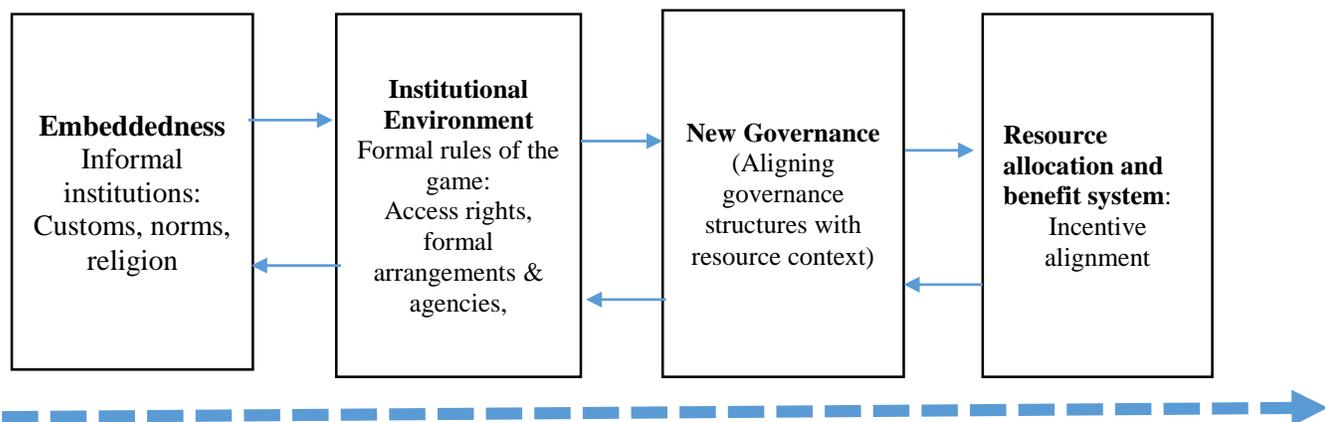


Figure 7.1: Phases of institutional evolution and adaptation

Source: Adapted from Williamson (2000)

Williamson (2000) discusses four key phases that are relevant to institutional evolution and adaptation. The first phase he terms “embeddedness”; it involves informal institutions

(taboos, indigenous norms, customary traditions) that restrict people's behaviour in relation to the resource. In most cases the origins of such informal institutions are unstructured and communicated through the oral tradition which the society embraces. A second phase involves devising well-designed sets of formal institutions (agencies, local constitutions, access and tenure rights systems) to complement the embedded informal arrangements to a large extent.

A third phase involves the actors actively engaging one another in the natural resource governance process. It addresses the interaction between those involved in governance and the relationship between various stakeholders, including the way they apply the mechanisms for resolving conflicts that may arise. The final phase involves enhancement and consolidation of the economic benefits of stakeholders. In effect, actors and stakeholders are provided with incentives or a benefit system which compensates them for their participation in the particular resource governance process.

This framework has been adapted to help explain how wildlife institutions have evolved in the Boabeng-Fiema Monkey Sanctuary. More importantly, the study discusses the precursors underpinning each of the transitions or phases as well as how each phase operates vis-à-vis the preceding phase. It should be noted that the evolution is not straightforward or neatly linear, but interlinks with the previous phase to become more robust. This is illustrated by the bi-directional nature of the arrows linking the phases (Figure 7.1).

7.3 Methods

7.3.1 Study context

This chapter uses the unique case of the Boabeng-Fiema Monkey Sanctuary (BFMS) in Ghana, West Africa. Boabeng-Fiema comprises two neighbouring communities, Boabeng and Fiema, which have similar beliefs and practices, hence the term 'twin community' for them. This twin community is located 20 km north of Nkoranza District of the Brong Ahafo Region (a transitional zone in Ghana), which is about 230 km from Accra, the capital of Ghana. BFMS is a unique site in Africa, where the two different species of monkeys (the

black-and-white colobus monkey (*Colobus vellerosus*) and the mona monkey (*Cercopithecus campbelli*) continue to flourish in large numbers and, interestingly, co-exist harmoniously with humans in the Boabeng and Fiema villages, as they have since the 1830s. The monkeys are protected and revered as “offspring of the gods” *daworo* (the female goddess of Boabeng village) and *abodwo* (the male god of Fiema village). Legend has it that a great warrior entered the forest with his gun and discovered a shrine (which remains in Boabeng forest as *daworo*) which was guarded by two special monkeys; the monkeys performed some mysterious acts, which made him consult a seer, who explained that the monkeys are ‘children’ of the shrine or the *daworo* god and should never be killed or harmed. Spiritually, the god of Fiema *abodwo* is the husband of *daworo*, who said to the man that if you want to marry me, help me take care of my children; and this is the reason why both gods became the caretakers of monkeys in Boabeng-Fiema.

The BFMS case presents distinct complexities, because the Boabeng-Fiema communities are surrounded by the Boabeng Forest, which is inhabited by the *mona* and *colobus* monkeys. The forest is demarcated into a core zone, which is not available for farming activities (main economic activity) but to accommodate the monkeys, and a buffer region, which indicates the boundaries allowable for farming activities. Despite the core forest area reserved for the monkeys, they nonetheless trespass on people’s farms to destroy crops and they also troop to people’s homes to ‘steal’ food and cause damage to backyard crops. Although the monkeys originally used to be confined to the Boabeng and Fiema communities, they have extended their range to seven neighbouring communities, which has increased the complexities. Finally, the protection and sustainability of the monkeys have been underpinned by an interplay of government and traditional institutional forces with their respective governance structures. Figure 7.2 provides a pictorial view of Ghana in the context of Africa whilst figure 7.3 depicts the study area (BFMS) in the context of Ghana.



Figure 7.2: Map of Africa illustrating location of Ghana (highlighted green)

Source: <http://webs.bcp.org/sites/spinkston/Ghana/Africa%20Ghana%20Map.html>

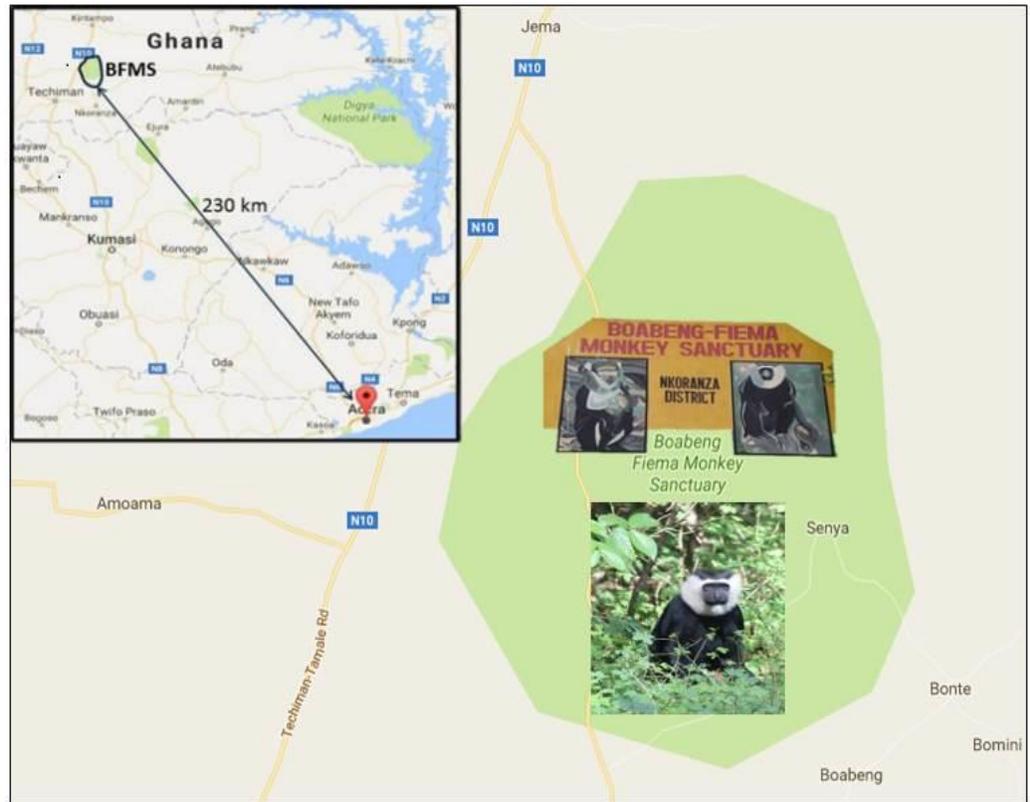


Figure 7.3: Location of BFMS in Ghana

Source: Yeboah-Assiamah *et al.* (2017)

7.3.2 Research Approach

Owing to the complexity and fuzzy nature of environmental threats, which come as ‘wicked problems’ (Rittel & Webber, 1973), the institutional and governance regimes as well as the associated research require a participatory and integrated approach. The growing consensus on the complexity of environmental issues has made the transdisciplinary (TD) approach an emerging design that underpins contemporary research (Lang *et al.*, 2012; Brandt *et al.*, 2013; Mattor *et al.*, 2014; Ignatieva *et al.*, 2015). TD entails more collaborative research *with* interested groups (stakeholders), who are actively incorporated in all relevant phases of the research process (Mollinga, 2010).

Wildlife governance and dynamics presents many complexities (see section 7.1.1); in the case of BFMS therefore the research process involved actors, knowledge and expertise drawn from diverse academic disciplines and practices as well as the active participation of the communities being researched (Mobjörk, 2010; Game *et al.*, 2014; Sayer *et al.*, 2013). Utilising knowledge and ideas from diverse fields and value systems helps to broaden our depth of understanding and range of options to address societal challenges (Pascual *et al.*, 2017). The TD study approach enables researchers to produce three main forms of knowledge (i): *systems knowledge*, which provides answers on the origins of societal problems as well as the possible development of a problem; in that regard, this study discusses how disruptions in the social-ecological system of BFMS occurred in the past, which is part of the study's first objective; (ii) *target knowledge*, which provides answers related to a determination and explanation of the need for change and desired goals; in this respect, the study details the idealised situation the Boabeng-Fiema community sought to achieve with regards to protection of the monkeys when faced with such a complex crisis, as demonstrated by the contemporary or prevalent human-wildlife interactions; and (iii) *transformation knowledge*, which answers questions related to the socio-technical, legal, cultural and other mechanisms that enabled BFMS to respond and transform into a more resilient system. In this regard, the study details the approach or mechanisms adopted by BFMS to navigate the 'complex crisis' to reach the idealised or target situation of appreciable human-wildlife interaction. The transformation process also reflects institutional and governance development over time in response to a changing SES as illustrated in Figure 7.1.

Principally, we resorted to the use of both primary and documented data relevant to the study. The knowledge synthesis process during the course of this study ranged from active consultation to direct participation involving 33 participants drawn from the traditional governance structures of Boabeng-Fiema communities, fetish priesthood structures, unit committees, youth groups, and the game and wildlife agency at Boabeng-Fiema. The principal researchers also possessed and drew on diverse knowledge systems (policy implementation, environmental governance, institutional analysis, neo-institutionalism)

along with active consultation with other faculty members from ecology and conservation backgrounds (Game *et al.*, 2014).

Primary data were gathered through brainstorming sessions with participants, in-depth interviews, informal discussions, focus group discussions (FGDs) and direct observation in the researched community between February and July 2016. The purposive and snowball sampling techniques enabled the study to involve all relevant actors. These techniques involved deliberate and non-random choice of participants based on the qualities they possess, as well as identifying and selecting participants who were deemed knowledgeable, experienced or well informed on the phenomenon under study (Bernard, 2002; Patton, 2002). The iterative and flexible ontology and epistemology of the TD approach enhanced the study through a ‘forward and backward loop’ process when a stakeholder was recommended or identified. All interviews and FGDs transcripts were sorted, and the similarities and differences were assessed and grouped under broader themes and sub-themes. Such thematic analysis has been employed in the discussion and relevant narratives have been used to buttress the discussions by way of emphasising the arguments expressed.

7.4 Results and discussion

7.4.1 Evolution of institutional design underpinning governance of the BFMS

A first objective of the study was to assess the evolutionary trajectory of contemporary wildlife institutions and the governance regime of the BFMS. The contemporary institutional design of BFMS presents a typical case where informal (taboo and chieftaincy) and formal (state laws and agents) institutions collaborate in the governance of wildlife. Document analysis and field data reveal that the governance of the wildlife has experienced a wide array of institutional arrangements, and historical circumstances have accounted substantially for its evolution and adaptation. The BFMS has gone through evolutionary governance regimes starting as *a purely traditional system*, where the governance of wildlife was underpinned solely by informal institutions (local taboos), through a period of a community-initiated collaborative governance structure to a benefit-sharing regime. This is also reflective of Figure 7.1 which conceptualises institutional adaptation as evolving from

embeddedness, through *institutional development* towards a *new governance era* to one that promotes incentives and *benefit-sharing schemes*.

7.4.1.1 Pre-collaboration: embedded traditional governance

In BFMS two monkey species (*mona and colobus*) are believed to be totems and ‘offspring’ of the gods. As explained in section 3.1, the mythology of BFMS has it that ‘*no one should harm or kill the monkeys for they are the emblem or offspring of the gods*’. Consequently, from the 1830s, when monkeys were first identified, they were viewed as sacred species, never harmed and they consequently reproduced to multiply in their natural habitat, a forest surrounding the two communities. These traditional institutions in the forms of restrictions and bans kept the monkeys and their habitat secure. This is what Williamson (2000) terms *embeddedness* (Figure 7.1). During that time the two species were preserved purely for traditional reasons and not necessarily for underpinning biological value or ecotourism. There was an exclusive informal institutionalism that underpinned the wildlife management with a high compliance rate, keeping the monkeys well protected. Anyone who accidentally or deliberately harmed any of the species was to be sanctioned by the gods, chiefs and fetish priests. A traditional priest explained:

So before the wildlife (officials) came into the community it was the ancestors and the gods that were protecting the animals. ... because of how the gods of the community were handling people who disturbed the monkeys, it protected the animals from people who harboured such similar intentions.

Any monkey found dead was buried in a specialised monkey cemetery (Figure 7.4) to send a signal to people about the significance attached to the monkey species. In a discussion with a priest in charge of monkeys, he explained:

... it was not always the case that you would notice the animals (carcass) when they died in the forest. But if we noticed any of them dead, we had the ritual to perform and we still do...

... but anyone who killed the animal (accidentally or intentionally) must appease the gods by bringing sheep and eggs for the rituals. So people ensured they don't get

into such trouble of buying these and a coffin to carry on the head. The offender would organise a funeral for the animal and everyone within the community would know that he/she killed the animal.

The point was corroborated by another key participant:

The tradition has established it that ... when one of the monkeys die we don't just throw it away, we would bury it like a human being. We will have to bury it in a coffin. So we have the monkey cemetery.

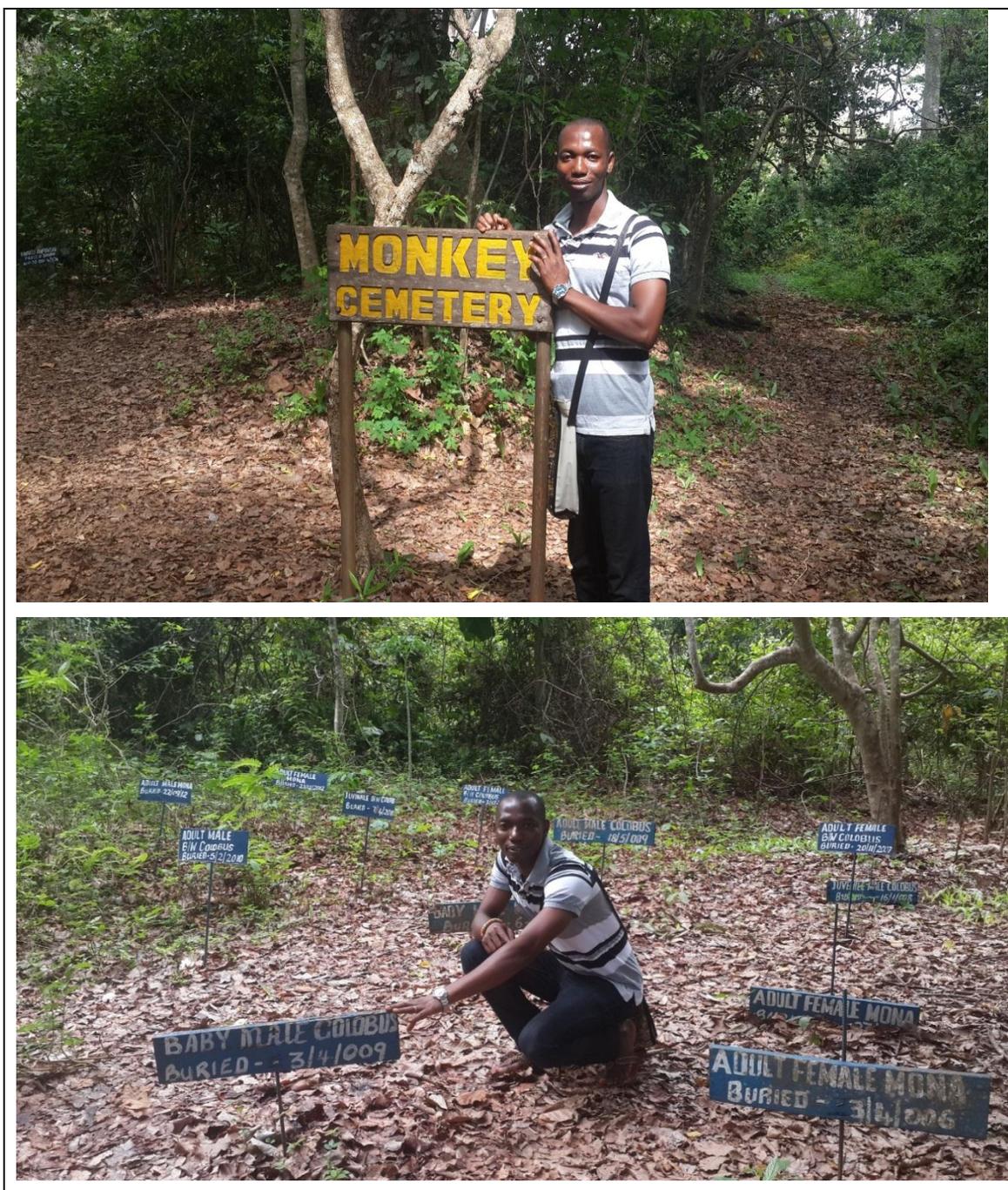


Figure 7.4: Monkey Cemetery

Source: Photograph taken by Field Assistant (Insert, candidate)

Additionally, there used to be a funeral conducted for the dead monkeys. In Ghanaian tradition funerals are organised only for adult human beings; therefore the practice of

mourning dead monkeys signified the animate attachment and their relevance as children of the gods.

To ensure that the monkeys do not face any form of predation, there has been a traditional taboo that bans people from keeping dogs as pets in the Boabeng-Fiema communities. The participants explained:

So we agreed at some point in time on the elimination of dogs... the gods indicated that dogs used to disturb him each time he paid visit to his wife...; but we also know that dogs could harm the monkeys so that was why we eliminated all the dogs.

For a long time the embedded tradition or purely community-based governance approach seemed perfect until the realities of social-ecological dynamics shook it to its foundation.

7.4.1.2 Critical juncture, pitfalls and branching point

The myth surrounding the monkeys' protection as 'children of the gods' was almost undermined with the emergence of a Christian sect. This was in the 1970s, when the Saviour Church made converts and established itself closer to the two communities harbouring these 'sacred monkeys'. Members of this religious group hunted the monkeys to eat and also encouraged others to do so in an attempt to prove the powerlessness of the gods, and perhaps the powerfulness and omnipotence of the Christian God. They did not just hunt to establish their non-traditional stance, but for their subsistence and economic wellbeing (Sayer *et al.*, 2013 on diverse values and interests), since the species are bushmeat and a local delicacy (Ntiamoa-Baidu, 1998). Participants in our study told a story of one of the believers who had hunted monkeys and tied them in a sack behind his bicycle to go and sell in a nearby town – that had been his business – only to be arrested by three soldiers. In our discussion with the fetish priest in charge of monkeys, he explained:

Yes, things have really changed. Christianity was destroying a lot of things. They saw the practices as witchcraft. We told them what not to do, but they did not listen ... (even though) they are from this community and they know the tradition of the land.

The findings corroborate similar observations elsewhere in the Awka-South area of Nigeria, where local people's adherence to local taboos that helped to conserve their forests and streams became eroded with the advent of Christianity (Anoliefo *et al.*, 2003). It is therefore not surprising that the literature reports links between neglect of long-held traditional beliefs upon the exposure of African people to Western technology, the influence of foreign religions and beliefs, and problems of migration and resettlement (Ntiamoa-Baidu, 1995).

The 'complex crisis' (indiscriminate hunting of monkeys) amidst the 'short-term' perceived silence of the gods in BFMS provided a window of opportunity to trigger the emergence of a new governance regime and institutional collaborations (Olsson *et al.*, 2006).

7.4.1.3 Adaptive response: a drive towards collaborative natural resource governance

Greene (2002) reports several instances of particular animals or objects that used to be regarded as taboo or sacred in Ghana becoming poorly protected or extinct in contemporary times because of the myths associated with them have been adulterated. Therefore, the monkey species in the BFMS were more likely to suffer the same fate as the mythology became more adulterated.

In order to become viable and minimise the threat to the species, the system responded by initiating a new governance regime supported by an adaptive institutional underpinning. The role of 'crisis' leadership (Westley, 1995) was imperative in this process. A Mr Daniel Akowuah, a native of the Boabeng community (a retired policeman and head teacher), championed the process, with some form of support from community elders, by writing a series of proposals to the former Game and Wildlife Department in Accra to salvage the situation. This appeal yielded results and in May 1975 a by-law was passed that summarily put a ban on hunting monkeys in the BFMS areas (Fargey, 1991). Consequently, governance of BFMS was to be complemented with formal institutional underpinnings (see phase 2 of conceptual framework).

This situation was described by a past officer from the Game and Wildlife Division:

So when the people began to kill the animals, the community reported to the government, so they brought officials from the head office (Game and Wildlife) to this place. This also led to the establishment of some by-laws, So they tried to maintain the core forest. ... they indicated that when you kill an animal or destroy the habitat, the Wildlife and Forest laws will deal with you accordingly. Previously when you did such, the elders would call you; but now it is the Ghana wildlife and government issue too.

The intervention by the Game and Wildlife Department (currently Wildlife Division) enabled the habitat to be declared a formal sanctuary to provide a safe haven for the conservation of the monkeys. Since the two villages are surrounded by the forest – the habitat of the monkeys – there is an identified buffer zone which demarcates the areas where people can carry out their farming activities. However, in the core forest zone people are not allowed to farm, nor are they allowed to fell trees, but they are allowed to gather herbs. In this core zone hunting for any other meat is also not allowed and no gunshots should be heard in the forest. There is a resident wildlife officer and his team, including game guards locally employed, who patrol the forest and also guide tourists. In contemporary times the established governance system involving government and the traditional authority makes it largely impossible for people to embark on the kinds of hunting and habitat destruction activities which had prevailed before the new order.

A priest in charge of the monkeys acknowledged the relevance of involving the state (formal institutions) to salvage the situation. He explained:

Well, there was some fear in people which had kept the monkeys safe and secure. But the fear began to erode because people did not see or receive immediate sanction each time they killed the monkeys. So out of this situation, the wildlife people (wildlife commission) were asked to come in.

This point was given support by a participant from the traditional governance system, who remarked:

The advent of wildlife (officials) and government has been very effective because there are few recalcitrant individuals ... I believe without the wildlife (officials), these few would have engaged in this act, because they have a mindset of 'do and die' and they seem not to fear anything.

7.4.1.4 The new governance regime: collaborative natural resource governance

Indiscriminate hunting of monkeys and destruction of their natural habitat without any immediate punishment from the gods provided a window of opportunity to necessitate a well-designed set of formal institutions to complement the embedded mythology to adapt to the 'complex crisis'. What makes this drive unique is that it emanated from the desires of the local communities themselves, unlike many other collaborative arrangements that are state-initiated (Carlsson & Sandström, 2008). Upon reaching a critical juncture, the local communities felt helpless, which made them call for external help in the form of collaboration with the state and its agencies – a process championed by Mr Akowuah, a native of Boabeng village, with support from community elders. Consequently, collaborative governance; the new governance system which entails forging an alliance between state and non-state actors to prudently and methodically govern natural resources (Yeboah-Assiamah *et al.*, 2016; Carlsson & Sandström, 2008) became the adapted management regime.

A former management committee chairman remarked:

... it's managed by both the community and the government. The government does so through the district assembly and wildlife agency ... wildlife (officials) are expected to protect the forest (habitat of the monkeys) when there is any infringement or anything illegal. They are representing the government and can make arrests. Their role is (also) to supervise.

This point was forcefully brought home by an officer from the Wildlife Division in a submission:

So we (Forestry Commission) apply the wildlife and forestry laws to protect the monkeys. If you cut timber, we will apply the forestry laws, and when you kill an animal we will apply the wildlife laws and also Nananom (chiefs and priests) will also apply their traditional rules. There is a management committee. We have the wildlife officers in place, we are more or less like advisors ... But the traditional council is the overall boss.

As the collaborative form of governance emerged, the institutions of the time underpinning wildlife conservation also evolved to include formal institutions that would be reinforced by the new partner (the state). This finding buttresses an observation by Gunderson *et al.* (2016:359) that adaptive institutions and collaboration governance become imperative when there is a shift in societal values and norms; adaptive institutions provide institutional diversity for addressing complex challenges that could have otherwise affected natural resources. Consequently, the underlying institution comprises a traditional institution (chieftaincy and fetish structures) to deal with breaking of taboos; national legislation and legal sanctions to be enforced by state actors; the involvement of and intervention by communities of interest including international organisations; and research communities working towards wildlife conservation and eco-tourism (reflective of phase 3 in the conceptual framework).

The main actors in the new governance regime include traditional governance structures (chiefs and fetish priests of Boabeng and Fiema), a five-member management committee, a well-composed management board, the district assembly, the game and wildlife division of the Forestry Commission, and the general population. Each of these actors has their distinctive roles in the governance process, but the day-to-day administration process has been ceded to the management committee, which reports to the various actors and stakeholders. The governance process is structured by a local Constitution, which stipulates the various boards and their composition and duration; other key actors, and their

responsibilities and roles; and benefit systems. The idea of blending local knowledge and practices with formal regulatory systems, especially state intervention, reinforces the conservation value of the governance system (Hens, 2006). The collaborative governance process is explained in Table 7.1.

Table 7.1: The collaborative governance process

The management committee works with two chiefs and two unit committees, one each from Boabeng and Fiema, as well as with the game and wildlife outfit. The role of wildlife officials is to ensure that no one disturbs the natural habitat of the monkeys; that nobody fires a gun in the forest; that no one harms the animals; and if it comes to any arrest or sending to the police station, they do this. The actual power lies with the chiefs; the chiefs have delegated their powers to a five-member committee which reports to them and a management board which is comprised of 3 members from Fiema and Boabeng – one appointed by chiefs and elders, one unit committee member and one elected by the community; the assembly member⁹ for the Boabeng-Fiema electoral area is a board member; a senior wildlife officer of BFMS, one representative from each of seven neighbouring communities whose territories have been invaded by the monkeys because of the migratory nature of wildlife.

Explaining how the collaborative governance operates, a wildlife officer who had been instrumental in the process intimated:

... there is the general management board and the 2 traditional bodies. There are representatives from each of the communities but it is when there is a major issue that all the chiefs come for the meetings.

The study also observed a workable and cordial relationship between the game and wildlife agency [formal] and the traditional chiefs and priests [informal] entities, which

⁹ Assembly member is an individual appointed by central government or popularly elected by members of a local electoral area to represent them in the local government. See Yeboah-Assiamah, E. (2014). Power to the people! How far has the power gone to the people? A qualitative assessment of decentralization practice in Ghana. *Journal of Asian and African studies*, 51(6), 683-699.

means the kind of tension and acrimony widely reported in the literature is largely non-existent in the BFMS. These partners collaborate with each other in the performance of their duties, and there is mutual respect for one another. In an interactive session with the acting chairman of the management committee, he explained:

There is a cordial working relationship between the traditional governance system and the wildlife officers ... this is because both are geared towards a similar outcome, tradition says do not kill monkeys and wildlife people say do not destroy the forest [monkey habitat].. so they are both in the same direction... here there is no conflict between the state agencies and traditional institutions.

If any individual offends, traditionally you have to pay some money and sheep to appease the gods and maybe the wildlife officers will process you for arrest and prosecution. Even if you get arrested, you will have to perform such tradition to appease the gods after being discharged.

The partnership and mutual respect for both offices was corroborated by a former officer who explained:

... when someone does something, the traditional leaders do fine them, Though they will ensure that the right things are done, because the community members are their own people, they [traditional leaders] will most often plead with us [wildlife officials] on behalf of the accused not to pursue legal case. But without the collaboration and cooperation the forest and monkeys will not have existed”

7.4.2 Structuring people-wildlife interaction: institutions and benefit systems

In natural resource governance it is essential to structure the system in such a way that all relevant stakeholders get access to benefits accruing from the common pool resource in question. This is quite relevant, because “given a desire to conserve species and ecosystems, it is increasingly important to think through and make explicit trade-offs among different conservation goals and between conservation and other social goals,... [and] economic development. Nevertheless, ignoring or obscuring trade-offs can contribute to profound disappointment” (Hirsch *et al.*, 2011:263). This also reflects phase four of the conceptual model, which argues for heeding the socio-economic needs and incentive mechanisms for actors and stakeholders.

In order not to compromise the socio-economic livelihoods of people, the BFMS institutions have incorporated measures that enable people carry out their farming activities in areas outside the core forest zone, which have been clearly delineated through a buffer region or zone. Besides, there are other benefits that individuals derive from the forest such as herbs, mushrooms, snails and other minor food supplements. The influx of eco-tourists who visit BFMS on routine basis provide a large share of the market for most of the traders in the Boabeng-Fiema communities; and in periods of serious social needs, especially, with regards to school children, the BFMS management committee has been helpful in helping needy students with school fees (Attuquayefio & Gyampoh, 2010). At the community and governance level in BFMS, there are benefit-sharing criteria which recognise the various actors, structures and communities that have a stake in the governance of the resource.

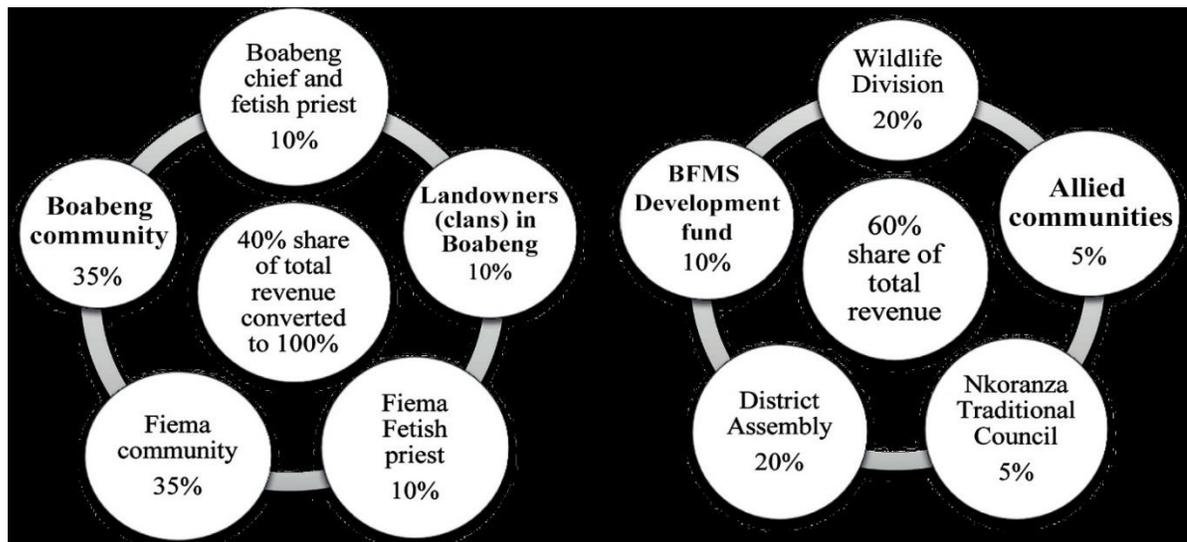


Figure 7.5: Benefit-sharing system in BFMS

Source: Adapted from Eshun *et al* (2014)

The revenues accruing from the BFMS through ecotourism are shared based on the criteria in Figure. 7.5 in such a way that all relevant governance entities get their due. Firstly, the total revenue is divided into 40% and 60%. The 40% share is now converted into 100%; 10% is given to the Chief of Boabeng and fetish priest, another 10% is given to the Chief of Fiema and the fetish priest; 35% each is given to both the Boabeng and Fiema communities,

and the remaining 10% is given to the clans or families in Boabeng whose lands are covered by the forest (natural habitat) of the monkeys.

The other 60% is shared among key actors and institutions. The wildlife division and the district assembly take 20% each, 5% is given to the Nkoranza traditional council (the traditional council which contains both Boabeng and Fiema communities), another 5% is given to the other seven satellite communities closer to both Boabeng and Fiema¹⁰ whilst 10% is deposited into a BFMS development fund. The process of benefit sharing is in line with Ghana's Community Resource Management Areas (CREMA) approach, which has been advanced by the Collaborative Unit of Ghana Wildlife Division with a philosophy that "if natural resources are given 'value' and communities are given the 'authority' to 'manage', then they (community actors) will have the 'incentive' to sustainably manage and conserve natural resources".

A key informant explained the community benefits:

...the presence of these monkeys has brought many good things to us; without them, who would have even heard of us? ... the community water projects here, the maintenance of our bore hole, the building of a befitting accommodation for our traditional priests have all been the result of these monkeys, directly or indirectly.

The argument is that natural resource conservation involves trade-offs (Hirsch *et al.*, 2011). People manage wildlife and other resources when they are given sufficient incentives to do so (Lu *et al.*, 2005). People who live with and are responsible for the management of natural resources must be the primary beneficiaries of that management effort (Forestry Commission of Ghana, 2004). The study has so far argued that it is not as if the people just love monkeys, or do not want meat, or do not know the economic value of bushmeat; but they are constrained from depleting the resource because of the institutions and controls, precedents and perceived benefits. The desire for the meat was evident in a study by

¹⁰ The monkeys were initially only in Boabeng and Fiema communities but over time do troop to other seven nearby communities.

Fargey¹¹, where 75% of the people explained that they would have hunted the monkeys for bushmeat had it not been for the traditional institution (taboo) prohibiting their killing. This suggests that the informal institution has a greater influence on the protection and conservation of the natural resources (Strauch *et al.*, 2016; Alonso *et al.*, 2016). The remaining individuals (a minority) who might have otherwise defied the informal institutions are now constrained by the formal legal ban by the state and the local by-laws. The collaborative governance process has therefore structured a cordial human-wildlife interaction through a hunting ban which is enforced naturally and supernaturally by the formal state apparatus and informal traditional belief system respectively. It is within such a context that Yeboah-Assiamah *et al.* (2017:10) maintain that “the interplay of formal and informal institutions that are effectively enforced [has] a far-reaching consequence on natural resource governance” (see also Carlsson & Sandström, 2008).

Free movement of monkey species

The kind of protection the monkeys receive is evident in their free movement and ease with which they intermingle with people without any fear. In BFMS wildlife behaves like domestic animals or pets. The researchers personally observed how *mona* monkeys live with the rural population on a daily basis, especially in the mornings and evenings, when they wander in and around homes to scavenge for food from people as this meets the largest percentage of their dietary needs. This they do without any fear of harm, or of being poisoned, trapped or killed. The white *colobus* do not usually visit homes, but sometimes one can see troops of white colobus meander across the village along the road and on trees in nearby homes to demonstrate their coexistence with humans.

Undisturbed by nearby gunshots

The kind of protection enjoyed by the monkeys in the BFMS leaves them unperturbed, even when they see someone walking with a gun or even hear gunshots nearby. These same

¹¹ Fargey P. J. *Assessment of the Conservation Status of the Boabeng-Fiema Monkey Sanctuary*. Report to the Flora and Fauna Preservation Society

monkey species elsewhere would generally run off when they see someone approaching and would do so even more quickly if the person was carrying a gun, and would disappear in a flash if they heard gunshots (Remis *et al.*, 2012). In spite of the havoc monkeys' cause to farmers by raiding their crops in the permissible farming zones and buffer areas and even in backyard farms, the monkeys in BFMS seem composed, calm and untroubled, even when they hear gunshots from the buffer areas where hunting for other species is allowed (Saj *et al.*, 2005). A queen mother explained:

...today they (monkeys) do not fear guns; if they see you with a gun, they won't be moved but if they see you with a catapult (people use these only to scare them especially when they are causing trouble), they will run.

It was possible to reach this stage because of the adaptive capacity of the erstwhile governance regime to incorporate formal institutions to at least structure the behaviour of the few people whose actions could have had a cumulative effect to sway the majority to join the activity of hunting monkeys. The timely collaborative intervention has even reinforced the previous existing order of effectively protecting wildlife in BFMS.

7.5 Conclusions and policy implications

Firstly, from our case analysis it was observed that in the 1970s the wildlife species had reached a critical juncture when hunting for monkeys in the Boabeng-Fiema community reached its peak. At that critical juncture the potency of the traditional institutions (taboos) appeared less efficacious and enforcement appeared less effective, at least in short run, and compelled the existing institutional arrangements to evolve into a more collaborative regime, which demonstrated a synergistic relationship between informal and formal institutions. This drive or evolution did not occur naturally but circumstantially. Our finding adds to the existing body of theoretical assumptions and empirical findings that in periods of critical threats, systems must demonstrate adaptive capacity to remain viable or they will perish. This adds an empirical dimension to a study by Daye and Healey (2015:356) who, after observing the threats faced by sacred forests in the Gamo Highlands of Ethiopia, stated that “it will be important for the governance of sacred forests by their traditional custodians to

be supported and not undermined by the national legal framework and by governmental and non-governmental organisations”.

The adapted collaborative governance of BFMS and its ability to keep wildlife largely protected over time is a test case. We contend that any contemporary institutional arrangement and governance regime of a natural resource has ‘untold stories’ which could only be unravelled by going into the intricacies of unique cases. Our empirical findings provide adequate evidence that the ability of a natural resource governance system to adjust or readjust its institutional underpinnings and governance regime in the face of threat, of whatever form or intensity, contributes immensely to the viability of the particular ecosystem. Institutions must necessarily evolve to adapt when there is sufficient evidence that the existing regime has become weakened in the face of the changing internal and external conditions of social ecological systems.

Furthermore, whilst collaboration on natural resources mostly tends to evoke suspicion and mistrust from local people (Lachapelle *et al.*, 2003; Wondolleck & Yaffee, 2000; Yaffee, 1997), our study demonstrates that the emergence of intense threats and the reaching of critical junctures can have the effect of opening up the window of opportunity for collaboration to emerge or flourish with less resistance. This conclusion throws empirical light on a proposition that a feeling of fear of an impending threat could drive communities to collaborate, and that facilitating collaboration requires, *inter alia*, highlighting and capitalising on *shared fears* (Wondolleck & Yaffee, 2000:68).

Moreover, collaborative natural resource governance is not always about the devolution of powers from a central government to lower-tier bodies, nor does it necessarily get kick-started by the state, but could also emanate from alliances between a lower-tier body and state agencies or other non-state bodies. In other words, collaboration towards adapting to a changing social-ecological system does not necessarily have to emanate from the top (government); individual actors could initiate processes that foster state-community collaboration towards establishing an adaptive and more resilient governance regime. We

conclude that a call for collaboration may flow through the traditional top-down or a bottom-up approach.

Finally, although informal institutions are formidable in enhancing natural resource protection largely through voluntary compliance, reinforcing effective enforcement systems requires a more collaborative regime where formal institutions provide some form of legal basis and legitimacy to complement the role of the informal systems. Institutional development becomes crucial as society becomes more heterogeneous, with the associated social dynamics, which might render the erstwhile voluntary compliance largely restricted to perhaps fewer members of society.

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Chapter Eight

Synergy between Formal and Informal Institutions in Natural Resource Governance¹²

Abstract

There has been a call to forge a synergistic relationship between local ecological knowledge (local taboos, indigenous governance structures and belief systems) and formal institutions in the governance of natural resources. How exactly do informal institutions complement the efforts of formal state regulation of natural resources? What are the key enforcing mechanisms underpinning formal and informal institutions? Adapting the institutional and development framework, this ethnographic study sought to assess the role of informal institutions in the enforcement of formal natural resource institutions using the case of Boabeng-Fiema Monkey Sanctuary in Ghana, West Africa. The study observed that traditional governance structures and local belief systems promote “softer grounds”, which promote robust wildlife protection. The study argues that by infusing dynamism into informal institutions, they become more formidable to engender compliance rates that make formal game and wildlife officers operate without facing the kinds of difficulties prevalent elsewhere.

Keywords: Natural resources, wildlife governance, informal institutions, enforcement, Africa

¹² This is an adapted version of an article in review as **Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2018). Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance,**

8.1 Introduction

Promoting ecological protection has been a global concern, with efforts taken at varying policy levels to get nation states and non-governmental actors committed to this course (Chapin *et al.*, 2009). That notwithstanding, many wildlife species have become threatened (IUCN, 2008), which has made wildlife governance issues a global concern (Manfredo, 2015; Redpath *et al.*, 2013). Consequently, many governments have established institutions to structure the way people interact with wildlife resources (Ostrom, 1990). In spite of the various policy interventions and formal institutions, the level of protection that wildlife species receive even in protected areas leaves much to be desired (Steinmetz *et al.*, 2014). Laxities in the enforcement of wildlife regulations have a negative impact on species protection. According to Woodroffe *et al.* (2005), enforcement laxities could pose varying degrees of threat to wildlife including, *inter alia*, population decline and extinction of particular wildlife species. Generally, the enforcement of wildlife institutions is quite problematic; this is because such species exhibit widespread and unpredictable movement patterns across the landscape without any particular attention to demarcated borders or territorial limits (Kreuter *et al.*, 2010). On the other hand, some groups of persons tend to contravene wildlife rules to demonstrate their resistance to the regulations which were perhaps imposed on them by external actors (Jacoby, 2001; Duffy, 1999).

Evidence suggests that human threats to wildlife occur in different contexts, including in the advanced countries (Gavitt, 1989; Tobias, 1998; Warchol *et al.*, 2003). Even when regarded as protected species in formally recognised habitats, wildlife species in many cases remain threatened (Warchol *et al.*, 2003). This raises the issue of natural resource governance; the nature of institutions and their enforcement mechanisms have been discussed as a major determinant of natural resource governance successes or debacles (Gibson *et al.*, 2005; Agrawal, 2003). Institutions entail “the humanly devised constraints that structure political, economic and social interaction ... [consisting] of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct) and formal rules (constitutions, laws, property rights)” (North, 1991:97). Though institutions are useful, their relevance is more determined by the extent to which they interact to elicit preferred patterns of behaviour from members of society (Ostermeier, 1999). In this study we examine the specific context of a

rural African community (under Ghana's Community Resource Management Area, CREMA scheme) where enforcement of wildlife rules remains formidable as a result of the interplay of formal and informal institutional mechanisms. It illustrates an empirical case where enforcement of wildlife institutions incorporates the 'visible' (formal rules and actors) and 'invisible' (gods, fetish priests, chiefs and local taboos) as well as other contextual practices. The study proffers answers to the following key research questions: To what extent do informal institutions soften the grounds for effective enforcement of formal wildlife regulations? How does this interplay foster appreciable human-wildlife interaction?

8.2 Conceptual framework

The study adapted the institutional and development (IAD) framework to discuss institutionalism and human-wildlife interaction in BFMS. The framework (Figure 8.1) entails five key elements and an action arena.

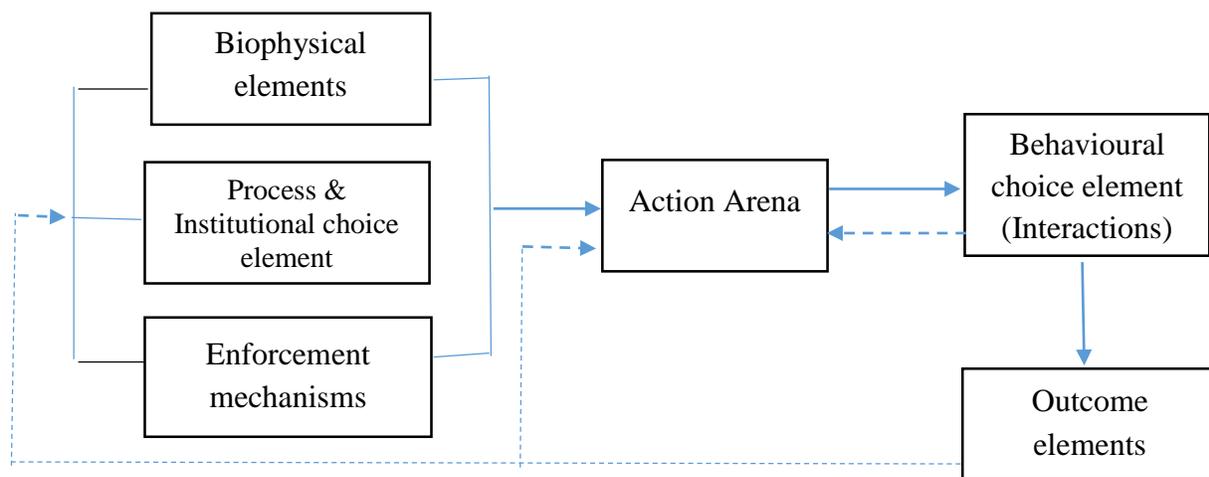


Fig. 8.1: Adapted IAD framework

Source: Yeboah-Assiamah *et al.* (2017) with ideas from Ostermeier (1999); Ostrom (2005)

The framework (Figure 8.1) explains that institutional analysis involves a biophysical element (in this study, monkey species) that interacts with a process and institutional element (together with enforcement mechanisms). The interplay between the biophysical element,

institutions and enforcement determines the behaviour of stakeholders or actors towards the natural resource. The nexus between formal and informal arrangements, as well as their enforcement, together with particular benefit systems, largely determines the way community members regard the resource in question and, for that matter, resource outcomes. Informal institutions connote customary rights or pre-existing rules – mostly not codified into law – passed down from generation to generation to protect, maintain and sustain natural resources within a particular context (Otsuka & Place, 2002). In this study context they involve the traditional governance arrangements including chieftaincy, priesthood systems and cultural belief systems. Formal institutions, on the other hand, involve the prescriptions, instruments and instructions that are largely codified, having the status of constitutional clauses and laws that are guaranteed and sanctioned at multiple levels largely by public agencies (Lauth, 2000). The elements in the framework have been used to discuss the study observations in section 8.4. Consequently, the section (8.4) is organized into these broad themes: *process/institutional elements, enforcement mechanisms, behavioural choice and outcome elements*

8.3 Methods

8.3.1 Study context

Providing an empirical case of complementarity between informal and formal governance structures, we adopt the unique case of the Boabeng-Fiema Monkey Sanctuary (BFMS) in Ghana. BFMS is a unique place in Africa where the two different species of monkeys (black and white *colobus* and *mona* monkeys) have lived in large numbers and co-exist harmoniously with humans in the Boabeng and Fiema villages since the 1830s. The monkeys are protected and revered as “children of the gods” by traditional taboos and historical cultural beliefs. BFMS presents one of the successful stories of Ghana’s Community Resource Management Areas (CREMA) scheme adopted by the Wildlife Division of Forestry Commission in Ghana. CREMA presents a community-wide natural resource management where local structures are encouraged to anchor the management of off-reserve lands which remain ungazetted. In this arrangement local communities are tasked to manage the natural resource prudently for the sake of community-wide benefits. Officially emanating

from Ghana's 1994 Forest Policy, CREMA is a model through which the Wildlife Division transfers authority and management responsibilities for wildlife to local communities. It involves helping communities to self-organise local structures to be able take responsibility for wildlife management. What makes Boabeng-Fiema Monkey Sanctuary unique is that the community already had in place the contextual governance structures and informal institutions before the scheme, and such collaboration between local structures (informal) and wildlife structures (formal structures) provides a robust case, which is discussed in this chapter.

8.3.2 Research design

The chapter adopted an ethnographic design. Ethnography is an indigenous approach where researchers task themselves to undertake a systematic investigation of the beliefs, processes, social interactions and behaviours, as well as distinctive phenomena, of sizeable societies; the process is largely interspersed with participation and observation over a period of time (Denzin & Lincoln, 2011; Reeves *et al.*, 2008). The overarching goal of this design is an exploration, description and explanation of other cultures and contextual phenomena rather than to test a quantitative hypothesis (Barbour, 2007; Atkinson & Hammersley, 1994). Throughout the study the researchers positioned themselves within a prevailing epistemology by recognising the information and knowledge base of participants. A key asset that enabled the research was the use of social relationships and intermediaries to gain unhindered access to key participants. According to Wilson (2008:129), ethnographic design requires "the proper protocol for building of healthy relationships ... the use of intermediaries has practical uses in establishing rapport with research participants and placing the researcher within a circle of relations". Consequently, two indigenous members proved very useful throughout the study period as they led the researchers to participants including the chiefs, traditional priests and other relevant actors, and consent was easily acquired.

Purposive and snowball sampling techniques were used to identify 33 key informants who were deemed to have the requisite information on institutional enforcement in the Boabeng-Fiema Monkey Sanctuary. Participants in the study involved chiefs and fetish priests of the

Boabeng-Fiema communities, past and present wildlife officials of the Sanctuary, unit committee members, key actors of the BFMS Management Board, tour guides, local government actors, farmers and selected community members. The main instruments of primary data gathering involved informal and focus group discussions, in-depth interviews and narrative enquiries. Each of these interactions lasted for an average of 45 to 60 minutes. All proceedings with participants were later transcribed and sorted into appropriate themes that were used in the discussions. Data were analysed using inductive thematic analysis based on issues that emerged from the observations and data gathered as is common in ethnographic studies (Reeves *et al.*, 2008). Direct narratives were used to support the themes discussed. A major strength of this design is that through observations and immersion in the society, the researchers were able to identify and gather novel empirical insights that may have eluded previous studies. More importantly, the comprehensive nature of the approach helped researchers to explore and link social phenomena and related narratives which may appear *prima facie* to have no connection (Reeves *et al.*, 2008). A limitation of ethnography is that since it is confined to a particular context, the outcomes or conclusions cannot easily lead to generalizations, the findings however could be adapted to suit different contexts.

8.4 Results

In this section the study uses elements of the adapted institutional and development (IAD) framework (*process/institutional elements, enforcement mechanisms, behavioural choice and outcome elements*) to present the study results.

8.4.1 Process/Institutional elements

8.4.1.1 Governance structure and arrangements

The governance structure of BFMS has evolved from a hitherto archetypical traditional (community-centric) system towards a more collaborative approach embracing the concept of “collaborative natural resource governance”. In the BFMS, formal institutions have reinforced the level of protection given to the wildlife species. This is because informal institutions had exclusively underpinned the wildlife conservation in the past, and have since the mid-1970s been reinforced by formal institutions which have brought on board many

different actors/stakeholders and interests in the wildlife governance. This arrangement depicts the values of collaborative natural resource governance conceptualized to mean the new governance system that emphasizes on different stakeholders to prudently and methodically govern natural resources (Yeboah-Assiamah et al., 2016). The main actors in the contemporary governance regime of BFMS comprise Wildlife Division of the Forestry Commission, local government, a management committee, the police, international organizations and scientific community and more importantly the traditional structures including chiefs and traditional priests of both Boabeng and Fiema communities. The actors and institutions are illustrated in Figure 8.2.

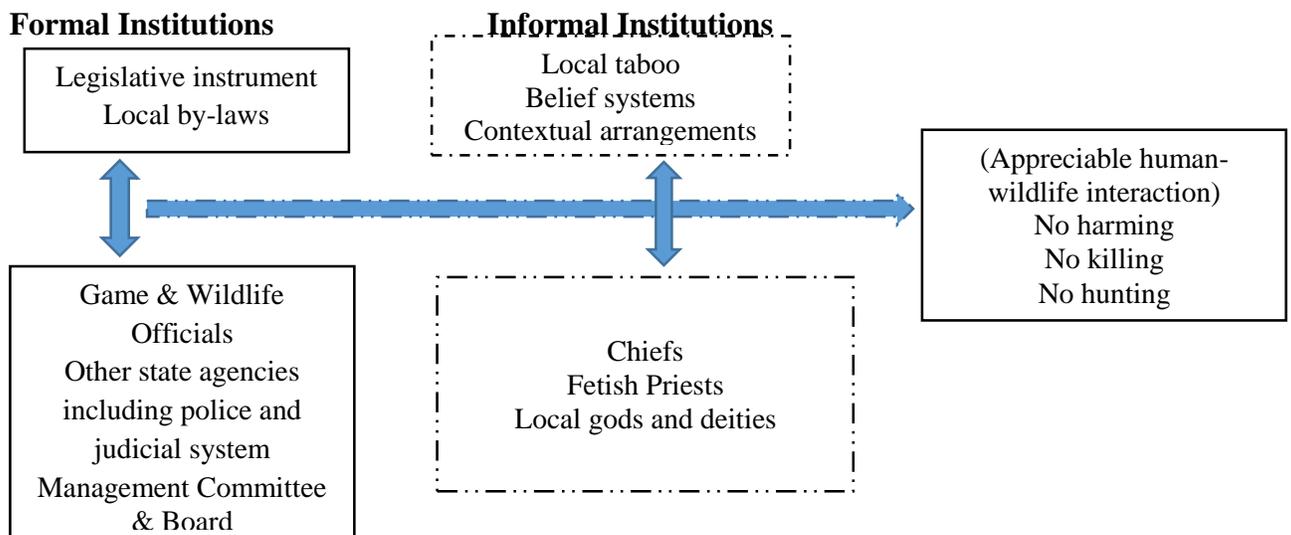


Figure 8.2: Governance and Institutional Enforcement model of BFMS

Source: Author's construct from field study

The first element with solid outline captioned 'formal institutions' illustrates the formal laws and regulations relevant to wildlife governance of BFMS. These include legislative instrument and regulations such as Wildlife Conservation Regulation of 1971 which lists the *colobus* and *mona* monkeys as wholly and partially protected respectively; 1994 Forest & Wildlife Policy; and 2012 revised Forest & Wildlife Policy. They also involve local by-laws including those on hunting ban, no farming in the core forest sanctioned by the by the local government (the then Nkoranza District, now Nkoranza North District) where the BFMS is

located. For example, the BFMS Constitution which is enforced by the Management Committee forbids hunting, cutting of trees and bush burning within the core forest. This is also legitimated by a 1975 local by-law which among other things seeks to offer protection to trees within the core forest. However, same cannot be said of forest and trees that fall outside the 1.92 km² area core forest. Whilst monkeys within and outside the core forest receive maximum protection, the forest itself does not. It suggests that formal regulations and restrictions alone do not guarantee effective resource protection in BFMS. On the other hand, the taboos and informal governance institutions alone could not have provided a formidable system for sustainable monkey conservation in BFMS (Yeboah-Assiamah *et al.* 2017a). The inherent challenges associated with informal institutions necessitated a synergy with formal institutions.

The second element also with solid outline illustrates the various state agencies and actors who help to enforce the formal rules. The practice of the formal rules and actors/agencies is to ensure a cordial human-wildlife interaction and sustainability of the resource species including their natural habitat. However, the realization of this overarching goal is reinforced by robust traditional governance and belief system captioned 'informal institutions' which are illustrated with broken lines. The taboos and local belief systems as well as traditional actors and governance arrangements provide significant catalytic role in the sustainability of the monkey species. This is illustrated in table 8.1

Table 8.1: Formal and informal institutional complementarity***Joint management and complementarity***

The management committee works with two chiefs and two unit committees, one each from Boabeng and Fiema, as well as with the wildlife officers. The role of formal wildlife officials is to ensure that no one disturbs the natural habitat of the monkeys; that nobody fires a gun in the forest and that no one harms the animals. When it comes to any arrest or sending an offender to the police station, they do this. The actual power lies with the chiefs who have delegated their powers to a five-member management committee which reports to the former and the management board. The board comprises three members from Fiema and Boabeng – one appointed by chiefs and elders, one unit committee member and one elected by the community and a local government member. It also involves a senior wildlife officer of BFMS, one representative from each of seven neighbouring communities whose territories have been invaded by the monkeys because of the migratory nature of wildlife.

Explaining how the collaborative governance operates, a wildlife officer who had been instrumental in the process intimated:

... there is the general management board and the two traditional bodies. There are representatives from each of the communities but it is when there is a major issue that all the chiefs come for the meetings.

Joint implementation and monitoring

There is a cordial relationship between the wildlife agency and the traditional chiefs and priests. The kind of acrimony widely reported in the literature is largely non-existent in the BFMS. These partners collaborate with one another in the performance of their duties, and there is mutual respect for one another. The acting chairman of the management committee explained:

There is a cordial working relationship between the traditional governance system and the wildlife officers ... this is because both are geared towards a similar outcome, tradition says do not kill monkeys and wildlife officers say do not destroy the monkey habitat.. so they are both in the same direction... here there is no conflict between the state agencies and traditional institutions.

If any individual offends, traditionally you have to pay some money and sheep to appease the gods and maybe the wildlife officers will process you for arrest and prosecution. Even if you get arrested, you will have to perform such tradition to appease the gods after being discharged.

A wildlife officer explained:

..... But without the collaboration and cooperation the forest and monkeys will not have existed”

The essence of a synergy between formal and informal institutions is to help bridge people of different orientations (whether native or migrant) into a common overarching goal of effective resource protection. This reflects a narrative by a traditional priest who explained:

in the past the gods were really active in the protection of the animals but currently it is the government that is reinforcing this role. But the community members know

that it is either for the gods or the government. People will not like to harm them in order to avoid the wrath of either the gods or government

The narrative above demonstrates the strength associated with a synergy between local taboos and formal institutions in BFMS.

8.4.2 Enforcement mechanisms (enforcing formal and informal institutions in BFMS)

8.4.2.1 Key Actors and enforcement of formal institutions

With reference to the governance model in Figure 8.2, this section discusses how each actor contributes to the enforcement process towards maintaining effective human-wildlife interaction and species protection.

a. Wildlife officials

The contemporary governance regime makes provision for a local resident Wildlife officer and other supporting officers in the BFMS community. Their mere presence serves as a check on community members who may want to disturb the species, more especially their habitat, which is the protected forest. Without the external check, people may flout the regulations on monkey and habitat protection. This is against a backdrop that there are relatively homogenous relations among community members with a set of family ties. It may therefore appear quite difficult to impose real punishment when someone offends the rules and regulations – for instance, if the culprit is a member of the royal family or an elder. This point was well explained by a traditional priest:

But as a result of the relational and brotherliness which exists in the community, If someone conducts any harm against the monkeys, people will come and beg, claiming the person is either my son, or grandfather of other relative. So with this, you will just perform some ritual or else a lot of negative consequences will occur.

The presence of the Wildlife Division has been an effective external check on hunting and timber extraction, which would have been difficult to regulate if left to the traditional governance structures alone. In the traditional communities it is mostly difficult for people

to blow the whistle or report law-breakers to authorities because of family and community ties. This was explained by one of the study participants:

As for the wildlife officials, they derive their powers from government and are mostly external to the community, they have no such worries which some of us may encounter... They are expected to protect the monkey habitat when there is any infringement or anything illegal. They are the ones representing the government and can make arrest so that is their role. Their role is to supervise and not to succumb.

This point was corroborated by another key participant who submitted that:

this they do without recourse to much sentiments from community members since the latter know it is officer's responsibility (as mandated by government) and not borne out of bad faith or callousness.

b. Local government

The governance and institutional structure of BFMS has been consolidated by local by-laws legitimated by the local government, which makes their enforcement considerably easier. Although in practice the local government has no direct role in the governance process of BFMS, it has helped provide the enabling legal and regulatory framework. This has made the institutions enforceable in the law courts and offenders could be prosecuted. The local assembly is also a partner in the development of the BFMS area in terms of infrastructure, which will promote eco-tourism. The assembly is consulted on other issues concerning the BFMS, but does not play any direct managerial role in the governance process.

c. Local management board and committee

The overall governance of the BFMS is entrusted to the local management board, whose membership cuts across the traditional actors, state agencies, the two communities (Boabeng and Fiema) as well as seven other allied communities whose territories have been encroached upon by wildlife from BFMS. The board is tasked to promote unity among all the nine

resource communities¹³ and work together towards the sustainable governance of wildlife species. It also operates to sensitise community members to the relevance of conserving natural resources as well as the need to prevent wildlife habitat degradation. The day-to-day governance of BFMS is conducted by a five-member management committee, whose membership is comprised of representatives from both Boabeng and Fiema and the Assembly member appointed for a four-year term. A traditional chief explained:

What happened was, 'nananom' [chiefs and elders] couldn't directly handle So nananom have appointed a management board ... Boabeng and Fiema chiefs nominate one member each; the fetish priest or community nominates one member each; and the assembly member of both communities is a member.

This committee powers the governance process and helps to derive socio-economic benefits from the sanctuary and helps to reinforce its eco-tourism prospects. As has already been established, the ownership and management of the sanctuary are essentially vested in the chiefs; they have subsequently delegated the management role to a five-member Management Committee, which is in charge of the day-to-day activities that go on at the Sanctuary, and appropriates moneys derived from eco-tourism and rents from the Sanctuary guesthouse. A chairman of a unit committee explained:

The role of management is to safeguard the monetary aspect of the sanctuary; if any guests come; if there is any problem, it's the management.

In our interaction with the former chairman of the Management Committee he explained:

The essence of the Management Committee was to open up the governance system and to make it more community-centric and as open as possible; the local BFMS Constitution makes everything streamlined

¹³ The uniqueness of wildlife resources is that they are migratory in nature over time; monkeys have spread to seven other surrounding communities. The people in these communities are aware that the monkey species are sacred and there is a taboo against harming them; they consequently deal with them as such

8.4.2.2 Actors and enforcement of informal institutions

Role of the chiefs

The traditional governance system headed by chiefs plays a crucial role in the protection of wildlife in Boabeng-Fiema Monkey Sanctuary (BFMS). Each of the two communities (Boabeng and Fiema) has a robust chieftaincy system headed by a chief with his council of elders (traditional cabinet), who help to enforce community by-laws and regulations geared towards the protection and conservation of monkeys. In each community the chief remains the main enforcer of local taboos or the traditional ban on killing of monkeys. Any other governance arrangement (including local management committee and board) reports to the local chief, who wields final responsibility and authority.

This was explained by a unit committee head:

The actual power is with the chiefs, even if the monkeys belong to the gods, the land is for the chiefs and more importantly the monkeys are largely inhabited on the land of Boabeng community.

Anyone who contravenes any of the regulations on the monkeys is hauled before the chief, who makes a pronouncement on the appropriate punishment to impose. In most cases, the accused person is asked to buy items including a sheep to slaughter to appease the gods. One of the traditional priests explained:

...so the person who kills the animal must appease to the gods by bringing sheep and eggs for the rituals ... anyone who even accidentally kills the animal will buy a coffin and carry it. You will organize a funeral for the animal and everyone within the community will know that you killed the animal.

Traditional priesthood system

The chiefs execute their traditional roles in tandem with their spiritual advisors, who are the traditional priests in charge of the monkeys. Both Boabeng and Fiema communities have their own traditional priest in charge of the monkeys and these priests take divine instructions from the gods and advise the chiefs accordingly. One of the priests explained:

We listen to the gods. Whatever someone does, the gods communicate to us. So anything you do, we will know... and if the animal dies, we have the ritual we perform.

Traditionally, the priest (in collaboration with the chief) is responsible for the enforcement of the taboos in the two communities. He is able to interpret the gods' wishes, which he conveys to the community. Traditionally, the monkeys are seen as offspring of the gods and the two fetish priests of the Boabeng and Fiema communities carry out traditional rites to appease the gods whenever there is an unfortunate incident of a monkey found dead or killed. This includes burial rites for the monkeys and, in the past, initiating an appropriate funeral ritual for a dead monkey. In some situations these priests receive a revelation from the gods on some specific thing to be done with respect to the monkeys and at times are given prior knowledge of what is yet to happen. At other times the priests may contact a relatively powerful priest to get additional insight into what is to be done for interpretation of an observed phenomenon.

Role of the gods

Throughout Ghana and most African society's people associate the lesser gods with elements of nature, such as rivers, lakes, rocks, trees, mountains and animals that are believed to possess spirits and powers. In the context of BFMS, both Boabeng and Fiema possess a lesser god, *daworo* and *abodwo*, respectively. These two river gods – *daworo* (female) and *abodwo* (male) – are the parents of the monkeys who provide supernatural protection for the monkeys. One of the respondents explained the parental role of the two gods:

So we agreed at some point in time on the elimination of dogs at the instruction of the gods... The history of the monkeys revolves around two shrines, one in Fiema and other in Boabeng... And the history is that at night when the god (abodwo god of Fiema) visited his wife (daworo god of Boabeng) the dogs used to bark at him. But the main reason is that the gods indicated that the dogs used to disturb him en route to his wife.

Additionally, the gods reveal ‘what is hidden’ to the priests and spiritually offer protection to the monkeys. In that regard, even in the absence of any human, people fear causing harm to the monkey species. Those individuals who appeared recalcitrant in the past received divine sanctions from the gods, which in contemporary times serves as test cases and narratives. For instance, respondents variously narrated:

There was a woman in Fiema who pounded hot pepper and mixed it with food so that the monkeys would eat in her home (ostensibly to punish monkeys and to scare them from her house), after eating with their forelimbs and using same to scratch their face and eye, it itched them bitterly... today the woman has also gone blind at Fiema.

In the study respondents narrated and shared experiences where individuals and groups who defiled the sanctity of the informal restrictions were subject to mysterious sanctions from the gods. See Table 8.2.

Table 8.2: Sanctioning misbehaviour: Efficacy of informal institutions

Designation	Offence	Divine punishment
A foreign woman	Pretended to carry out a project in the sanctuary but had a latent motive to test the potency of the spirits and gods	Mysteriously got bitten by one of the monkeys and died
A Christian sect	Took the traditional leadership to court for some decisions made	The wife of the church leader mysteriously suffered stroke and died
Savior church members in the 1970s	Had no belief in the tradition and hunted monkeys	A man would have strange occurrences such as protruded stomach; sometimes women gave birth to strangely deformed babies
A migrant Northerner	Used his cutlass to hit the forelimb of one monkey	He mysteriously got one of his arms sprained (similar to what he did to the monkey) whilst dancing at a funeral few days after. He became paralyzed for the rest of his life and died years after.
Some sect at Jema-Nkwanta (nearby town)	One of the <i>colobus</i> monkeys got killed and eaten by a group of people	They experienced fire outbreak in their homes which originated from one of them whose house gutted fire whilst the wife was cooking.

		The fire mysteriously trespassed and targeted only houses of those who partook in the diet.
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Source: Author (fieldwork) 2016

8.4.3 Behavioural choice and outcome elements: people-wildlife interaction

Unlike what appears to be generally rancorous interactions between humans and wildlife (Beisner *et al.*, 2015; Manfredi, 2015), the situation in BFMS is fairly unique as there is an appreciative relationship between humans and wildlife. Put differently, people do not hunt, taunt or harm monkeys. This theme remained dominant throughout the data-gathering process and all participants answered in the affirmative. For instance, a retired wildlife officer explained:

I have served in over five national parks in the country, elsewhere; there is nothing to scare them [community members and poachers]. The wildlife system is different elsewhere, but here it is collaborative and the local systems in place reduce the task and burden of the wildlife officer.

Largely troublesome, yet highly protected: A paradox?

Apart from being friendly to humans, monkeys in BFMS nonetheless largely troublesome and usually causes havoc in homes and on farms of people. Some participants explained the extent to which monkeys cause troubles in the communities. A queen mother explained:

They [monkeys] are good but very bad, stealing and destruction. Just take a look at the building with red marks [pointing to some dirty marks soiled on her wall by monkeys] ... I have changed my roofing sheets for about 4 times [monkeys jump on them and leave tiny holes]... if food is even on fire, bread, kenkey [local food made of maize dough] they will take and just eat in front of you when they sit on the roofing sheet or mango tree to spite you.

The study argues here that the nature of the problems that wildlife (monkeys) pose to community members in BFMS ideally would have warranted the kind of harsh retaliation and decreasing species population that occurs elsewhere. In table 8.3 below, one rather observes an increasing monkey population which suggests that despite inconvenience

monkeys pose, the institutional robustness helps contributes to their protection which also demonstrates the effectiveness of the co-management process.

Table 8.3: Increasing BFMS monkey population

Census Year	Number of individual population	Number of groups
1990	128	8
1996	163	10
2000	200	14
2003	220	15

Source: Saj et al, 2006

In all focus group interactions with community members, people (whether native or migrant) were unanimous that they do not harm the monkeys, although their reasons differed. For instance, one explained

I don't hail from this community, although I may have my doubts about these myths, I don't want any government litigation so I obey the rules... even if officials are not around, the people themselves will report you should you trespass ... government laws will deal with anyone who offends.

This confirmed by a native participant:

Monkeys are children of the gods, this is what our elders have told us and we cherish it, the development of Boabeng-Fiema is a result of eco-tourism income brought forth by monkeys... we value tradition and we don't harm the monkeys and won't allow anyone to do so.

From interaction with the respondents, it became evident that formal and informal institutions are *two* sides of the same coin, whose overarching goal is to ensure protection of monkeys in the Boabeng-Fiema Monkey Sanctuary and the synergy between these two has proven to be formidable in eliciting compliance from community members as there were no reports of abuses.

8.4.4 Discussion

From the BFMS case, lessons on institutional synergy and conditions supporting appropriate complementation of formal and informal institutions in natural resource governance are discussed in themes below:

Strength in complementation of formal with informal institutions

The BFMS governance arrangement depicts a typical model where the strengths of formal and informal institutions have been synchronized and enforced in a coordinated manner (table 8.1 and figure 8.2). Globally, governments have an overall responsibility for promoting sustainability of their environmental resources. In situations where there are local community governance provisions for reinforcing this role, government's task of ultimate responsibility is only reduced but not fully ceded (Arts 2014; Vodouhê *et al.*, 2010; Roe *et al.* 2000). As seen in Figure 8.2, the informal institutions including the traditional priesthood, chieftaincy structures and mythology surrounding monkeys work together to support effective monkey conservation. But for the informal institutions, the formal institutions would have a Herculean task and been taken place only at an increased cost. Elsewhere, Wilkie *et al.* (2000) bemoan how resource constraints affect exclusive formal management of wildlife which results in poor outcomes in what they referred to as 'paper parks' which fails to accomplish the overall objective of wildlife conservation. In the African context, studies contend that "at the institutional and legal level, most countries, especially African countries, have a satisfactory framework for protected areas,... however, despite an abundance of laws and institutions, the framework is often ineffective and less strictly enforced for management of protected areas" (Iritie, 2015:202). On the other hand, the informal institutions alone in BFMS would not have been able to stand the test of time due to contextual complexities in the 1970s. BFMS before the mid-1970s was underpinned solely by informal institutions and taboos which nearly resulted in 'complex crisis' as religion and in-migration nearly threatened the use of taboos in monkeys protection.

Institutional consolidation to avoid inter-institutional gap

The case entreats local communities to liaise with the appropriate state agencies in order to legitimize their operations and decisions which could be enforceable. Whilst mythology

forbids causing harm to monkeys in BFMS, this is also consolidated by national and local by-laws which is reinforced by contextual community arrangements. Additionally, whilst the gods of Boabeng-Fiema forbids dogs as pets in the community, this instruction has been consolidated in the BFMS Constitution legitimated by a local by-law which bans people from keeping dogs as pets in BFMS community. Such complementarity of formal and informal institutions to safeguard monkeys in BFMS is phenomenal as dogs are known to be predators to wildlife (Lessa et al., 2016). In a related study in northern Ghana, Millar (2003) contends that the traditional informal institutions and belief systems possess major conservation value but only become more robust when interspersed with modern democratic elements.

Reinforcing informal institutions for cordial human-wildlife interaction

From the study, one observes that the role of the chiefs, traditional priests and gods cannot be underestimated in the enforcement of wildlife institutions in BFMS. Most community members still have belief in the potency of the ‘unseen’ and this in most cases inform their interaction with monkey species at BFMS. This has been underscored in a report by Fargey¹⁴ where 75% of the people explained that they would have hunted the monkeys for bushmeat had it not been the traditional institution (taboo) prohibiting their killing (see also table 8.1; Attuquayefio & Gyampoh 2010). This suggests that the informal institutions offer a catalyzing influence in the protection and conservation of monkeys in BFMS (see also Hartberg et al., 2016 on supernatural monitoring and sanctioning in natural resource governance).

Generally, cultural belief systems, local taboos and myths have proved useful in controlling and regulating people’s interaction with natural resources (Colding & Folke, 2001; Negi, 2010). Our narratives demonstrate that communities gain more from these informal systems if linked up with formal arrangements as well as other incremental institutional developments. The interplay of formal and informal institutions and their enforcement

¹⁴ Fargey P. J. *Assessment of the Conservation Status of the Boabeng-Fiema Monkey Sanctuary*. Report to the Flora and Fauna Preservation Society

together with the governance dynamism has made wildlife in BFMS largely protected as summed up by a traditional priest “...*the people know that it is either for the gods or the government, people will not like to hunt or harm them in order not to incur the wrath of either the gods or government*” (see also Osei-Tutu et al., 2015). This theme also reflected in the various interviews and discussions with community members including the researchers’ observations on the field as monkeys were seen in the homes of people especially during the mornings and evenings which demonstrates a relatively cordial human-monkey interaction. The findings from this case study provide empirical support to a similar observation in Lushoto, Tanzania by Mowo et al. (2016: 120) where “when ... conventional and indigenous by-laws enforcement mechanisms (were) adopted, incidences of abuse of natural resources were reduced by as much as 50% in some of the study sites”. The foregoing demonstrates the efficacy of traditional governance structures and institutions which need to align appropriately with the formal institutions to arrive at an overarching goal of sustainable natural resource governance.

Systems view of complementation

The enforcement complementarities of both formal and informal institutions depicts a ‘systems approach’ which unleashes a robust outcome that is more than the sum of both parts (see Maani & Cavana 2007). In other words, the product of the interaction between formal and informal institutions is far greater and provides effective protection for monkeys in Boabeng-Fiema Monkey Sanctuary. The governance arrangement ensures there is no institutional vacuum as local arrangements through the management committee and BFMS Constitution help operationalize the formal and informal processes which are coordinated for a unified purpose of resource governance. In their Inter-Institutional Gap (IIG) framework, Rahman et al. (2017) highlight the relevance of mediation between formal and informal institutions to adopt rules at various levels and scales to pragmatically regulate the management of natural resources. Despite the numerous calls for synergistic relationships between formal and informal groups for sustainable natural resources outcomes, there are reports of a general conflict between actors operating under these two entities (quoted in Rahman et al. 2017: 845). This trend notwithstanding, the institutional arrangements in

BFMS are structured such that there is cordiality and cooperation between formal and informal actors as highlighted in table 8.1. Elsewhere, enforcement of formal rules is problematic and wildlife officials may even experience the wrath of community members (Vaughan & Long, 2007); in the extreme cases, they become exposed to intimidation and death threats from poachers (Messer, 2010).

Dynamism in the institutional model

Inclusivity and stakeholder involvement

Notwithstanding the robust nature of formal and informal institutions, we still observe dynamism in the governance and institutional model of BFMS which continues to sustain monkeys and their habitat. Although there are formal laws and mythology that ban hunting of the monkey species and destruction of the core forest, the community governance structure and informal arrangement continues to grow in dynamism to meet exigencies of time. This is also because managing wildlife comes with an ecological, social and political complexities (Rastogi et al. 2012:336) which calls for a more eclectic approach that hinges on governance and social inclusion.

The involvement of seven nearby communities in the management board and decision making processes of BFMS suggests governance dynamism to optimize protection of monkeys and forest. This development corroborates an observation by Horowitz (1998) in Sarawak, Malaysia where indigenous structures and institutions were further developed to liaise with state institutional arrangement amidst contextual innovations towards effective wildlife management. It is instructive for natural resource conveners to strive for ways of involving actors when the need arises, the argument is that people will manage wildlife and other resources when they are provided sufficient incentive to do so (see Lu et al., 2005). Rahman et al. (2017:845) explained that the need for collaborative institutional arrangements capable of promoting flexibility, participation and inclusivity remains essential for sustainable natural resource governance.

Benefit-sharing measures to incentivize

Using a given sharing criteria, stakeholders are incentivized by providing them economic benefits from moneys accruing from monkey eco-tourism. Although protection of monkeys in BFMS is primarily intrinsic, as societal members become more complex and diverse such socio-economic developments that come with monkey protection help to consolidate and validate traditional values underpinning natural resources protection. In addition to their traditional belief in monkey protection, community members derive tangible benefits from projects funded by moneys directly or indirectly from monkey eco-tourism. More so, the other seven nearby communities who have been incorporated in the benefit-sharing scheme augment the enforcement of wildlife protection rules. People who live with and are responsible for management of natural resources must be the primary beneficiaries of that management effort. In other words, laws and regulations per se, may not necessarily protect wildlife resources, people do and their efforts need to be rewarded as such. In their wildlife tolerance model, Kansky *et al.* (2016) contend that costs incurred from harboring wildlife should not significantly outweigh the benefits people derive from them, to acknowledge this involves engaging with relevant stakeholders in the resource context.

From the study observations, a dominant theme has been the effective enforcement of wildlife rules and the positive human attitude towards monkeys and wildlife officials in BFMS. This suggests that the interaction of formal and informal rules coupled with contextual dynamics promotes effective enforcement and human-wildlife relationships. This finding provides empirical support to an earlier call by Rahman *et al.* (2017) which maintains the need for collaborative arrangements for sustainable governance of natural resources.

8.5 Conclusions and policy implications

Firstly, the case study demonstrates that the synergy between formal and informal institutions which is adequately enforced by recognisable governance structures gives wildlife resources effective protection from members of all facets of society. The migrant or so-called ‘modern thinker’ who might have otherwise shown disregard for or disbelief in the tradition will be compelled by the existing state regulations, whilst the traditionalists who

otherwise might have ignored the state regulations are compelled to comply by informal institutions. The study argues that although informal institutions are critical to natural resource governance, their relevance becomes more robust when synergistically located within a formal institutional arena. In other words, the combined effect of both formal and informal institutions in enforcement of wildlife rules cannot be overemphasised, as the total impact derived from the interaction (product) of both is more than their individual parts.

The study argues that community resource management needs to evolve into a more collaborative system to involve an interplay of actors to enhance the effectiveness of institutional enforcement. It highlights that a strict sense of community-based natural resource management (in simplistic sense) does not exist per se or at best may be less effective (see Stone & Nyaupane, 2014; Ojha *et al.*, 2016). Rather, protection of natural resources requires a capable regulatory framework (with help from state or local government) and supportive state agencies (Gilmour, 2016) and, more importantly resource communities need to “forge closer ties with communities beyond” so that synergistic relationships are established towards effective resource governance.

It is imperative to find the convergence points between formal and informal institutions by ‘modernising’ the informal rules through the introduction of some democratic elements as well as enhancing transparency and accountability. More importantly, as society grows in sophistication, ensuring the effectiveness of the natural resource institutions calls for a holistic approach towards adaptive or collaborative governance, where other emergent actors or stakeholders are brought on board and also made part of the benefit-sharing arrangement. Through this, networks and actors evolve to reflect existing societal or communal patterns which are viewed as more inclusive. Finally, the study concludes that natural resources institutions should be viewed as dynamic or evolutionary in nature; as society and the resource grow in sophistication and dynamism, natural resource institutions correspondingly need to rise to the challenge.

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Chapter Nine

The Role of the ‘Champion’ in a Bottom-up Approach to Natural Resource Governance Collaboration¹⁵

Abstract

Natural resource endowments are largely freely supplied by nature to ‘lucky’ communities, yet the ability to transform such endowments into meaningful resources are context dependent. There are many communities endowed with specialised natural resources which have not yet been transformed into a sustainable developmental resource for society. Adopting an ethnographic approach using the case of “a hitherto threatened wildlife species transformed into major community resource”, this study discusses the role of ‘champions’ in the development of adaptive responses to sustainable natural resource governance. The study discusses how the actions and specific strategies of an individual (champion) helped to salvage a threatened wildlife species to revive and survive through an adaptive governance and institutional response. Consequently, the natural resource endowment has become a productive resource which anchors the socio-economic development of Ghana’s Boabeng-Fiema community. Five key strategies adopted by the champion have been illustrated in a schematic diagram and discussed using narratives and visuals.

Keywords: adaptive response; institutions; collaborative governance; wildlife; champion

¹⁵ This is an adapted version of an article published as **Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2018).** ‘Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance’. In A. Farazmand (Ed.). *Global Encyclopedia of Public Administration, Public Policy & Governance*. New Delhi: Springer.

9.1 Introduction

The complexity and high stakes associated with natural resources render them rather problematic and perhaps impossible to be governed by a single unit; this has led to an era of networks and collaborations in natural resources governance (Yeboah-Assiamah *et al.*, 2017). In other words, effective management of environmental resources including, *inter alia*, watersheds and aquatic life, forests and wildlife, and protected areas requires the synergistic efforts of multiple actors and systems. The idea of collaboration has come to stay and has been well researched in the natural resource governance literature (Yeboah-Assiamah *et al.*, 2016).

An emerging theme has been the focus on the determinants or drivers of governance collaborations (Sayles & Baggio; 2017); in other words, how do these governance networks and collaborations come about or get initiated? The role of a community's social capital base and how communities deploy social capital most effectively greatly determines the extent to which resources become transformed into meaningful assets in a sustainable way. Scholars discuss the role of bridging organisations in catalysing such collaborations between various entities and stakeholders towards achieving a superordinate goal of resource governance and conservation (Kowalski & Jenkins, 2015). Even within bridging organisations there are still some 'micro' entities that mastermind or catalyse the success of a bridging organisation in bringing about collaboration for effective natural resource conservation purposes. For instance, Olsson *et al.* (2007) suggest the unique and 'championing' role played by a director of the Ecomuseum (bridging organisation) in establishing the collaborative governance arrangement of the Kristianstads Vattenrike Biosphere Reserve in Sweden. In Canada collaborative governance in the lobster fishery of Maine largely involved the role played an individual (the Marine Resource Commissioner) who used his position as editor of *Commercial Fisheries News* and networks within the fishing space to propel the collaboration.

Although collaboration in the natural resource governance context has gained much prominence, the literature appears silent on the specific and championing roles played by

individuals (referred to as ‘champions’ here) in a particular natural resource collaboration or in achieving resource outcomes. ‘Champions of change’ are “innovative, charismatic individuals and can be found at any level of society, within local or national governments, NGOs, local communities, and among resource users” (Borrini-Feyerabend *et al.*, 2004:336). The literature contends that although leadership is critical to the emergence and effectiveness of shadow networks, it nonetheless does not necessarily lead to an improved governance of social-ecological systems (Olsson *et al.*, 2006). The authors (Olsson *et al.*, 2006) pose critical questions including *inter alia*, ‘What characterises the particular type of leadership that can transform an SES (social-ecological systems) towards adaptive governance?’

This chapter contends that natural resource endowments are largely freely supplied by nature to ‘lucky’ communities, yet the ability to transform such endowments into meaningful resource outcomes are context dependent. There are many communities blessed with specialised natural resources that have not yet been transformed into a sustainable developmental resource for society, whilst in other communities the same resources have become either counter-productive or exploited into extinction. Nature supplies freely, yet the question is: *Who, How and What determines When the natural resource becomes a sustainable developmental resource?* This chapter makes an empirical contribution to the literature by discussing the distinctive role of ‘champions’ in forging collaborative wildlife governance and institutions for effective conservation as well as examining the roles and strategies in the transformation of a community endowment into a sustainable developmental resource. The term ‘champion’ is used in this chapter to mean *an individual who through specialised organising skills and interests undertakes integrated actions through a rigorous approach and strategies to link differing bodies unto a coherent platform; to foster arrangements towards the effective governance of natural resources.*

The study presents a case study of Boabeng-Fiema Monkey Sanctuary (BFMS), where the actions of ‘a champion’ (the late Mr Akowuah) resulted in collaborative wildlife governance that has helped in the conservation of a hitherto threatened monkey species that was on the

verge of near extinction (Yeboah-Assiamah *et al.*, 2017). The BFMS in Ghana has subsequently become a renowned wildlife area attractive to local and international tourists, development agencies and researchers, with the associated society-wide benefits of that.

9.2 Conceptual overview

9.2.1 Social capital and natural resource development

If societies A, B and C are given same amount of natural resource endowment, the ability of A, B or C to optimally adopt prudent measures to transform it into a long-term blessing or asset greatly depends on the social capital that society possesses. The notion of social capital suggests that individuals, groups, one's family, friends and associates constitute an important asset that can be called upon in times of critical need (Putnam, 1993). A great deal of the social capital literature has been informed by Putnam's (1993:6) work on civic participation and institutional performance in which he conceptualised social capital to mean the "features of social organisation, such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit". One could argue that Putnam's (1993) study took its cue from Bourdieu (1986:248), who conceptualised social capital as "the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition".

Broadening the scope, Coleman (1990:598) discusses social capital by focusing on the relations among groups and not just individuals. Arguing on the basis of its functional role, Coleman defines social capital as "a variety of different entities [which] all consist of some aspect of social structure, and [which] facilitate certain actions of actors ... within the structure". At the macro level, social capital is explained as a process of drawing on the social and political environment to shape the social structure which also enables norms to develop. Briefly, social capital connotes *individuals as assets; their close relations; interactions among groups; and socio-political imperatives*.

Relating the above conceptualisation to this study, the individual who championed the purposive course of action to salvage the threatened wildlife species, including the steps to

make the wildlife human-friendly, constituted great social capital to the Boabeng-Fiema community. At the micro and meso levels, his immediate family and his former school pupils (the youth) supported his conservation efforts. At the macro level, he drew upon the relevant societal actors including opinion leaders, government officials and researchers from abroad, which contributed greatly to revitalising a hitherto threatened monkey species into a more human-friendly species that has become the community's greatest asset in fostering socio-economic development. In essence, effective conservation requires the ability to use social capital to foster the appropriate social-ecological system and resilience. The concept of resilience implies the ability of governance regimes to make use of social capital, or other relevant resources, to respond and adjust effectively to changing social-ecological systems, and thus be able to moderate or prevent the adverse effect that similar threats may pose to less adaptive and less resilient social-ecological systems.

9.3. Methods

The study adopted an ethnographic design. Ethnography is an interpretive approach where researchers undertake a systematic investigation of the beliefs, processes, social interactions and behaviours, as well as distinctive phenomena, of sizeable societies; the process largely entails participation and observation over a period of time (Denzin & Lincoln, 2011; Reeves *et al.*, 2008). The overarching goal of this design is exploration, description and explanation of other cultures and contextual phenomena rather than to test a quantitative hypothesis (Atkinson & Hammersley, 1994). The study was positioned within the prevailing epistemology by recognising the information and knowledge base of participants. A key asset that enabled the study was the social relationships and intermediaries to gain unreserved access to key participants. According to Wilson (2008:129), ethnographic design requires “the proper protocol for building of healthy relationships ... the use of intermediaries has practical uses in establishing rapport with research participants and placing the researcher within a circle of relations”. Consequently, the two older sons of the late Mr Akowuah (one is a tour guide) were very useful throughout the study period as they led the researchers to participants, including the chiefs, traditional priests and other relevant

actors. Purposive and snowball sampling techniques were used to identify 25 key informants who were deemed to have the requisite information. The main instruments of primary data gathering involved informal discussions, narrative enquiry, in-depth interviews, simulation exercises and direct observations. Key individuals in the governance structure of BFMS as well as those who used to be closer to the ‘champion’ when he was alive, including his wife, were engaged in a narrative inquiry, followed by in-depth interviews. By direct observation and simulation exercises, the authors tied bananas to a wooden structure where ‘the champion’ used to feed the monkeys, which came around to pick up the bananas in the presence of the authors, and photos were taken (see Figure. 9.3).

The study also noted how researchers and tourists from both the local area and the international arena visited the BFMS (Figure 9.4). All the visuals in the study were taken during the course of this study between 2016 and 2017. In ethnographic descriptions and discussions, visuals are deemed to be critical in the data-analysis process. According to Denzin and Lincoln (2011), the use of visuals or images is relevant as they help to focus the readers’ attention; they are able to explicate an idea or phenomenon that may be quite complicated to describe in words. Prosser succinctly makes the point: “art can describe, reflect, and evoke emotion, which dry facts or figures and cool logic rarely do” (Denzin & Lincoln, 2011:488). All proceedings with the participants have been transcribed and sorted into appropriate themes and utilised in the discussions. Data were analysed using inductive thematic analysis based on issues that emerged from the observations and data gathered, as is common to ethnographic studies (Reeves *et al.*, 2008). Direct narratives and visuals have been used to support the themes discussed. A major strength of this design is that through the observations and immersion into the society, the researchers were able to identify and gather novel empirical insights which have eluded previous studies. More importantly, the comprehensive nature of the approach helped the researchers to explore and link social phenomena and related narratives which may appear *prima facie* to have no connection (Reeves *et al.*, 2008). A limitation of ethnography is that since it is confined to a particular context, the outcomes or conclusions cannot easily lead to generalizations, the findings however could be adapted to suit different contexts.

9.3.1 Study context

The chapter uses the unique case of Boabeng-Fiema Monkey Sanctuary (BFMS) in Ghana, West Africa to demonstrate empirically how a ‘champion of change’ could influence social-ecological systems by preserving a monkey species on the brink of extinction. Boabeng-Fiema comprises two neighbouring communities, Boabeng and Fiema, which have similar beliefs and practices, despite a level of subtle inter-community rancour). This community is located 22 km North of Nkoranza District of the Brong Ahafo Region (transitional zone of Ghana), which is about 230 km from Accra, the capital of Ghana. The area presents a distinctive case, because the monkeys in the community continue to receive significant protection, despite the challenges they pose to community members; the widely recorded human-wildlife conflict with monkeys, which are becoming a threatened species in contemporary times, is non-existent in BFMS. But there were periods where the monkey species were threatened, until the emergence of a ‘champion of change’ who brought about a rejuvenation through pragmatic strategies (details in section 9.4).

9.4 Results and discussion

In this section the study provides a brief overview of BFMS and how the role of a champion fostered a bottom-up governance collaboration towards effective wildlife conservation.

Table 9.1: Overview of emergence of champion in BFMS

Boabeng and Fiema are two neighboring communities that are surrounded by forest which harbours *mona and colobus* monkey species. Traditional belief system had declared Monkeys in Boabeng-Fiema communities as totems or the ‘offspring’ two gods ‘*daworo*’ and ‘*abodwo*’ in the Boabeng-Fiema respectively. People in these communities, therefore, lived with monkeys harmoniously without any form of human ‘crime’ against the monkeys since the 1830s. People had beliefs in the taboo and were made to believe that if they harmed the monkeys, disastrous consequence would befall them. However, upon encounter with Christianity, some sections of the community began hunting for monkeys including massive destruction of the forest that inhabits them. The nature of the hunting nearly reached a crisis point which made one Mr. Daniel AKowuah (late), a native of the community to rise up as “a champion of change”. But for his intervention and the unique strategies embarked upon, the monkeys and their habitat would have perhaps become extinct or perhaps the patchy remaining monkeys being very hostile to human beings as observed in other contexts. The late Akowuah was a retired police officer and a then headmaster of Fiema Primary School who upon recognising the potential in the monkeys and the rate of their depletion took varying steps to salvage the situation including *lobbying and proposals writing; community sensitisation; afforestation and taming of monkeys; and personal commitment to direct monitoring*. These inter-linked activities [figure 9.1] have today made BFMS a renowned centre of attraction to both researchers and tourists from across the world; a research hub for many local and international Universities which helps generate income for society’s developmental efforts.

Figure 9.1 below indicates the key strategies adopted by the ‘champion of change’ underlying the governance and institutional rejuvenation enabling effective preservation of the hitherto threatened monkey species in Boabeng-Fiema. This section also discusses the strategies adopted by ‘the champion’ to make the monkeys more domesticated and human-friendly, which in turn attracts tourists from all over the world.

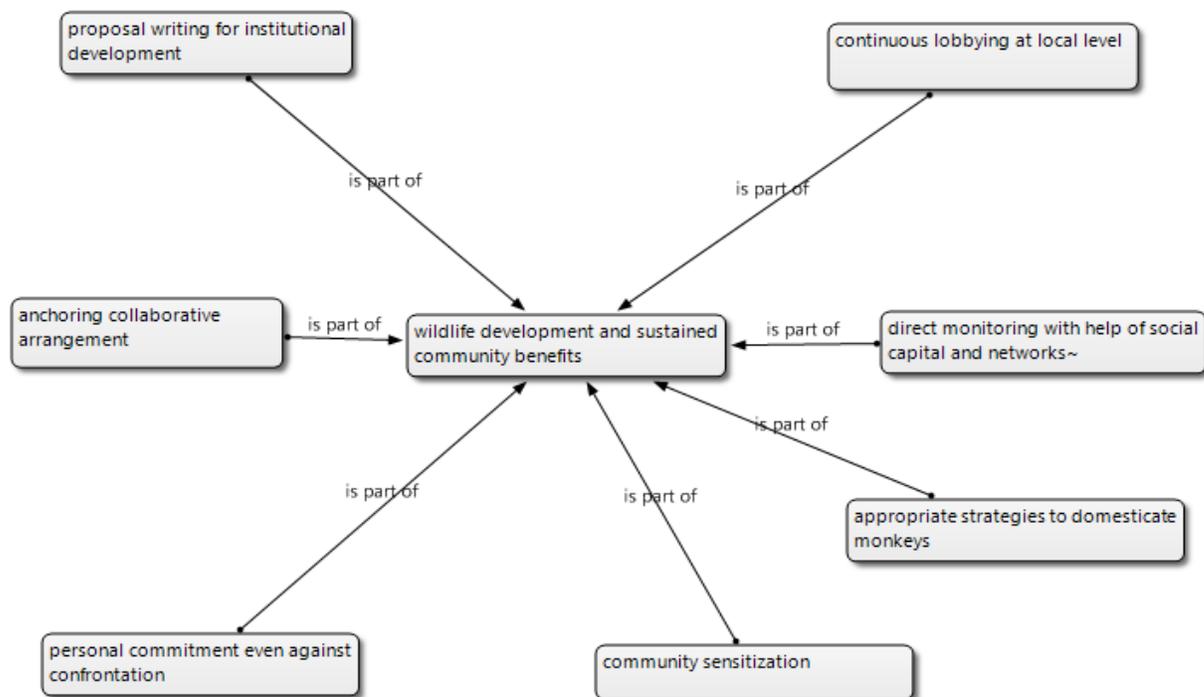


Figure 9.1: Schematic view of measures taken by the champion

Source: Designed from field results

a) Proposal application for sanctuary status

Although the people of Boabeng-Fiema had seen monkeys in their forests and farms, they did not envisage their economic and ecological value, apart from the fact that they were protecting them for their gods who had ordered them to do so. Largely a rural community, the people felt helpless when their fundamental beliefs were challenged as a result of being exposed to Christianity, which undermined the value of the gods' commandment not to kill the monkeys. The Saviour Church had converts in the community who decided to hunt and use monkeys for their subsistence. Then a retired policeman and headmaster of Fiema School, Mr Daniel Akowuah (whose house was very close to the forest, see Figure. 9.2) took it upon himself to draw the attention of national policy makers to 'the beauty and potential of the monkeys' in the Boabeng-Fiema communities. This was in the 1960s, when he wrote series of proposals to the then Department of Game and Wildlife. The efforts yielded results and the Department sent evaluators to assess the possibility of earmarking the area as a

national park. However, because the Boabeng-Fiema community is largely surrounded by the forest harbouring the monkeys, and because there were associated land size issues, it would have been difficult to resettle the people. However, in the early 1970s the area was officially declared a sanctuary and the National Game and Wildlife agency was to provide resident officials to patrol the forest (habitat of monkeys) and also to ensure that wildlife laws were not violated.

In effect, the governance of the sanctuary was to become a more collaborative enterprise between the community leaders (informal institutions) and the state agency (formal institutions). This is what the study refers to as a bottom-up approach to collaborative governance, as the initial process towards the collaboration and conservation was kick-started by an individual and with local efforts. Consequently, wildlife became largely untouchable as a result of the dictates of the gods as well as national policies; the latter was largely the consequence of the efforts and role played by the ‘champion of change’. A traditional priest explained:

Akowuah was fortunate to be highly educated to become a senior policeman, my uncle [the priest at the time] told him, Kwaku (Akowuah), you have been in government, how can we salvage the animals from such destruction? Akowuah wrote a series of letters to government which saw wildlife officials coming on board.

b) Continuous lobbying at local level

His efforts did not stop only at the national level. After achieving the target of sanctuary status and the government declaring BFMS monkeys a protected species, he later persuaded the local district council (then Nkoranza District Council) to pass a by-law in 1972 that sought to further provide localised regulations to protect monkeys and the habitat. Consequently, there is now a hunting and farming ban in the core forest. People can only farm at designated area clearly removed from the core forest and demarcated by a buffer region. Therefore, the *colobus* and *mona* monkeys in Boabeng-Fiema are protected by national regulations, local by-laws and traditional beliefs. A traditional ruler explained:

He [Akowuah] saw to it that the right institutions and regulations were passed to protect the monkeys, even the passage of the by-laws, I cannot take it away from him. He had a bit of education and knew the tourism potential that monkeys could provide.

The champion's initial action of getting the right institutions passed was a worthwhile course of action as championing natural resources governance and conservation cannot be achieved without the enabling or supporting rules, regulations and structures (institutional underpinnings) especially regarding protected areas (Hayes, 2006). For instance, through this effort, the Wildlife Conservation Regulation (1971) of Ghana lists the *colobus* and *mona* monkeys (found in Boabeng-Fiema) as wholly protected and partially protected respectively; these regulations have been strengthened by local by-laws such as those of 1972 proscribing the hunting of monkeys and farming in the core forest – these are localised instruments to enhance wildlife conservation.

c) Anchoring collaboration towards effective wildlife governance

The champion anchored or fostered a management approach that sought to bring on board relevant stakeholders to collectively plan and execute the governance system and the conservation of monkeys. In other words, Mr Akowuah created a platform for the district secretary, chiefs and elders in the resource community where proposals and resolutions to construct a firebreak around the sanctuary were finalised. He personally planted teak trees (sometimes with the help of his former school pupils and many of his associates) along the edges of the sanctuary which have today grown into bigger trees largely used by the monkeys for swinging. One elderly woman who lived closer to Akowuah's house explained:

It was this man who because of his education and ability to communicate wrote letters to government... he did not sleep afterwards; he also planted a lot of teak trees along the sanctuary with his school youths so that the animals can be jumping on them.

Scholars (Gray, 1989) argue that a convener or champion should be able to identify and bring all legitimate parties to the negotiation arena; such a 'champion' requires a convening power (the ability to lobby actors to get involved) that could be based on, *inter alia*, the person's formal position in society, or the reputation of the convener. In this case, the educational status, social standing and reputation of the champion helped him a lot to be able to induce actors to undertake collective actions.

d) Personal commitment

His interest in and enthusiasm for the process of conservation and wildlife development led Akowuah to retire from the teaching profession in 1975 to take full control of the Boabeng-Fiema Monkey Sanctuary as the first warden. According to a traditional chief:

Akowuah started the sanctuary all by himself, although the monkeys were prevalent already [offspring of the gods], he took it upon himself to remake the monkeys more human-friendly and to make people develop interest in them too. It is through his initiative that the place became a recognised sanctuary.

His tenure as the warden made BFMS attractive to the outside world as he helped expose the Sanctuary to international organisations and researchers who developed an interest in the flora and fauna of the community. For instance, in 1989 he invited a Canadian lecturer (Fargey) who came with his team of students to carry out research on the monkey species. It was this Canadian scholar who suggested to Mr Akowuah the need to establish a formal management committee to help manage the BFMS. Inviting Fargey to come and conduct research in the area opened up the BFMS to the international community and to wider exposure. Fargey has been one of the main scholars to have written extensively on BFMS, making the place well known the world over and enhancing its status as an attractive research hub for many universities, especially outside Africa, who use BFMS for their field work. One of the Fetish Priests explained:

History has it he discovered the animals. But what actually happened was some white men came and those days, people were afraid of the whites ... So the community agreed that Mr Akowuah joins the white men and he worked very hard.

Whichever way one wants to put it, the champion of change was pivotal in the initiation, the process and subsequent development of the sanctuary.

A respondent who was with Mr Akowuah stated:

Akowuah adopted several strategies to draw the animals closer to home and to human beings. Because he had taught before, he commanded a lot of respect and had most of the youth behind him. These youths helped him a lot to even go on night patrols; each time he heard a gunshot in the forest, even if he were asleep, he would wake up and move with his team of volunteers in different directions. They caused the arrest of many people.

From the foregoing accounts one could see that apart from his enthusiasm and personal commitment, social capital and networks played key role in the success of the champion. His acquaintances along with his family and the youth contributed immensely to the success of most of the strategies he adopted. Ostrom and Ahn (2009) confirm that social capital serves as a social relationship asset which has the potential to engender anticipatory or future benefits to a community or a process. In this regard, social capital contributed to the Boabeng-Fiema community as well as Mr Akowuah's processes to prevent the hunting of the monkey species.

e) Appropriate steps to domesticate the wildlife

Largely because the monkeys had been threatened and hunted by some sections of the community, they had become very afraid of humans and wouldn't come close to humans or their homes. However, Mr Akowuah used pragmatic steps to reorient the monkeys' behaviour and to tame them. Today, when tourists visit BFMS, a significant and wonderful phenomenon they observe is monkeys moving in and around the houses of people; this is

the result of some actions systematically and rationally orchestrated by the first warden (Mr Akowuah). A respondent very close to Akowuah who witnessed and participated in these initiatives explained:

Akowuah would buy bananas [preferred food of monkeys] and place them along the routes of monkeys closer to the forest. The monkeys would come along to pick these bananas, next time he would place it a bit closer and closer till it got to a time the bananas were placed very close to the home. These monkeys through that action got closer to the home without fears. Because our house was close to the forest, it was quite easy to do this (see Figure 9.2).

In the process, he was actively supported by his family (social capital), who helped in either conveying logs of wood to construct benches to accommodate people, or seedlings to plant along the sanctuary. Regarding the domestication of the monkeys, a close associate of Akowuah explained:

One of my daughters would put bananas on her lap and the monkeys would jump and pick. He made one of our sons convey logs from nearby village to construct some structures purposely for feeding monkeys. It was because of the monkeys that he made this structure [pointing to a wooden frame linking the pillars of the house]. He tied a rope with bananas along the bar; when these bananas get ripened, monkeys would come, pluck and eat. By and large, they kept trooping to the house and other households in their numbers. (See Figure 9.3)



Figure 9.2: Location of Mr Akowuah's house in relation to the forest

Source: Photograph taken by candidate



Figure 9.3: The wooden structure designed by Mr Akowuah to hang up food for the monkeys

Source: (Fieldwork, 2017; Photograph taken by candidate)

The idea of social connections and networks was instrumental in the entire process as the champion tapped the strength, assistance and expertise of many experts and interested parties, who also helped in the wildlife governance, institutional development and general protection that would have been very difficult for him if he had acted exclusively on his own

(see also Yamaki (2016) on the role of social networks). In our data-gathering process, a queen mother had this to say:

There was a white researcher who set a machine and placed all kinds of foods behind Mr Akowuah's house for some months... that sought to train them [the monkeys] ... There was one Mrs Sackey who helped in the process... Today they do not fear guns; if they see you with a gun, they won't be moved.

By and large, the timely intervention and pragmatic undertakings by Mr Akowuah that garnered *micro, meso and macro* support helped develop Boabeng-Fiema Monkey Sanctuary into a sustainable developmental resource for the Boabeng-Fiema community. In the discussions a traditional chief suggested that nature could provide people or a community with an endowment, but it takes 'champions' to develop such natural endowment into a valuable resource or community-wide asset. Monkeys in BFMS are human-friendly and they attract researchers and tourists from across the globe, which exposes the community to many opportunities (see Figures 9.4, 9.5 and 9.6). He remarked:

The monkeys were prevalent, you would see them swinging on the trees when going to the farm. He [Akowuah] saw to it that the right institutions and regulations were passed to protect the monkeys, even the passage of the by-laws, I cannot take it away from him. He had a bit of education and knew the tourism potential that monkeys could provide.

f) Public education and sensitisation

Mr Akowuah took it upon himself to educate the people on the need to accommodate and protect the monkeys, as this could have economic benefits for the community. This he did by moving from one church (the major threat to the monkeys at the time) to the other to have talks with the people. A key respondent explained

To sensitise the church people, he himself converted to become a member of Saviour Church, but had intention to educate and make them to understand why they should not hunt or destroy the beauty of the wildlife. With time, he was able to convince them. Once that mission got accomplished he discontinued attending that church.

The role of social education to get people adopt an appropriate attitude towards environmental conservation cannot be overemphasised, even where there are formal and/or informal rules in place. In this case, the approach adopted by the ‘champion’ helped each of the partners (the champion and the Saviour Church) to understand each other’s perspectives and also to learn from different knowledge bases; through that he was able to explain to them the community-wide benefit that could be associated with the monkeys if they were conserved well. Wheatley (1992) explains that although such public sensitisation efforts might not completely resolve the problem, it can considerably reduce the threats to conservation efforts (Borrini-Feyerabend *et al.*, 2004).



Figure 9.4: Human-friendly monkeys attract researchers to BFMS

Source: (Fieldwork, 2017; Photograph taken by candidate)



Figure 9.5: Pastoral wives and international researchers in BFMS

Source: (Fieldwork, 2017; Photograph taken by candidate)



Figure 9.6: Friendly “domesticated monkeys” attract tourists
Source: Photograph taken by Field Assistant

g) Championing conservation efforts: A challenging yet worthwhile activity

Finally, it should be noted that a decision to champion a natural resource conservation process entails some form of confrontation or dealing with the adverse sentiments of people. However, it is essential for one to remain focused and stay committed to the course of action. The ‘champion’ in this case faced some challenges as most of the people appeared ignorant of what he was trying to achieve. This was explained by a traditional ruler:

Even nananom [traditional rulers and elders] at the time appeared not to really understand or appreciate his actions and initiatives at the time. There was a time he was summoned before the paramount chief of Nkoranza, but nananom at the time did not really rally behind him.

Another participant explained an ordeal the champion had to go through because he was promoting or facilitating the domestication of monkey.

There was even one man whose kenkey [local food made of maize] was eaten by a monkey and he rushed to Mr Akowuah for money to replace the kenkey and his argument was that it was Mr Akowuah encouraging the animals to come home.

In spite of the apparent challenges, the ‘champion’ remained steadfast in his commitment and today the monkeys in Boabeng-Fiema have received international exposure, attracting researchers and tourists from every part of Ghana and abroad, generating income for the community through a stipulated benefit-sharing system (Eshun *et al.*, 2014). To that end, the conservation efforts of and strategies adopted by Mr Akowuah have helped to transform the community’s natural endowment into a community-wide sustainable and valuable asset, as well as a major source of income, development and prestige to the Boabeng-Fiema community (Figures 9.4, 9.5 and 9.6; see also Eshun *et al.*, 2014). It is in recognition of the champion’s efforts that the main trail that leads to the Sanctuary is named after him; it is the first trail any visitor catches sight of (Figure 9.2).

9.5 Conclusions and policy implications

The case study provides evidence that human actions towards nature could engender the appropriate natural resource outcomes and preferred behavioural changes that would yield a benefit to society. The study has drawn the following key conclusions from the discussions.

Firstly, the role of individuals and leadership remains a cornerstone in natural resource governance. Within the developed institutional and governance set up, the championing roles of unique individuals remain essential and the catalyst in such processes. Individuals such as students, researchers or community members could initiate a process that could lead to the transformation of a redundant or exploited natural endowment into a sustainable resource or asset. In other words, the interrelated set of actions and strategies could lead to a paradigm shift in the way that people conceptualise and relate to a particular resource as well as the kinds of benefits it would generate for community members.

Secondly, transforming a community's natural supply (such as river, wildlife, trees, mountains, waterfall) from just being a natural endowment to a developmental resource and community asset requires a championing role by individuals who garner the support of others to catalyse or call for external support to achieve this purpose. More specifically here, the study contends that a given natural resource endowment in one community could remain idle or even be destroyed, even though the same endowment could be utilised as a developmental resource in another society because of the contextual differences between them.

Thirdly, the study observes that it does not necessarily require a legitimate authority or the state to kick-start conservation or collaborative arrangements towards effective natural resource governance. Concerned individuals and groups could adapt some of the strategies used by the champion in this case study to contextualise in their respective areas. The study contends that initiating and championing a particular course of action requires an inter-related set of activities that need to be performed tactfully, including immersing oneself in the community's social ways so as to win their trust (Yeboah-Assiamah *et al.*, 2016). In the

case of Mr Akowuah (the champion), he had to attend the Saviour Church not because he wished to, but because he had the objective of using the platform to reorient the church members and stop then hunting and taunting monkeys.

Finally, a major aim of this chapter is to reorient readers (researchers, students, advocates and policy makers) towards the point of view that the actions of an individual or group could champion a particular course that could provide future benefits with respect to the way a given community endowment could be converted into a developmental resource. The study argues that teaching should also reorient students or rural communities (targeting its influential members) on how best they could initiate some context-specific actions that could spark a debate on how a redundant or exploited resource endowment could be transformed into a sustainable asset. It could be well conserved and so provide greater value to society, if powered by the appropriate governance structures and institutional underpinning.

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Chapter Ten

Synthesis and Conclusions

10.1 Introduction

The final chapter provides general conclusions to the entire dissertation. This is done chapter by chapter as each chapter has met a specific study objective. Key conclusions are drawn, and contributions to knowledge in collaborative natural resource governance are also highlighted. The chapter also provides some personal reflections as well as indicating the practical constraints faced by the researcher in carrying out the study. A final part highlights the scholarly achievement and general contribution towards advancing knowledge in the wider field of public and development management. This demonstrates the eclectic approach of the student, as a further career objective is to advance the frontiers of knowledge in the field of public and development management beyond this PhD project.

10.2 Summary of study findings

The study sought to explore the theory and practice of collaborative governance, specifically institutional assessment in natural resource governance. In doing so, it adopted an institutional analysis framework to examine the trajectory of institutional design as well as the interplay of formal and informal institutions in the collaborative natural resource governance of the Boabeng-Fiema Monkey Sanctuary (BFMS). The study set out to **(a) contribute to the theoretical and conceptual underpinning of institutionalism and collaborative natural resource governance**, which was later contextualised **(b) using the case of BFMS to examine the triggers of collaborative governance**.

(a) To make a theoretical and conceptual contribution, this study was underscored by two preliminary objectives: (i) to design a framework to optimise the facilitation of collaboration between local resource users and state agencies in natural resource governance; and (ii) to design a framework for institutional analysis in natural resource governance. Through a

critical review of classical theories and recent empirical literature on the concepts, the dissertation accomplished these two objectives, culminating in the publication of two peer-reviewed manuscripts.¹⁶

(b) To contextualise the practice of institutionalism in collaborative natural resource governance, the study investigated the case of the Boabeng-Fiema Monkey Sanctuary in Ghana. This formed the empirical basis of the dissertation, which was also underpinned by three main research objectives: (i) to examine the institutional and governance evolution of Boabeng-Fiema Monkey Sanctuary and its triggers; (ii) to empirically examine the interplay between formal and informal institutions in natural resource governance; (iii) to discuss the role of ‘a champion’ in a ‘bottom-up approach’ to natural resource collaboration. These research objectives culminated in three peer-reviewed research articles.¹⁷

10.3 Synthesis

Experiences of ‘fortress’ state management of natural resources, on the one hand, and exclusive community management, on the other hand, have proven to be problematic. This has led to the idea of collaborative natural resource governance that advances partnerships between multiple stakeholders essentially involving synergistic relationships between state and non-state actors. This study makes a contribution to the theory and practice of collaborative natural resource governance. To make a meaningful contribution to the literature, policy and practice, the study set out to find answers to five key research questions, as outlined below.

¹⁶ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2016). Rising to the challenge: A framework for optimising value in collaborative natural resource governance. *Forest Policy and Economics*, 67, 20-29.

Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2017). Institutional assessment in natural resource governance: A conceptual overview. *Forest Policy and Economics*, 74, 1–12.

¹⁷ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2017) ‘Complex crisis’ and the rise of collaborative natural resource governance: institutional trajectory of a wildlife governance experience in Ghana. *Environment, Development and Sustainability*, 1-20.

Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2018). Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance, (*in review*)

Yeboah-Assiamah, E., Muller, K., & Domfeh, K. A. (2018). ‘Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance’. In A. Farazamand (Ed.). *Global Encyclopedia of Public Administration, Public Policy & Governance*. New: Springer.

1. How can conveners optimise a collaboration process between local resource users and state agencies?

Having experienced the structural weaknesses and challenges associated with exclusive state or community management of resources, the idea of collaboration in natural resource governance has been developed since the 1980s. This approach adopts a network governance approach; this entails a multi-actor regime that has become popular mainly because of the lessons derived from the failure of the former approach, which tended to be too bureaucratic, centralised, state monopolised and, worse of it all, regarded local communities as destroyers of the environment and resources. However, with the ‘age of networks’ that developed mostly in the late 1980s and early 1990s, there has been a paradigm shift towards an emphasis on a ‘people’, ‘stakeholders’ and ‘communities’, where policies regarding natural environmental resources are devised through a deliberative democratic process.

This approach has become known as, inter alia, collaborative environmental governance or co-management, which has varying positive benefits for natural resource governance. However, given the human tendency to be sceptical, which mostly is the result of some negative collaborative experiences, prospective collaboration or co-management arrangements with communities or groups are likely to face initial challenges. A first objective of this study aimed at reviewing the literature on the concept of collaborative natural resource governance, including the benefits as well as common challenges facing the process. The study observes the process as largely social and technical in nature and

therefore develops a socio-technical framework to aid state agencies and conveners of natural resource collaboration.

As a contribution to knowledge, the study (Chapter Five) designs a framework to guide individual researchers, practitioners and organisations who seek to foster collaboration between local communities and state agencies. This has been published as “Rising to the challenge: A framework for optimising value in collaborative natural resource governance”, published in *Forest Policy and Economics Journal*, 67, 2016. The chapter reflects on classical and recent experiences with natural resource collaboration to design an ‘ABC framework’ aimed at providing a signpost to agencies, governments and conveners of collaboration on how to execute this socio-technical process to maximise value. The ABC framework has three broad pillars: **A**dopting and advancing human skills, **B**uilding integrity and legitimacy, and **C**reating a sense of attachment to the resource in question. The published version of this chapter has already received attention, with over 100 reads on *Researchgate* alone with five citations.

2. What framework could demonstrate how formal and formal institutions interact in natural resource governance?

Owing to the complexities (the nexus between attainment of conservation, and delivery of local socioeconomic benefits) associated with natural resources and multiple stakeholders involved, ‘institutions’ are required to structure patterns of interaction. In other words, collaborative natural resource governance hinges on how the ‘rules of the game’ structure the powers, benefits and actors involved in the process. Collaborative natural resource governance is therefore structured by rules, norms and strategies, which make institutionalism fundamental in the natural resource governance discourse.

By way of contributing to knowledge, the study has led to the publication of a paper “Institutional Assessment in Natural Resource Governance: A Conceptual Overview” in the *Forest Policy and Economics* 74 (2017), which discusses an analytical framework to illustrate how formal and informal institutions structure natural resource governance. The

paper (Chapter Six) informs readers and practitioners that it is not institutions per se but the ‘nature of the interaction’ between formal and informal institutions together with the ‘enforcement mechanisms’ that will to a large extent determine the kind of resource outcomes. These are two important conceptual and theoretical contributions that the dissertation has offered to natural resource practitioners, policy makers and literature.

Besides the above conceptual contributions to the literature on collaborative natural resource governance and its implementation, the final three chapters of the dissertation discuss the rise and evolution of collaborative natural resource governance institutions using the experience of the Boabeng-Fiema Monkey Sanctuary (BFMS).

3. What were the triggers of institutional and governance evolution in the BFMS?

Classic and recent studies of collaborative natural resource governance have sought to evaluate the efficacy and resilience of institutions in ecological management, especially over time. Locally evolved institutional mechanisms governed by stable communities and reinforced by outside forces have successfully underpinned resources management over the years, even though these mechanisms have often had to adapt to periods of disturbance in the social- ecological equilibrium (Dietz *et al.*, 2003). Each disturbance in the dynamics in the social-ecological system prompts consequent learning and adjustment in the institutional and governance underpinnings; Sayer *et al.* (2013:8351) put this succinctly: “each surprise is an opportunity for learning, leading to the development of new understandings as a basis for revised strategies”. Using the BFMS case, this study makes a contribution to the literature on the triggers of collaborative governance and institutional evolution as well as how socio-ecological systems bounce back when faced with threats.

As a further contribution to knowledge, the third objective led to the publication in 2017 of a paper “Complex Crisis and the rise of Collaborative Natural Resource Governance: Institutional Trajectory of a Wildlife Governance Experience in Ghana” in the *Environment, Development and Sustainability Journal*. The study (Chapter Seven) observed a ‘critical juncture’ along the narratives of BFMS pathways, which compelled the prevailing

institutional arrangements to evolve into a more collaborative regime, demonstrating a synergistic relationship between informal and formal institutions. The study concludes that the drive or evolution towards collaboration does not occur naturally but circumstantially. The finding adds to the existing body of theoretical assumptions and empirical findings that in periods of critical threats, systems must demonstrate adaptive capacity to remain viable or they will perish.

4. How does the interplay of formal and informal institutions engender effective natural resource protection in BFMS?

There has been the call to forge a synergistic relationship between local ecological knowledge (local taboos, indigenous governance structures and belief systems) and formal institutions in the governance of natural resources in those communities endowed robust informal institutions and governance system. How exactly do informal institutions complement formal state regulation of natural resources? What are the key enforcing mechanisms underpinning formal and informal institutions?

A fourth objective of the study sought to adapt the institutional and development framework to assess the role of informal institutions in the enforcement of formal natural resource institutions using the case of the Boabeng-Fiema Monkey Sanctuary in Ghana, West Africa (Chapter Eight). Specifically, the chapter underscores the interplay of formal and informal institutions to engender effective natural resource protection in the BFMS. Realising this objective produced a manuscript “Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance”, which is being considered for publication. The chapter concludes that by infusing dynamism into informal institutions, they become more successful in engendering compliance rates that facilitates the operations of formal game and wildlife officers.

5. How does collaborative natural resource governance evolve from below?

The final part of the dissertation (Chapter Nine) entailed examining the way that collaborative natural resource governance emanates from a ‘bottom-up’ approach. Using the

unique role played by ‘a champion’ in BFMS to inspire a bottom-up approach to natural resource collaboration, this research result has been published as “Comparative Conservation Studies: A Bottom-up Natural Resource Collaborative Governance”, a chapter in the *Global Encyclopedia of Public Administration, Public Policy and Governance, 2018*. The study concludes that it does not necessarily require a legitimate authority or the state to kick-start conservation or collaborative arrangements towards effective natural resource governance. This study therefore makes a challenging contribution to the literature on collaborative governance, which is replete with top-down collaborative initiatives. The study demonstrates that concerned individuals and groups could adapt some of the strategies used by the champion in this case study to contextualise developing their natural endowment into a resource through collaborative approach.

10.4 Insights

Although this empirical study highlights the insights derived from a specific study (BFMS), these observations could nonetheless be utilised as general insights in the themes below, which are deemed important for influencing thoughts on the policies, theory and practice of collaborative natural resource governance.

Natural resource institutions are not naturally evolving constructs

Natural resource governance should not be viewed as a naturally evolving phenomenon, but as one whose institutional underpinning and philosophy evolves ‘circumstantially’ in response to unique triggers. Any contemporary institutional arrangement and governance regime of a natural resource has narratives that can be unravelled only by going into the intricacies of unique cases. This study postulates that the ability of a natural resource governance system to adjust or readjust its institutional underpinnings and governance regime in the face of threat, of whatever form or intensity, contributes enormously to the viability of the particular ecosystem. Institutions must necessarily evolve to adapt when there

is sufficient evidence that the existing regime has become weakened in the face of the changing internal and external conditions of social-ecological systems.¹⁸

Threat or fear of threat is a window of opportunity for collaboration

Although the literature on natural resource governance is replete with indications that natural resource collaboration tends to have to confront suspicion, fears, apprehension and mistrust from local people in the collaborative process, this study demonstrates that the emergence of intense threats and the reaching of critical junctures can open up the window of opportunity for collaboration to emerge or flourish with less resistance.¹⁶

Local initiatives catalyse or trigger natural resource collaboration

Observations and lessons from this study demonstrate that collaborative natural resource governance is not always about the devolution of powers from a central government to lower-tier bodies, or that it necessarily gets kick-started by the state and its agencies. The point is made that such governance could also emanate from alliances between a lower-tier body and state agencies or other non-state bodies. In other words, collaboration towards adapting to a changing social-ecological system does not necessarily have to emanate from the top (government); individual actors could initiate processes that foster state-community collaboration towards establishing an adaptive and more resilient governance regime. The role of local leadership, social capital, local organisations and groups, and community-based organisations are essential in this drive.¹⁹

Informal institutions and mythology require institutional complementarity over time

Community-based natural resource governance underpinned by mythology, myths and traditional institutions necessarily need to be sustained over time by complementing it with formal institutions. Although informal institutions are formidable in enhancing natural

¹⁸ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. ‘Complex crisis’ and the rise of collaborative natural resource governance: institutional trajectory of a wildlife governance experience in Ghana. *Environment, Development and Sustainability*, 1-20.

¹⁹ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2018). ‘Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance’. In A. Farazmand (Ed.). *Global Encyclopedia of Public Administration, Public Policy & Governance*. New Delhi: Springer.

resource protection largely through voluntary compliance, reinforcing effective enforcement systems also requires a more collaborative regime where formal institutions provide some form of legal basis and legitimacy to complement the role of the informal systems. Institutional development becomes crucial as society becomes more heterogeneous, with the associated social dynamics that might render the erstwhile voluntary compliance largely restricted to perhaps fewer members of society.

‘Modernising’ aspects of informal institutions essential for sustainable outcomes

Although informal institutions are formidable in enhancing natural resource protection largely through voluntary compliance, with the passage of time it becomes more important to introduce some elements of transparency as well as participatory processes and ‘relevance’. In spite of the myths around the resource, it should demonstrate some tangible socio-economic benefits to community members. In the study it was observed that BFMS has instituted a benefit-sharing scheme from income derived from wildlife eco-tourism, which is also enshrined in a modern BFMS Constitution. Although by tradition people are required to protect the monkeys, this traditional protection is consolidated, or in modern times also justified, by the economic value derived from preservation of the monkeys and their habitat. Natural resource institutions should be viewed as dynamic or evolutionary in nature; as society and the resource grow in sophistication and dynamism, natural resource institutions should correspondingly rise to the challenge of making the governance process participatory, involving varying actors and introducing benefit schemes to somewhat offset the apparent loss from protecting and harbouring the resource.

The whole product of the synergy is greater than the sum of the parts of formal and informal institutions

Synergy between formal and informal institutions, which are adequately enforced by recognisable governance structures, gives natural resources effective protection from all members of society. Migrants or so-called ‘modern thinkers’ who might otherwise show a disregard for or disbelief in the local traditions will be compelled to comply by state regulations (formal institutions), whilst the ‘traditional thinkers’ who otherwise might have

ignored the state regulations are compelled to comply by informal institutions. The study argues that although informal institutions are essential to natural resource governance, their relevance becomes more robust when synergistically engaged within a formal institutional arena.²⁰

Human skills are as important as technical skills in the drive to collaboration

The drive to collaborative natural resource governance should be viewed as socio-technical in nature, an art and a science with its own socio-technical rules. This is because it requires key competencies, skills and procedures in bridging barriers among people and groups. Being oblivious to these ground rules and approaches may deepen or escalate conflicts and even create new ones, which may make the ‘promised values’ of collaboration seem increasingly elusive.²¹ Conveners and policy makers require adequate human skills; they need to adopt the power of effective communication required to adapt to a context and even immerse themselves in the context, and manage the apparent challenges without giving up.²²

Value in local self-help or community initiatives

Transforming a community’s natural supply (such as a river, wildlife, trees, mountains, waterfall) from just being a natural endowment to a developmental resource and community asset requires a championing role of an individual who garners the support of others to catalyse or call for external support to achieve this purpose. The study explores the BFMS case where a champion helped in kick-starting natural resource collaboration, through local strategies and deployment of social capital; this changed the monkeys from being a threatened species to becoming a more “human-friendly” species, in the process becoming the community’s greatest asset in fostering socio-economic development.

²⁰ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2018). Two sides of the same coin: Synergy between formal and informal institutions in natural resource governance (in review)

²¹ **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2016). Rising to the challenge: A framework for optimising value in collaborative natural resource governance. *Forest Policy and Economics*, 67, 20-29.

²² **Yeboah-Assiamah, E.**, Muller, K., & Domfeh, K. A. (2018). ‘Comparative Conservation Studies: A “Bottom-up” Natural Resource Collaborative Governance’. In A. Farazamand (Ed.). *Global Encyclopedia of Public Administration, Public Policy & Governance*. Springer, New Delhi.

10.5 Experiences and reflections

This dissertation has drawn on six publications which form the basis for the respective chapters of the work. The researcher's key reflections, experiences and challenges in the course of the three-and-half year doctoral study are summarised below.

Although a transdisciplinary approach is conceptually rich, convincing and deemed appropriate for natural resource governance study, adopting it for an individual PhD dissertation presents some key challenges which necessarily require the researcher to adapt the methodology. The literature is limited on how to carry out TD research as an individual researcher, especially for degree purposes. With its underpinning philosophy of disciplinary border crossing and the nature of engagements in all relevant phases of the research, one may wonder whether an 'idealised participatory' transdisciplinary individual PhD dissertation could be feasible. The researcher was eager to position this research within a transdisciplinary approach by first conceptualising and publishing a manuscript on the theme "Transdisciplinary Approach to Natural Resource Governance Research: A Conceptual Paper" (published in the *Management of Environmental Quality Journal*). Yet the practical requirements and constraints within the context of an individual PhD dissertation could not make for an idealised transdisciplinary research. This is because students have a limited time frame and deadlines for completion of the dissertation with strict funding arrangements. However, TD requires an iterative process and entails extensive time, higher locus, and resources backing for more varied stakeholder engagements, workshops and brainstorming sessions to co-develop a common research theme. Transdisciplinary work requires substantial financial resources, which will be difficult for individual PhD researchers not part of a bigger funded project team to access.

In spite of the apparent constraints, the researcher adapted various means to ensure access to different stakeholders through a consultative approach (see Mobjörk, 2010). Although the approach might not be regarded as entirely transdisciplinary in the strict sense of the approach, the dissertation nonetheless demonstrates the relevance and appropriateness of transdisciplinary approach by positioning this research within the broader philosophy of TD. The conceptual paper which has already been published provides key insights and a practical

guide to conducting TD research, even though this would be more feasible when the research forms part of a bigger project with more than an individual carrying out doctoral research work. It also demonstrates that given the right context and adequate resources, the researcher could embark on an ideal transdisciplinary research. Observing the practical constraints associated with the TD approach, Max-Neef (2005:12) contends that “although transdisciplinary research and approaches are necessary, transdisciplinarity in itself is still an unfinished project, around which there is still much to be discovered and investigated. It should be clear that transdisciplinarity is, at this stage, both a tool and a project”; in this particular research project TD served only as a tool.

10.6 Future direction

This study has demonstrated the need for a more participatory approach in collaborative natural resource governance research. The findings and conclusions are clear-cut, with five peer-reviewed articles published. Given the experiences, conclusions and practical limitations encountered in the course of the research, the study offers important pointers for a future direction and research.

1. Conclusions based on the way that collaboration could evolve through a bottom-up process (Chapter Nine) indicate that a further direction is to reorient researchers, students, advocates and policy makers towards the view that it could take the action of an individual or group to champion a particular course that could provide future benefits if a given community endowment is turned into a developmental resource. The study argues that the direction of pedagogy should also be to reorient students or rural communities (targeting influential members) on how best they could initiate some context-specific actions that could initiate a debate on how best a resource endowment could be transformed into a sustainable asset, well conserved while providing greater value to society, powered by appropriate governance structures and institutional underpinning.

2. Further research could ascertain the nature of the institutional evolution of collaborative natural resource governance in other contexts. This comparative approach is more important in the process of theory building. This study was more exploratory and adopted the use of indigenous approaches that were more participatory and qualitative by proceeding through narratives; hence developing generalisations was beyond the scope of this PhD thesis. The approach was able to elicit relevant insights from stakeholders' point of view. Having brought out the pointers and key issues in the consequent publications, further research could adopt mixed methods including community-wide surveys in order to test for some key variables that could lead to valid generalisations.
3. Further research on natural resource institutionalism could combine transdisciplinary approaches (Chapter Four) with quantitative techniques and other sophisticated methods (mixed methods), to determine which of the two institutions (either formal or informal) engenders greater compliance by disaggregating these through more quantitative techniques and testing.
4. Further research and practice should consider the deployment of the ABC framework developed in this study (Chapter Five) to determine how socio-technical imperatives prepare the grounds for natural resource collaboration. This framework, including others produced in the course of this PhD project, could be deployed as the conceptual framework for further study and tested empirically to determine its relevance.
5. Further studies on the role of mythology and customary beliefs in natural resource governance in contemporary times are to be encouraged, with a greater focus on the key sustaining elements and triggers of these elements. This will form an important niche in natural resource governance literature, which may well help in modernising many traditionally managed resources that may outlive their usefulness over time if the governance system is left unattended.

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APPENDIX A: INTERVIEW GUIDE

**STELLENBOSCH UNIVERSITY
SCHOOL OF PUBLIC LEADERSHIP**

The interview guide is a research instrument to facilitate a semi-structured interview to carry out a study on the topic *“Theory and Practice of Governance Collaboration: Institutional Assessment in Collaborative Natural Resource Governance”* in partial fulfilment of the requirements for a Doctor of Philosophy (Ph.D.) in Public Management and Development Planning. The data elicited from participants shall be used solely for academic purposes and respondents are assured of the strictest confidentiality.

SECTION A: Background of Respondent

- a. Designation of respondent:
- b. Position of respondent:
- c. How long in the position:
- d. Gender of respondent:
- e. Age range:
- f. Educational background:

SECTION B: COLLABORATIVE ARRANGEMENT

(Specialty questions for practitioners)

1. To what extent would you say this resource is managed by both the state agencies and the community?
2. Who are the members of the community that are involved in the governance process of this environmental resource? What criteria did you use in determining these stakeholders? Has there ever been a review of membership?
3. What is the regulatory framework or provision that sets up this arrangement or to what extent are these individuals recognised in the governance process?

4. What factors do you think necessitated each of the provisions mentioned? How have these rules changed over time? And perhaps why?
5. How is power and responsibility shared among these actors and how often is this power relations revised? When was it set up? Has there been any review? Have new actors being incorporated?
6. Do you envisage any further tighter collaboration between the government agencies, the traditional institutions and community in the short to medium term?

SECTION C: FORMAL AND INFORMAL INSTITUTIONAL DESIGN

1. What are the main legislative instruments that underpin the management of this resource?
2. Have there been reviews or amendments to any of these? If yes, why?
3. To what extent do these legislative instruments recognise the traditional institutions or informal institutions here? Please explain your answer, cite empirically where applicable
4. To what extent do you also know the informal institutions (including taboos, restrictions and cultural practices) of the people regarding this resource? To what extent do you think they facilitate or pervert your efforts?
5. Do you have any local operational plan or activity that was developed based on the people's belief system?
6. Does your outfit or agency have any formal forum or interaction with the traditional authorities? Please explain your answer
7. What is the relationship between the government agencies and the traditional institutions?
8. How do the laws, rules and regulations of government and the by-laws of the district assembly operate vis-à-vis the traditional rules and taboo system in managing the resource?
9. Do you see a nexus? Do they ever conflict? Do they partner each other? Please explain by giving specific ones and how they operate together or apart

10. How do you think the traditional knowledge of the people regarding resource management and preservation help in the management process?
11. How does the traditional institution (chieftaincy) and “nananom” influence or contribute to the management and conservation process?
12. Do you think there has been a collaboration or partnership between government laws/agencies and traditional institutions/taboos in protecting or conserving this resource? If yes, how? When did it begin? Did it emerge out of a crisis point or natural evolution?
13. Do you think the government agencies and assembly help in maintaining, protecting or enforcing the cultural practices or restrictions?
14. To what extent do community members contribute in the governance process or in general contribute or influence the decision making process?

SECTION D: ENFORCEMENT MECHANISMS

1. How are the formal rules on restrictions and access effectively enforced? Who are the actors in the enforcement process?
2. To what extent do you think the people comply with formal rules? At what cost to your agency?
3. How do you also think the informal institutions (taboos and culture) structure people’s orientation towards the resource?
4. How do you monitor the informal rules that underpin the conservation of the environmental resource?
5. How do you think the cultural restrictions on this particular resource make the people protect it differently from other environmental resources in this community?
6. What do you think propels the people comply with these cultural restrictions?
7. To what extent do the chiefs collaborate with government agencies to monitor and enforce the taboos on the resource? Is there a better relationship between the two?
8. What has been the dynamics in terms of the compliance levels? Has obedience to the restrictions or taboos increased or decreased over time? What accounts for the dynamics

9. How does changing society, Christianity and influx of migrants affect compliance levels?

SECTION E: BOTTOM UP APPROACH TO COLLABORATION

1. Can you provide a brief overview of how the state agencies intervened or got involved in the Boaben-Fiema Monkey Sanctuary?
2. Who and how were the brains behind the initial stages of seeking external help from government?
3. Could you explain some of the strategies adopted?
4. What key challenges did the process encounter?

APPENDIX B: FIRST PAPER PUBLISHED BY ELSEVIER (SCIENCEDIRECT)



Rising to the challenge: A framework for optimising value in collaborative natural resource governance



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ABSTRACT

Complexities of the post-NPM era have resulted into a new governance approach based on 'collaboration', a network-based model that links various stakeholders [state and non-state actors], ostensibly to maximise public value. The 'consensus model' has its underpinning 'rules of the game'; without which collaborative outcomes may end up being conflictual and counter-productive. Adopting a critical stage review, this paper draws mainly from theoretical and recent empirical literature to unpack the factors that catalyse successful collaborative natural resource governance. We reflect on these to design an 'ABC framework' aimed at providing signpost to agencies, governments and convenors of collaboration on how to execute this socio-technical process to maximise value. The framework hinges on three broad pillars: Adopting and advancing human skills, Building integrity and legitimacy and Creating a sense of attachment to the resource in question. We discuss these with specific indicators synchronized from recent natural resources collaboration experiences in the literature.

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Mostly people and communities hold on to a perception that "their interests directly conflict with the other party's interests, even when creative win-win solutions are possible" (Bazerman, 1986:128)

1. Introduction

A much trumpeted approach to forest resources governance, especially from the 20th century is one that adopts a network governance approach, a multi-actor regime (Muller, 2010). This approach has become very popular and emanates mainly from lessons derived from the failure of the former approach, which tended to be too bureaucratic, centralised, state monopolised and, worse of it all, regarded local communities as destroyers of the environment and resources (Agrawal and Gibson, 1999). The thinking of that time was based on "environmental management" that depended much on the technical know-how and expertise of state agencies, a bureaucratic and monopolised environmental approach; however, there has since been a paradigm shift towards what is known as environmental governance. The term governance suggests that various actors including state agencies are involved. According to Mitchell (2013), the concept of environmental management involves "actual decisions and actions concerning policy and practice regarding how resources and the environment are appraised, protected, allocated, developed, used, rehabilitated, remediated and restored, monitored and evaluated" (Mitchell, 2013:7). The notion of management connotes a hierarchical, top-down policy process

where state agencies are pervasive and mostly influence policies through command and control as well as a great deal of reliance on expert knowledge. However, with the 'age of networks' that developed mostly in the late 1980s and early 1990s, there has been a paradigm shift towards an emphasis on a 'people', 'stakeholders' and 'communities', where policies regarding natural environmental resources are devised through a deliberative democratic process (Chambers, 2003). This approach has become, *inter alia*, known as collaborative environmental governance or co-management. For the purpose of this paper, co-management and collaborative natural resource governance have been used interchangeably to mean the new governance system that emphasizes on different stakeholders [forging allegiance between state and non-state actors] to prudently and methodically govern natural resources. (See Tables 1–3.)

Singleton (1998:7) defines co-management as associated with "governance systems that combine state control with local, decentralised decision making and accountability and which, ideally, combine the strengths and mitigate the weaknesses of each". The process through which state agencies forge links with resource communities, local leaders and groups and local institutions promises value to both state agencies and local communities. However, in most cases, it appears that state agencies tend to be oblivious of the cumulative net value of collaboration, and are often tempted to think that value flows only to their partners or community members. Wondoldeck and Yaffe (2000) provide a critical teaser that if we were to ask for a fundamental reason as to why agency staff would want to collaborate with other actors or community members to manage natural resources, we are likely to hear

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Institutional assessment in natural resource governance: A conceptual overview



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ABSTRACT

Natural resource governance is enhanced and structured by rules, norms and strategies which make institutionalism quintessential in the natural resource governance discourse. Adopting a retrospective analysis of classical theoretical literature and recent empirical experiences of natural resource institutions, this paper discusses institutional analysis as pertains to the natural resource governance context. Synthesizing from relevant literature, this review designs and discusses an analytical framework to illustrate how formal and informal institutions structure natural resource governance. The key elements in the framework are: *biophysical element, process and institutional element, behavioral choice element, enforcement mechanisms and an outcome element*. The paper argues that for formal rule to be more effective, it greatly depends on its relationship with the informal institutions and more importantly their enforcement complementarities. The study, consequently, discusses key elements that influence the effectiveness of natural resource rule enforcement. This review concludes that both formal and informal institutions serve as catalysts to reinforce natural resource governance; however, the two could also combine to form a clandestine network to facilitate unethical resource exploitation. The paper puts forward that, it is not institutions *per se* but the “nature of interaction” between formal and informal institutions together with the “enforcement mechanisms” which will to a large extent determine the kind of resource outcomes.

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1. Introduction

Modern thoughts on sustainable development (SD) maintain that the philosophy of development should view each of the three SD values [economic, social and environmental] as complementary and not substitutory (Tafon and Saunders, 2014; Hartanto et al., 2003). Research has been advanced for a need to adopt an approach that seeks to harmonize between natural resource protection on one hand, and people's reasonable usage for socio-economic purposes on the other hand, albeit, in an uneasy relationship (Gbedomon et al., 2016; Nkhata et al., 2012; Silva and Mosimane, 2012). Achieving such balance requires appropriate access and tenure rights on the part of people and groups together with a robust institutional underpinning which will help drive sustainable behaviors (Leach et al., 1999; Ceddia et al., 2015).

Scholars contend that even in situations where there are access and tenure right systems, their enforcement may not be effectively guaranteed when exclusively left in the hands of formal state regulators, especially in the developing world (Gauld, 2000; Sundar, 2000). Merging the above goals [socio-economic and ecological imperative] requires a prudent approach that defies exclusive management of state agencies. In

other words, there is a need to balance formal institutions with community people's attributes¹ to avoid legitimacy challenges (Brown and Lassoie, 2010) and to enable effective monitoring (Górriz-Mifsud et al., 2016). This is largely due to the widespread failure of centralized management of natural resources in the 1970s which brought to the fore that achieving resource sustainability cannot be realized without effective participation of relevant stakeholders (see Brown and Lassoie, 2010; Mohanty, 2004). There has, therefore, been an increasing movement away from the archetypical centralized administration towards a more collaborative governance based on active participation of various actors at the local level (Deguignet et al., 2014; Evans et al., 2006; Hulme and Murphree, 1999); which adequately recognizes people's rights and benefits [socio-economic development] in the conservation process (Nelson, 2004; Haller et al., 2008).

The centrality of collaborative natural resource governance hinges on how the ‘rules of the game’ structure the power, benefit and

¹ Community attributes include the number of involved agents, heterogeneities of their values, interests and power, as well as the levels and types of social capital they possess (Paavola and Adger, 2005, p. 356; relations among groups and individuals, Coleman, 1990; network of more or less institutionalized relationships of mutual acquaintance or recognition; social obligations and connections (Bourdieu, 1985, p. 248; institutions, the relationships, the attitudes and values that govern interactions among people (North, 1990).

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Transdisciplinary approach to natural resource governance research: a conceptual paper

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Transdisciplinary
 co-management
 research

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Abstract

Purpose – Natural resources in contemporary times are mostly managed by a collaborative governance approach which hinges on complex institutional designs (rules, norms and strategies). Many studies have been designed and carried out to assess collaborative governance, and the various institutional designs underpinning them. The purpose of this paper is to unpack the methodological gaps in natural resource governance research (with emphasis on co-management) and to conceptualise the appropriateness of Transdisciplinary (TD) research approach.

Design/methodology/approach – The paper adopts a critical stage review of relevant theoretical and empirical literature on natural resource governance. It discusses the complexities inherent in natural resource governance and juxtaposes these with the inherent weaknesses in methodologies employed by existing studies on the concept. The authors make a case for a TD research methodology that links scientists, practitioners and society in a joint problem design and solution process.

Findings – The authors register a “fuzziness” of the collaborative governance phenomenon but observe a methodological gap in existing studies on the concept. This paper discusses the complexities inherent. The paper describes TD as a “tailor-made approach” to solving complex societal issues and makes a case for its adoption in natural resource governance studies.

Research limitations/implications – This standalone paper is largely conceptual and not linked to any primary data; this notwithstanding, it synthesises from both empirical and theoretical literature which would help shape future research endeavours in natural resource governance context.

Practical implications – With TD study oriented towards an epistemologically flexible approach, perspectives from different social and academic actors are integrated in this expanding field of research to address societal problems.

Originality/value – The paper provides a conceptual framework designating how actors interact in the TD research process as well as a “four-phase” approach in carrying out a TD research.

Keywords Transdisciplinary, Complexities, Co-management, Institutional assessment, Natural resource governance

Paper type Conceptual paper

1. Introduction

Protecting the environment and its resources has been a key goal championed by the global community which featured in the erstwhile millennium development goals and were also very prominent in the Rio+20 outcome document “Sustainable Development Goals” as well as in various classic and contemporary international ratifications. Whilst earlier thinking on natural resource management tended to focus a great deal on the role of national governments and appeared to view the existence of communities as being detrimental to

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‘Complex crisis’ and the rise of collaborative natural resource governance: institutional trajectory of a wildlife governance experience in Ghana

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Abstract Natural resource governance is underpinned by institutions which evolve ‘circumstantially’ over time. An attempt at understanding the contemporary institutions and governance structure of a resource requires an in-depth ethnographic enquiry. Adapting a four-phase institutional analysis framework, this study discusses the evolution and adaptation of wildlife governance structures and institutions using the unique experience of Boabeng–Fiema Monkey Sanctuary in Ghana. The study adopted a transdisciplinary research approach which was participatory and consultative. The key observations are that: wildlife institutions have gone through three main evolutionary phases, *a pre-collaborative phase*, which was exclusively underpinned by informal institutions; *a critical juncture stage*, where contextual challenges led to an adaptive response; the third and contemporary phase is *a collaborative governance regime*, where the erstwhile informal institutions have been complemented by formal state structures and institutions to synergistically enhance viability of the wildlife species. In spite of the problems posed to community members by the monkeys (wildlife), the study still observes a cordial human–wildlife relationship. Based on the study outcomes, we derive four key conclusions which have implications for institutionalism and natural resource governance.

Keywords Institutions · Collaborative governance · Wildlife · Natural resource · Adaptive capacity

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APPENDIX F: FIFTH PAPER PUBLISHED BY SPRINGER

**Comparative Conservation Studies:
A “Bottom-Up” Collaborative
Governance**

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Synonyms

Adaptive response; Champion; Collaborative
governance; Institutions; Wildlife

Definitions

Collaborative Governance entails the new govern-
ance system that emphasizes on different stake-
holders to prudently and methodically govern
natural resources (Yeboah-Assiamah et al. 2016).
In this entry, it connotes the creation of synergies
between formal and informal governance struc-
tures as well as formal and informal institutions.

Conservation is the appropriate management
of a natural resource to avert its exploitation,
annihilation, or degradation.

Bottom up connotes strategies or activities that
are initiated, propelled, and championed by either

an individual, group of individuals, and groups
within a local community before gaining subse-
quent formal or external recognition and support.
It could also be an initiative of the entire local
community through its legitimate leaders.

Introduction

The complexity and high stakes associated with
natural resources render them rather problematic
and perhaps impossible to be governed by a single
unit which has led to an era of networks and
collaborations in natural resources governance
(Yeboah-Assiamah et al. 2017). In other words,
effective management of environmental resources
including, inter alia, watersheds, and aquatic life,
forests and wildlife, and protected areas requires
the synergistic efforts of multiple actors and sys-
tems. The idea of collaboration has come to stay
and is well researched in the natural resource
governance literature (Yeboah-Assiamah
et al. 2016).

An emerging theme has been a focus on the
determinants or drivers of governance collabora-
tions (Sayles and Baggio 2017); in other words,
how do these governance networks and collabo-
rations come about or get initiated? The role of a
community’s social capital base and how best
communities deploy social capital greatly deter-
mines the extent to which resources get trans-
formed into meaningful assets in a sustainable
manner. Scholars discuss the role of bridging

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