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Localizing REDD+: The Case of Cocoa Forest Communities in Ghana

Abdul-Razak Saeed

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DECLARATION

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

Abdul-Razak Saeed

ABSTRACT

Addressing climate change involves tackling deforestation, which account for between 12-17% of global greenhouse gas emissions. Forest conservation, management and protection are increasingly addressed through mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD+). This research provides insight at the global level, on the local level uptake of REDD+ in two cocoa forest communities in Ghana (Kamaso and Attobrakrom). This thesis introduces the REDD+ localisation analysis framework that engages with concepts of Ostrom's (1990) common property rights principles, McDermott's (2013) equity framework and Agrawal's (2005) environmentality to show how REDD+ is mediated through institutions from the national to the local, in ways that form subjectivities and encompasses meaning to local people.

A qualitative participatory methodology was used to elicit perspectives from 124 participants (33 key policy stakeholders across government, private sector, NGOs and traditional authorities and 91 cocoa-forest community dwellers) to explore questions of who is involved, what institutions are engaged and in what ways cocoa farmers in forest communities understand and have come to care for the environment through REDD+ or not. Extensive fieldwork was conducted in two communities in Ghana between 2014 and 2016 and combined with elite interviews with key policy stakeholders.

Findings indicate that the state plays a central role by mediating REDD+ stakeholder knowledge among private sector, NGOs and other decision makers. Both formal and informal relationships exist between the state and NGOs in the development of knowledge and dissemination. The way that Ghana's REDD+ process plays out in terms of equity is affected by contextual factors such as the existing forest laws and policies that advantage the state above local forest communities. This creates an uneven playing field for the implementation of REDD+.

Empirical fieldwork among the cocoa-forest communities in Ghana, found that the technical narrative of REDD+ waters down to a simplified “tree-planting” (which locals call ‘ndua dua’). The research discovered at the local level that REDD+ is influencing new understandings and identities around forests, in combination with a range of factors: personal experiences of climate impacts, observations of flourishing cocoa farms as forest cover increases, values, culture and connection to property and livelihoods, survival of future generations, and expected financial benefits to be gained from carbon credits.

Having used the REDD+ localisation analysis framework to navigate the findings, the thesis concludes that the complexities and nuances in the understandings of REDD+ at the implementation level, has implications for sustainability of forest resources and poverty reduction. Local people’s understanding of REDD+ in the case study communities does not reflect broader win-win objectives for emission reduction and livelihoods. REDD+ governance requires radical overhauling in its strategy and approach to the knowledge creation and dissemination through state and non-state institutions, formal and informal channels from the national to the local level.

Part of achieving a successful REDD+ mechanism in Ghana requires the repeal of laws such as the one side-lines farmers from ownership over naturally regenerating trees on their farmlands; clarifying and securing land tenure; institutionalising participation including setting minimum requirements acceptable by all stakeholders and among others, having an integrated policy for sustainable land use practices under a jurisdictional REDD+ approach.

AUTHORSHIP OF PAPERS

The following papers and manuscripts have been included in this thesis. This section sets out the components carried out by the candidate and the estimated percentage involved in producing the paper.

Saeed, A-R., McDermott, C. and Boyd, E. (2017) Are REDD+ community forest projects following the principles for collective action, as proposed by Ostrom? *International Journal of the Commons*, 11 (1): 572 -596. DOI: 10.18352/ijc.700/

Contribution: 80%. Candidate designed the study, reviewed and analyzed literature, and wrote the manuscript. Boyd, E. and McDermott, C gave feedback on design and structure.

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Contribution: 75%. Saeed. A-R designed the study with feedback from Boyd, E. and McDermott, C. Candidate carried out the interviews in Ghana, transcribed and analysed data, and wrote the manuscript. Other two co-authors provided inputs.

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For my grandmother, Lardie Seidu and to the memory of my late grandfather, L. L. Decker, for always making me rise to high expectations

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LIST OF ACRONYMS

CCBA – Climate, Community and Biodiversity Alliance

CDM – Clean Development Mechanism

CEC – CREMA Executive Committee

COP – Conference of Parties

CPR – Collective property Rights

CREMA – Community Resource Management Area

CRIG – Cocoa Research Institute of Ghana

CRMC – Community Resource Management Committee

CSO – Civil Society Organisation

DANIDA – Danish International Development Agency

DCE – District Chief Executive

ECLIR – Engaging Local Communities in REDD+ in Enhancement of Carbon Stocks

ENRAC – Environment and Natural Resource Advisory Council

EPA – Environmental Protection Agency

ERPIN- Emissions Reduction Project Idea Note

ERP – Emissions Reduction Programme

EsAM – Ecosystem Analysis Management

FC- Forestry Commission

FCPF – Forest Carbon Partnership Facility

FGD – Focus Group Discussion

FLEG – Forest Law Enforcement, Governance and Trade

FORIG – Forest Research Institute of Ghana

FPP – Forest Peoples Programme

FWP - Forest and Wildlife Policy

GHG – Greenhouse Gas

IPCC – Intergovernmental Panel on Climate Change

IUCN – International Union for the Conservation of Nature

MESTI – Ministry of Environment, Science, Technology and innovation

MLNR – Ministry of Lands and Natural Resources

MRV- Monitoring, Reporting and Verification

MSIC – Multi-stakeholder Steering Committee

NADMO – National Disaster Management Organisation

NCCC – National Climate Change Committee
NCRC – Nature Conservation Research Centre
NGO – Non-Governmental Organisation
NRWG – National REDD+ Working Group
NTFP – Non Timber Forest Product
PES – Payment for Environmental Services
PwC – Price Water House Coopers
REDD+ - Reduced Emissions from Deforestation and forest Degradation
RLA – REDD+ Localisation Analysis
R-PP – Readiness Preparation Proposal
SESA – Strategic Environmental and Social Assessment
UNCCD – United Nations Convention on Combating Desertification
UNFCCC – United Nations Framework Convention on Climate Change
UN – United Nations
VPA – Voluntary Partnership Agreement
WWF – World Wildlife Fund

CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter sets the context of the whole thesis. The thesis illustrates how REDD+ institutionalisation is occurring in cocoa forest regions of Ghana. It explores the social and environmental consequences of REDD+ implementation, and how existing social relations and environmental conditions impact and shape the REDD+ mechanism (Newell and Bampus, 2012). The mediation of new global environmental governance technologies like REDD+ from the national to the local level is traced using REDD+ localization analysis framework. REDD+ knowledge and ideas are transferred by different institutions, which influence everyday social relations that create different forms of subjectivities in the process. Subjectivities result in care for the environment and support for REDD+ or a resistance to hegemonic states, projects, or regulations. Either of which influences the global REDD+ process and provides global insights on REDD+ local realities including its interactions with community livelihoods. This chapter sets the scene by providing background context to global climate change. It then tackles the role deforestation plays in climate change and how REDD+ has been configured as a solution. The ensuing sections of the chapter briefly describe the climate change situation in Ghana and lay out the research aim, objectives, key questions and the thesis layout.

1.2 Climate change: The global context

Global climate change is happening, and manifests itself in several catastrophic forms including seal level rise, droughts, floods, increasing temperatures and ocean acidification (IPCC, 2014; Rosen, 2015). Increasingly, there is evidence of a high probability of extreme events linked to global warming (IPCC, 2007; Bizikova et al., 2007; Laube et al., 2012; IPCC, 2014). The global environment is experiencing rapid change (IPCC, 2014; Acutt et al, 2000) with effects on quality of life around the globe (Mendelsohn et al., 2006; IPCC, 2014). With unprecedented anthropogenic climate change, the development aspirations of many societies and

countries are threatened (Pittock, 2009; Adger et al., 2003; Dasgupta and Baschieri, 2010; IPCC, 2014).

Climate science has advanced through discourse, research and policy-relevant scientific advice from key institutions such as the Intergovernmental Panel on Climate Change (IPCC), and academia (Adger et al., 2003; IPCC, 2007). Climate change threatens small island states and poor regions the most, and since the 1992 Rio Conference, global attention has focused on sustainable development. However, the mitigation solutions to climate change remain limited (Rosen, 2015; Blok et al., 2012; Anderson, 2012; Anderson and Bows, 2011; Wuebbles and Jain, 2001) to keeping rising temperatures below a 2° Celsius increase above pre-industrial levels (Palmer and Engel, 2009). Solutions formed under the United Nations Framework Convention on Climate Change (UNFCCC) are impeded not only by limited finance for techno-fixes, but also by elements such as economic power and global politics (Harrison and Sundstrom, 2010).

The countries that have ratified the UNFCCC meet every year, in what is known as the Conference of Parties (COP), to discuss and negotiate their 'common but differentiated responsibilities' (Adger et al., 2003). As part of addressing climate change, economically developed countries have pledged, under the UNFCCC, to support climate action in developing countries (Heller and Shukla, 2003) through financial and technological assistance. Scholars have discussed the importance of integrating climate change policies with sustainable development strategies if global climate change is to be limited to 'safe' levels in the long term (Beg et al., 2002). Sustainable development is thought of as a buzzword, and a 'weak' definition by some (e.g. Stefanovic, 2000; Ross, 2009), but for others it is a valuable principle, enshrined in the UN Sustainable Development Goals 2015-2030 (Sachs, 2012; Waage et al., 2015; Joshi et al., 2015). Sustainable development is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987: p.43); i.e. development that balances socio-economic progress and environmental care (Stefanovic, 2000; Bryant, 1998; Kates et al., 2005). The challenge that remains is to address climate change, and develop sustainably at "both the scale of local

natural resource management and at the scale of international agreements and actions" (Adger et al., 2003: p.179).

There are on-going negotiations and discussions about the cessation of fossil fuel reliance, increasing renewable energy use, energy efficiency, and sustainable land use (Beg et al., 2002; Sathaye et al., 2006; Nolon, 2012; Elum and Momodu, 2017) including forest management (O'Connor, 2008; Newell and Stavins, 2000). The recognition of the role of forests began with the Kyoto Protocol in 1997 (Boyd et al., 2007; Klepper, 2011) with afforestation/reforestation activities under the Clean Development Mechanism (CDM), and land use, land use change and forestry (LULUCF) activities (Boyd, 2009; Schlamadinger et al., 2007; Höhne et al., 2007). However, forests have gained prominence in climate change since the COP 11 negotiations (2005) in Montreal when 'avoided deforestation' was introduced (Pirard and Karsenty, 2009; Corbera, 2017; Peskett et al., 2008). Since 2007 (COP 13), when the Bali Roadmap for reducing emissions from forests (now REDD+) was set out, the responsibility of developing countries (containing the bulk of the world's remaining forests) for climate change solutions intensified (Rowe, 2015).

Forests regulate the earth's climate by absorbing carbon from the atmosphere as part of the global carbon cycle. The world's forests absorb 2.4 billion tonnes of carbon annually (CIFOR, 2012). Forests therefore provide an important ecosystem service that needs to be sustained in contributing towards keeping global temperatures below a 2° Celsius threshold beyond which catastrophic climate change impacts would intensify. Beyond its functionality as carbon sinks, forests are important for climate change as they provide several other services including as safety nets for climate shocks, biodiversity habitats, micro-climate regulation, soil protection, and water provision – which usually benefit local forest communities. As a large carbon reservoir, forests can be one of the biggest sources of emissions when destroyed through felling, burning, or clear cutting, among others (Stone and León, 2010).

Over the course of the COPs following the Bali negotiations, UNFCCC parties negotiated and discussed methodological issues and policies for a functioning

forest-climate mechanism. In 2009, at COP 15 in Denmark, parties to the UNFCCC agreed, for the first time, on methodological guidance on the requirements of REDD+ (Sanz and Penman, 2016). Subsequent negotiations led to agreements on REDD+ safeguards (COP 16, Cancun); Safeguards Information Systems (COP 17, Durban); an established work programme on results-based finance including support by the Green Climate Fund for REDD+ (COP 18, Doha); and finally, agreed decisions on REDD+ at COP 19 in Warsaw (Sanz and Penman, 2016).

For forests to make significant contributions to addressing global climate change, the key forest regions include the Amazon and Congo Basin forests. However, countries with tropical forests such as Ghana are also essential in efforts to tackle deforestation. By pursuing activities that reduce the contribution of forests as sources of greenhouse gas (GHG) emissions, and further increasing the ability of forests as sinks, countries like Ghana can integrate climate change into their development efforts (Huq et al., 2006). At the heart of climate change is increasing recognition that issues of development, marginalization, equity, justice, and globalization exist and need closer attention (Adger et al., 2003; Huq et al., 2006).

1.3 Research context

1.3.1 Framing forest governance as a collective global climate action

The global estimate of forest cover is a total of 4 billion hectares, with 6.2 million hectares per annum net-loss from 2000 to 2010 (GCP, 2016). The bulk of the world's forests are located in developing countries. These forests are linked to livelihoods, water body regulation and protection, sanctuary for climate impacts, medicines, food, nutrient cycling and, in some instances, a sense of socio-cultural identity. Forests also have the vital functionality of carbon storage. However, forests have come under increased threat from human activity. Coupled with forest destruction, is the emission of GHGs into the atmosphere and the inability of forests to act as sinks. Initial reports attributed 17-20% of global emissions to forests (Saunders and Nussbaum, 2008; Epule et al., 2014). However, the recent 2014 fifth assessment report from the IPCC estimated emissions from land use and forestry to be 12%. Within the last decade, forests have gained significant traction

in the climate change discourse as important GHG emission sources (Palmer and Engel, 2009). Mitigation of GHGs from forests is therefore an important part of a concerted climate change mitigation framework (Corbera and Schroeder, 2011; Palmer and Engel, 2009).

Across literature, deforestation and forest degradation are treated as age-old environmental problems across the globe (Allen and Barnes, 1985; Tanner and Johnston, 2017; Brown et al, 2016). However, deforestation has led to availability of productive lands for agriculture and led to an increase in the Gross Domestic Products of rural settlements, urban areas and countries at large (Andersen et al, 2002). Deforestation has also increased local food supply, which reduces the cost of food imports, has given communities opportunities to make positive changes that have brought a lot of wealth to them, and it has led to the existence of certain communities including the infrastructure that links them to urban areas (Cotthem, 2017). There have been various initiatives and mechanisms at the international level to tackle forest loss, including Non-Legally Binding Instruments for all Types of Forests; regional agreements like the European Union Forest Law Enforcement Governance and Trade (FLEGT); and national initiatives like the Ghana Modified Taungya System. Many of these initiatives have not been successful in reducing deforestation (GCP, 2016) for many and varied deep-rooted reasons including high rates of corruption and poor governance in forest countries (Karsenty and Ongolo, 2012; McDermott et al., 2012; Ebeling and Yasué, 2008).

In order to catalyse global action, using forests for climate change mitigation would need to be framed as a 'problem' of global collective action. A problem for one may not be a problem for another while not everyone's interests in this approach are aligned. Concerns on the livelihoods of an estimated 1.2 billion people across the globe that rely on forests (den Besten et al., 2014), have been raised on the impacts that including forests in climate change mitigation would have. Any mitigation system concerning forests needs to achieve the objectives of addressing the collective global problem of climate change while meeting the immediate objectives of local forest communities and national economies for their forest resources (Evans et al., 2014).

1.3.2 REDD+ as a climate mitigation solution

Including forests as a mitigation solution under the UNFCCC, roped the resource into what Newell et al. (2012) call the “new carbon economy”. Policy mechanisms instituted under the new carbon economy include the 1997 Clean Development Mechanism (CDM), preceded by Activities Implemented Jointly (AIJ), which was created to offset carbon dioxide emissions from developed to developing countries. Other mechanisms include Emissions Trading (ET) and Joint Implementation (JI) between developed countries (Boyd et al., 2007; Sathaye et al., 2006) and, in 2007, the Reduced Emissions from Deforestation and Forest Degradation plus sustainable forest management, enhancement of forest carbon stocks, and conservation (REDD+), which was established under the UNFCCC.

1.3.2.1 Evolution of REDD+

Based on a ‘common but differentiated responsibility’ philosophy, the UNFCCC, in the 1997 Kyoto Protocol, required all Annex 1 countries (developed countries except the USA) to reduce their national emissions below agreed percentages of their 1990 levels (Streck, 2004) from 2008 to 2012. As part of meeting their obligations, developed countries were allowed to use the CDM to pay for emission reductions in developing countries. This involved offsetting their national emissions through the purchase of credits on carbon markets, referred to as Certified Emission Reductions. The CDM thus represented the early introduction of a market-based approach to addressing climate change (Boyd, 2009; Sutter et al., 2007). The majority of early CDM projects were in energy and tree planting (Boyd, 2009). Deforestation at the time was not included in CDM due to technical difficulties and methodological challenges, with issues like leakage and permanence (den Besten et al., 2014; Ebeling and Yasué, 2008; Aukland et al., 2003; Palmer and Engel, 2009).

In 2005, at the 11th Conference of Parties (COP) in Montreal, Papua New Guinea and Costa Rica lobbied to include avoided deforestation as a method of addressing climate change. At subsequent UNFCCC negotiations and international meetings

this became known as Reduced Emissions from Deforestation and Forest Degradation, and added components of conservation, sustainable forest management and enhancement of forest carbon stocks (REDD+). The plus (+) elements were given equal emphasis and recognition in 2010 at COP 16 in Mexico, through the Cancun Agreement (Peskett et al., 2008).

REDD+ cuts across sectors such as energy, forestry, agriculture and infrastructure, and involves multiple stakeholders at multiple levels. This complexity of engaging various sectors, actors and scales of implementation is compounded by the technical and scientific complexities of REDD+. These elements, characterized as 'technologies of REDD+', have been the main topics of COP negotiations over the years from COP 13 in Bali, through COP 15 in Copenhagen, to their conclusion at 2015's COP 21 in Paris (Brockhaus et al., 2016).

1.3.2.2 Technologies of REDD+

REDD+ discussions have been dominated by science and technology. At the level of the UNFCCC, the Subsidiary Body for Scientific and Technological Advice (SBSTA) has responsibility for developing scientific inputs to inform and enrich the discussions at the UNFCCC COPs (Thompson et al., 2011). As climate negotiations have evolved, various multilateral organizations (the World Bank, UN-FAO, UNDP and UNEP) and bilateral agreements have developed on-going parallel initiatives to help tropical forested developing countries implement REDD+ activities (Kanowski et al., 2011; Reed, 2011; Thompson et al., 2011). The first stage of REDD+ readiness involves processes of reviewing forest governance arrangement mechanisms, reforming forest policy and law, instituting social and environmental safeguards, and establishing monitoring, reporting and verification mechanisms (MRV) (Corbera and Schroeder, 2011).

The drivers of deforestation and degradation typically reside both within and outside the forest sector. Developing strategies that look beyond the forest sector to address drivers of deforestation and forest degradation are among the ways in which REDD+ is expected to bring transformational change to the forest sector (Brockhaus and Angelsen, 2012). REDD+ countries are at varying stages of the

readiness process; some at the stage of law reform, others at strategy identification, some are undergoing tenure reform, and others have established demonstration projects (Brockhaus et al., 2016; Nathan and Pasgaard, 2017). These projects demonstrate the countries' willingness-to-implement into ability-to-implement an effective, efficient and equitable REDD+ (Mayers et al., 2010).

REDD+ management is currently concentrated with national governments as the State is primarily responsible for localizing REDD+ within national boundaries. States have mobilized and committed lots of resources to studies, as REDD+ relies heavily on research and science for its design, i.e. its structure, in order to promote viable technical solutions (Gupta, 2014). For example, MRV, reference emission levels and national strategy (see Table 1.1 for full descriptions) are just a few of the design issues of REDD+ (Gupta, 2014).

Developing countries require finance to incentivize stakeholder engagement in REDD+ and also to discontinue actions that would adversely affect forests (Nathan and Pasgaard, 2017). This makes finance a key element of REDD+. COP decisions have stressed results-based finance, from a mixture of public, private, bilateral and multilateral sources (UNFCCC, 2014). Bilateral and multilateral sources are financing the first two phases of REDD+. There is a lot of expectation that payments will be made in the third phase for reduced emissions and will be generated from carbon markets (Corbera et al., 2010; Bernard et al., 2014; Scheba, 2014). REDD+ payments will only be made when the strategies adopted by an implementing country lead to lower carbon emissions measured against the emissions that would otherwise have been emitted from business-as-usual activities.

Table 1.1 Technologies of REDD+

REDD+ element	Description
Safeguards	The UNFCCC, in the 2010 Cancun Agreement, established 7 principles in REDD+, that countries were encouraged to respect at the national level, in order to do no-harm and promote positive benefits. The safeguards include actions to address risks of reversals (permanence); actions to reduce displacement of emissions (leakage); and means to achieve the full and effective participation of the relevant stakeholders.
Safeguards Information System	A system that provides information at the UNFCCC level on how safeguards are to be addressed and respected by the REDD+ implementing developing country (contained in Paragraph 71 of decision 1/CP.16). This must be accessible by all stakeholders and be transparent and consistent. It must be summarized as part of the national communications to the UNFCCC.
Monitoring, Reporting and Verification	This is the system by which results from REDD+ implementation are to be ascertained for results-based payments to be effected. The system involves technical assessment of forest reference emission levels and the measurement of post implementation levels, for comparison with the former.
Finance and Verified Emission Reduction Payments	Finance for REDD+ under the COP comes from a mix of public, private, bilateral, multilateral and alternative sources. The payments are to be made after the MRV shows a gain over reference emission levels. This gain is referred to as 'additionality'. Important COP decisions about finance include 13/CP.19 and 14/CP.19.
National Strategy	Developing countries implementing REDD+ under UNFCCC are expected to develop an action plan that considers the drivers of deforestation and forest degradation, forest and land tenure issues, forest governance issues, etc. This is specified in 1/CO.16 and 9/CP.19.
Reference Emission Level	4/CP.15, 1/CP.16, 12/CP.17 and 13/CP.19 are the most relevant decisions of the COP regarding implementing countries establishing national forest emission levels against which results can be measured. These emission levels are references for performance in implementing the REDD+ activities in the national strategy, and include the use of historical data.

Source: UNFCCC REDD+ Web Platform (<http://redd.unfccc.int/fact-sheets.html>)

1.3.2.3 Impacts of REDD+ on local communities

The technologies of REDD+ have been developed at the international and national levels with limited discussion and input from indigenous peoples and forest communities who reside close to the forests where implementation would occur (Schroeder, 2010; Rosen, 2015). At the international level, early support for REDD+ as a carbon mitigation mechanism by developed countries, focused on relative cost-effectiveness (Stern, 2006; Phelps et al., 2012). Implementation however would be at the local level, which implies costs to forest communities who typically rely on forest access and use for their livelihoods (Blom et al., 2010); costs that may not have been internalized by those hailing REDD+ as cost-effective. REDD+, from the start, faced procedural shortfalls relating to good governance and social exclusion (Corbera, 2012). Mayers et al. (2010: p.8) note that it is essential to “bridge this gap between willingness and know-how” and in so doing engage all relevant stakeholders in giving input to the REDD+ implementation process.

As a novel mechanism, the REDD+ policy processes and strategy design at the national level, are key to its implementation and determining stakeholder equity. Of primary importance in REDD+ governance are the interactions, roles, responsibilities and influences of the various stakeholders at the national level, who design REDD+ policies, strategies and implementations (Susanti and Mayurdi, 2016; Somorin et al., 2014). “The actors who articulate and define policy problems do not act in isolation. They instead articulate the problem based on their interests” (Susanti and Mayurdi, 2016: p.131) and would most likely seek what is equitable to them. All actors therefore have roles in REDD+’s equitability.

Despite criticism of REDD+ impacting local communities negatively, there has been limited evidence of whether REDD+ implemented across the globe contributes to collective action or how REDD+ impacts on peoples’ access, user rights or forest related livelihoods. In this regard, this research sets out to explore whether REDD+ poses a governance risk to local cocoa-forest communities or represents a collective and sustainable approach to governing forests.

1.4 Climate change and Cocoa sector in Ghana

Ghana's geographical location makes it one of the most vulnerable countries to climate change (Mendelsohn et al., 2006; Beg et al., 2002; MESTI, 2013; IPCC, 2014; Allison et al., 2009). Ghana has a climate-dependent agrarian economy, with 55% of its population being farmers (Fosu-Mensah et al., 2012; Beg et al., 2002; Dasgupta and Baschieri, 2010) including cocoa farmers who are the focus of interest in this research. Change in climate and climate variability has been recorded to reduce cocoa productivity in Ghana (Codjoe et al., 2013). Direct manifestations of climate impacts reported for the country include increased temperatures (mean temperature likely to increase by 3.8% by 2040), rainfall variability and unpredictability, and sea level rise (EPA, 2013; Conway, 2008; MESTI, 2015). Such climatic impacts have led to the loss of lives and infrastructure, low yields, reduced harvests and migration (Conway, 2008).

Ghana's major emission source is from land use change and deforestation (Beg et al., 2002; MESTI, 2015). This contribution to global atmospheric GHG emissions is of relatively little significance. Nevertheless, as the country pursues economic development, it could possibly follow a path that contributes to progressively higher GHG emissions. For this reason Ghana seeks to follow an alternative development pathway to developed countries (MEST, 2010). As a signatory to the UNFCCC since 1992, Ghana has demonstrated an interest in, and commitment to, both mitigating and adapting to climate change.

In terms of mitigation, the Ghana Climate Change Policy (2013) seeks to address forest governance, and in particular loss from illegal activities and unsustainable legal forest exploitation and conversion (MESTI, 2013). Under the auspices of the UNFCCC and with initial support from the World Bank, Ghana is pursuing a better management approach to its forests under REDD+. The country has been a leader in REDD+ implementation since 2007, under the World Bank Forest Carbon Partnership Facility (FCPF). For a country with a land-use driven economy, this novel nexus between its forests and climate change governance represents uncertain outcomes for its economy, local forest dependent communities, farmers and development in general (Hansen et al., 2009). This is exceptionally true for the

estimated 6.3 million Ghanaians (out of which 2 million are smallholder cocoa farmers) who are supported by the cocoa industry (Peprah, 2015).

Cocoa exports serve as Ghana's second largest export commodity and contribute 7.3% to the country's Gross Domestic Product (GDP) (Peprah, 2015). The majority of Ghana's cocoa is cultivated in the rainforest regions where a large proportion of the labour is situated (Codjoe et al., 2013). Even though Cocoa has played a phenomenal role in poverty reduction in these areas, there are challenges that increase the vulnerability of those in the sector such as land degradation, inflation and corruptive practices in the internal marketing chain (Peprah, 2015). Cocoa on the other hand is classed as one of the main deforestation drivers in Ghana as farmers clear forests for more cocoa farmland (FC, 2010).

The heavy dependence on cocoa which supports some 26% of Ghana's population, its role in rural poverty reduction, its contribution to Ghana's economic growth, but also in deforestation, make it important for investigation when the implementation of new global environmental technologies like REDD+ can shape or be shaped by cocoa cultivation.

1.5 Research aim and objectives

The main aim of this research is to increase understanding of how REDD+ is localized in Ghana from the national policy level to the local implementation sites, where I explore the lived experiences of resource-dependent communities. To meet this broader aim, four objectives are set:

- Examine if and how REDD+ governance across the globe conforms to principles of collective action to benefit local communities.
- Explore governance and stakeholder engagements in Ghana's REDD+ policy process.

- Examine REDD+ institutionalization across and within scales of governance at national, regional and local levels in Ghana.
- Assess REDD+ subjectivities produced at the local level in Ghana.

1.6 Key research question and sub-questions

The overarching research question that guides the entire PhD research and ties in the different paper chapters is: How do new environmental regimes such as REDD+ mediate institutions from the national to the local level, in ways that form subjectivities and encompass meaning to local people, and what are the governance and equity implications for local community dwellers? The key research question was further broken down into sub-questions that framed the fieldwork data collection protocol (see Chapter 3).

- Q1: How have REDD+ projects (on public and community lands across the globe) performed according to a set of collective action principles for effective forest management?
- Q2: How do different dimensions of governance and stakeholder engagement affect equity in REDD+?
- Q3: How is REDD+ institutionalized across and within scales of governance at national, regional and local levels in Ghana?
- Q4: What are the emerging realities from REDD+ implementation within the social, political and historical context of local communities in Ghana?

1.7 Thesis structure

This thesis is structured in 10 chapters, with Chapters 1 and 2 focusing on the introduction to the study, the research objectives, context and literature review. Chapters 3 and 4 present the theoretical framework, the research design and

epistemology adopted to guide the data collection and analysis of the findings. It includes the methods adopted in the study, the case study sites and a reflection of my own positionality and experience of the research.

Chapters 5 to 9 are the main empirical chapters of the thesis and although they are fashioned to stand alone as papers, they combine into a coherent narrative of the issue under study. Chapter 5 (Q1, Paper 1, *International Journal of the Commons*, 2017) is a systematic literature review of REDD+ community forest projects across the globe. Chapter 6 (Q2, Paper 2, *Forest Policy and Economics*, 2018) deals with the governance and stakeholder dimensions of Ghana's implementation of REDD+ at the national level, focusing on equity implications. Chapter 7 (Q3, Paper 3) presents an institutional analysis of Ghana's REDD+ process across scales asking how is REDD+ institutionalised? Chapter 8 (Q3, Paper 4) focuses on how local community institutions shape, and are shaped by, REDD+ and what institutional barriers to REDD+ exist from the perspectives of cocoa-forest communities in Ghana. Chapter 9 (Q4, Paper 5) critically examines how REDD+ interventions create (or not) subjects of REDD+? The final chapter pulls together the previous results and draws conclusions from the study. This chapter is important in that it displays the contribution the study makes to scholarship and REDD+ policy development, and draws key lessons and conclusions to inform conservation programmes, national and international REDD+ policy processes.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides an extensive literature review of REDD+ and sets out the theoretical framework for this thesis. The first part of the chapter examines the key governance principles (featured in forest governance, forest management and REDD+ scholarship) and identifies core assumptions underpinning current approaches to REDD+ legitimacy. Key narratives surrounding deforestation, community livelihoods and development and the processes of implementation are presented and gaps identified.

The framework presented in the second part of the chapter predominantly draws together knowledge from sustainability science, political science, and human geography within a lens of REDD+ localization analysis to examine how processes of REDD+ are institutionalised and mediated through complex interventions to locally contested spaces of forest governance. The thesis engages with concepts that underpin ideas on the nested nature of local environmental use and management of REDD+ forests, common property regimes and local user subjectivities of nature with broader understandings of how REDD+ is unfolding globally mediated through governance frameworks, constellations of actors, and justice in implementing processes. These ideas are joined through the REDD+ localization analysis framework, by which the findings of this thesis are analysed.

2.2 REDD+ background

Global governance for sustainable development entails new, low carbon development pathways and efforts towards combating climate change. Reducing greenhouse gas (GHG) emission sources through cutting fossil-fuel use, adopting climate-smart agricultural practices, improving the transport sector and improving energy efficiency, are key programmatic areas targeted under a global climate change regime (Tanner and Allouche, 2011). With deforestation and forest degradation making a vital contribution to atmospheric GHG emission

concentrations¹, parties to the United Nations Framework Convention on Climate Change (UNFCCC) agree that a concerted approach to combatting climate change must include a core role for forests (Mbatu, 2015; Pasgaard et al., 2016; Newton et al., 2015). Therefore, the Conference of Parties (COP) of the UNFCCC has, over the last 10 years, engaged in a discourse on reduced emissions from deforestation and forest degradation, sustainable forest management, conservation, and enhancement of forest carbon stocks – collectively referred to as REDD+ (see Chapter 1). REDD+ is designed to operate through an incentive-based system. Developed countries pay developing forested countries for emission reductions measured against an established baseline/reference emission level (Minang et al., 2014; Maraseni et al., 2014; Mbatu, 2016; Schroeder and McDermott, 2014). The agreement on REDD+ was concluded and officially adopted at the UNFCCC COP21 in December 2015 in the city of Paris (Pasgaard et al., 2016; Mbatu, 2016).

The push for REDD+ was attributed to its acclaimed cost-effectiveness as a climate mitigation approach that would lead to a ‘win-win’ situation of maintaining standing forests and supporting local livelihoods (Gupta et al., 2012; Atela et al., 2015; Bluffstone et al., 2013; Rowe, 2015; Stern, 2006). Some scholars have questioned the cost-effectiveness of REDD+ on the basis that it ignores estimates of certain cost categories² and also the associated change in costs as drivers evolve (Fosci, 2013; Bluffstone et al., 2013). Discussing the ‘win-win’ rhetoric, Newton et al., (2016) maintain that achieving carbon sequestration and biodiversity conservation while supporting local livelihoods does not happen automatically in tandem. They assert that knowledge (from research) that deepens understanding of specific sites is “necessary to tease out the causal complexity of the drivers of the different outcomes of community forest management” (Newton et al., 2016: p.7). Brockhaus et al. (2014), lend support to Newton et al. (2016) and call on states to deliberately address political and institutional challenges for effective REDD+ policy outcomes and not to presume REDD+ would automatically lead to a ‘win-win’ situation.

Contentious debates about potential undesirable impacts of REDD+ have plagued

¹ Global deforestation and forest degradation contribute 13-17% of the total greenhouse gas emissions in the atmosphere (Schroeder and McDermott, 2014)

² Opportunity costs, implementation costs, transaction costs (Fosci, 2013).

the mechanism since its early development stages (Suiseeya, 2016). As advocates pushed for 'avoided deforestation' within the international climate regime at the time, scholars such as Dimitrov (2005) argued that the inclusion of forests was a ploy by some countries (e.g. USA) to divert attention from the main actions needed to address climate change. Other scholars including Cabello and Gilbertson (2012) referred to REDD+ as a false solution; a popular assertion of the campaigns organised by many civil society organisations and networks including the 'Global Alliance Against REDD'³, 'No REDD in Africa'⁴ and Friends of the Earth International (Hall, 2014). For these scholars and organisations, REDD+ simply was not the magic bullet for the climate change problem. REDD+ was condemned as a false solution due to the perceived risks it presented. It was feared that REDD+ would commodify forests, leading to increased struggles over ownership and worsen existing ownership struggles in other cases (Karky and Skutsch, 2010; Newton et al., 2015). REDD+ may reverse the decentralisation of natural resource management as national governments take charge of carbon rights and centralise REDD+ policy (Groom and Palmer, 2012; Phelps et al., 2010; Apriwan and Afriani, 2015; Bluffstone et al., 2013). Furthermore, REDD+ offsets present risks of the global north carrying on business-as-usual with little or no effort to reduce GHGs at home (Maraseni et al., 2014; Apriwan and Afriani, 2015; Špirić et al., 2016), whilst constraining development in the global south (Gupta, 2012). Additional concerns include the risk to REDD+ continuity should the international aid that funds REDD+ cease (Gupta, 2012).

Irrespective of the contentions and resistance mounted, REDD+ has evolved over the past decade and is pursued by national governments, private sector/carbon brokers, individuals, forest communities and non-governmental organisations (Nathan and Pasgaard, 2017; Paterson and Stripple, 2015). Each actor group has different interests in REDD+ (Schroeder and McDermott, 2014), and across the globe, the same actor groups have different objectives because of spatial and temporal complexities (Mbatu, 2016; Dixon and Challies, 2015). Scriven (2010), in examining the REDD+ process in Peru, categorises interests and objectives into three logics: 'conservation', 'social-development' and 'commercialisation'. These

³ <http://no-redd.com/redd-and-carbon-trading-will-not-resolve-the-climate-crisis/> (accessed 12/12/16)

⁴ <http://no-redd-africa.org> (12/12/16)

rationalities may be synergistic or may face trade-offs during implementation depending on the policy design of the REDD+ scheme (Newton et al., 2015; Nathan and Pasgaard, 2017). Early REDD+ narratives reduced forests to solely carbon ('commercialisation logic'), which bore deleterious implications for other values and forest services (Suiseeya, 2016) including other stakeholder interests in the 'conservation' and 'social-development' logics. REDD+ was therefore criticised for "its perceived neoliberal, technocratic, centralised, and/or carbon-centric approach" (Vijge, 2015: p.40), which created scepticism about its ability to generate non-carbon benefits such as improved livelihoods and biodiversity conservation (Nielsen, 2016).

Some scholars, practitioners and professionals have insisted that REDD+ can be designed to provide additional income, support livelihoods and livelihood development, conserve biodiversity, and provide long-term pathways out of poverty⁵ (Evans et al., 2014; Pasgaard et al., 2016; Mbatu, 2015). In the early development stages of REDD+, these benefits were referred to as 'co-benefits'⁶ of REDD+. Others have contested the coinage of 'co-benefits' expressing the need for REDD+ to prioritise those objectives (poverty alleviation, biodiversity conservation, and economic development) rather than annex them to carbon reduction and thus risk negative outcomes (Newton et al., 2015; Angelsen, 2009). These multiple benefits are regarded as critical for a REDD+ mechanism to be legitimate (Somorin et al., 2014; Atela et al., 2015; Visseren-Hamakers et al., 2012; Katerere et al., 2015).

The UNFCCC in Cancun, in 2010, instituted agreed safeguards that formalised the co-benefits⁷ (Pasgaard et al., 2016), giving a degree of leverage to other benefits in addition to carbon. For example, Schroeder and McDermott (2014) in recounting the work of Pokorny et al. (2013), illustrate how certain initiatives with a focus on environmental goals, resulted in restrictions to community livelihoods and bureaucratic barriers for the local forest users such as "the legal prohibition of

⁵ Some countries such as Vietnam have adopted strong positions concerning their objective of using REDD+ as a poverty-alleviating tool (Schroeder and McDermott, 2014).

⁶ CSOs and CS groups and indigenous communities and indigenous peoples' organisations mostly spearheaded the co-benefits narrative (Vijge, 2015).

⁷ "Criticism concerning the over-emphasis on carbon objectives at the cost of non-carbon objectives has led to increased attention to safeguards and co-benefits" (Vijge 2015: p.40).

raising buffalos in the extractive reserve Porto do Moz, in Pará, Brazil" (p.2). Vijge (2015), in treating carbon-centric REDD+, mentions that those who subscribe to this ideology, view the promotion of non-carbon benefits or their safeguarding as extra actions that require resources and therefore reduce the cost-effectiveness of storing carbon. Nevertheless, co-benefits, and principles safeguarding their legitimacy have penetrated the REDD+ arrangements across various programmes and projects (Hiraldo and Tanner, 2011). In some projects, payments for emission reductions are only made after verification that there has been no harm to co-benefits (Vijge, 2015).

Although in the COP 20 Warsaw Framework, it was stated in 'Decision 9/CP.19'⁸ that a wide mix of sources and forms of finance would be used including public, private, bilateral and multilateral, the global financial architecture for REDD+ remains uncertain and one of the most contested (Mbatu, 2016). Nevertheless, stand-alone REDD+ projects are trading carbon via the Voluntary Carbon Market.

REDD+ is now an established global mitigation mechanism with several independent projects and national programmes being implemented globally. A key gap is the extent to which REDD+ is localised and governed within national borders to achieve multiple objectives (carbon reduction, poverty alleviation and conservation) and the extent to which it benefits people on the ground in ways that are equitable and sustainable.

There are a number of assumptions underpinning the governance and implementation of REDD+ that are addressed in this thesis. The three key gaps underpinning this research are:

- 1. Matching global objectives and local realities.** REDD+ was conceived by the United Nations with the main objective of "stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" (UN, 1992). Although the objective of REDD+ from a purely climate position is to reduce global carbon emissions, its associated costs are highly localised and vary across

⁸ <http://unfccc.int/resource/docs/2013/cop19/eng/10a01.pdf#page=24> (accessed 10/01/17).

geographies of implementation per ton of carbon reduced (Suiseeya, 2016). Thus, despite the fact that reduction (or not) of global emissions is a shared objective, there are disparities in governance discourses and frameworks, costs (transaction, implementation and opportunity costs), and realities on the ground (Di Gregorio et al., 2017; Aquino and Guay, 2013; Suiseeya, 2016; Špirić et al., 2016). Evans et al. (2014) assert that REDD+ designers though aware of the spatial and temporal complexities that exist, are still faced with creating multi-year modalities for multiple countries, mainly fuelled by assumptions that underpin divergent governance discourses.

2. **REDD+ actors have aligned interests.** Multiple actors with varying claims and interests exist in REDD+, and satisfying all of these stakeholders under REDD+ is not easy. Cabello and Gilbertson (2012) question whether such interests and claims can actually be aligned under a REDD+ mechanism at all. Linked to this is the issue of property rights and resource control that remains unclear in many REDD+ countries and therefore flagged as highly problematic in REDD+ implementation by some scholars (Asiyanbi, 2016; Broegaard et al., 2017). International negotiations and discourses have discounted some costs such as those that come with tenurial issues and cadastre systems (Rowe, 2015). REDD+ was fixated on carbon measurement and payment for units saved at the expense of other elements including the complexity that surrounded forests. The assumption at the international UNFCCC level was that forests could be reduced to carbon dioxide equivalent figures but forests have proven to be more than that (Rowe, 2015; McGregor et al., 2015). External actors defining forests as forests-for-carbon⁹ under a REDD+ policy mechanism (Suiseeya, 2016), “promotes a satellite view of forests that is top-down and distant” (Rowe, 2015: p. 69). This could have implications for how priorities of powerful actors are mirrored in the implementation processes and benefit distribution of REDD+.

⁹ In 2008-2011, the REDD+ discourse was dominated by the concern that forests were reduced to purely carbon stock at the expense of the myriad values of the resource including rights of forest dependent people (Rowe, 2015).

3. Benefits are accrued to agency of local REDD+ actors. Little attention is paid to how community resistance may feature in the uptake of REDD+; non-conforming local actors can impede both national and global objectives of REDD+ (Pasgaard et al., 2016). International level actors who view REDD+ solely through a carbon mitigation lens, risk ignoring the compatibility between REDD+ schemes and local key aspirations, priorities and goals specific to implementation sites, which can lead to resistance (Pasgaard et al., 2016; Nathan and Pasgaard, 2017). According to Suiseeya (2016: p.8), international REDD+ “processes presume that the carbon services of forests hold universal value and that people will ascribe to the same hegemonic presumptions and engage in the mechanism”.

2.3 Governance of REDD+: frameworks and prevailing discourses

2.3.1 Governance frameworks for REDD+

A range of academic literature that debate models for governing natural resources focus on the extent to which regulatory frameworks and institutions can contribute to ‘good’ governance, poverty alleviation and social wellbeing in the global south (Scales, 2014; Larson et al., 2013; Mustalahti et al., 2012; Reed, 2011; Nathan and Pasgaard, 2017). For example, Payments for Ecosystem Service (PES) schemes include national and regional policy mechanisms that aim to protect vulnerable ecosystem services by placing an economic value on these services (Stephan and Lane, 2015). Other mechanisms include the Clean Development Mechanism (CDM) of the Kyoto Protocol and Reduced Emissions from Deforestation and Degradation (REDD+). To date these mechanisms have been criticised for their poor governance and negative development consequences (see Brown and Corbera, 2003; Boyd, 2009; Boyd et al., 2007; Bumpus and Liverman, 2008; Liverman and Boyd, 2008, Boyd and Goodman, 2011; Liverman, 2004). These shortcomings are generally attributed to the globalised, technocratic and neoliberal nature of the new carbon economy (e.g. See Newell et al., 2012; Lohmann, 2006; Newell and Paterson, 2010). Similarly, Cabello and Gilbertson

(2012: p.162) argue that in the bigger scheme of things, REDD+ is a failure and cannot “be fixed with more governance”. Nevertheless, the literature increasingly speaks to the essence of improved governance/’good’ governance in the forest sector and wider governmental functions for a successful REDD+ implementation (Brockhaus et al., 2014; Mbatu, 2016; Schroeder and McDermott, 2014; Cadman et al., 2017).

Governance entails a political process of formal (established) and informal rules and regulations that are shaped by, and in turn shape power and authority between the state, market and civil society as they interact (or not) to govern public issues at multiple scales (Cabello and Gilbertson, 2012; Somorin et al., 2014; Lockwood et al., 2010). According to Cabello and Gilbertson (2012), who gains and who loses are determined to an extent by the governance approaches in use. REDD+ governance includes properly identifying who the stakeholders are, how REDD+ objectives are established, what rules and operational modalities exist, how these rules came to be shaped and defined, and the outcomes that are produced. Considering that REDD+ operationalisation in developing countries is already short-changed by the existence of insecure tenure, rent seeking behaviour, forest sector implementation deficits¹⁰, and etcetera, a keen devotion to improving governance is prerequisite (Koch, 2016; Mayers et al., 2006; Sikor et al., 2010). According to Brockhaus et al. (2014), existing power relations, attitudes and discourse require a shift alongside the establishment of deliberate policy and protest actions that inform policy and its implementation.

‘Good’ governance from literature popularly enmeshes the principles of transparency, participation, accountability, social justice, equity, coordination and capacity (Lebel et al., 2006; Menzel and Teng, 2009; Chhatre et al., 2012; Paudel et al., 2015; Brockhaus et al., 2014; Lyster, 2011). In addition, practitioners are reported to assert that key principles of ‘good’ governance entail a system of fairness, predictability, legitimacy, confidence, trust, participation and equity (Paudel et al., 2015; Lockwood et al., 2010). Early studies by Pettenella and Brotto

¹⁰ Gap between established policy directives and implementation. For instance, forest governance in many African countries is plagued by implementation deficit, which is vital for the performance of REDD+ (Koch, 2016).

(2012) report that when transparency and accountability are judiciously addressed, REDD+ projects are found to succeed. The quality of REDD+ governance bears a direct semblance to the quality and legitimacy of the mechanism functioning effectively, efficiently and equitably as a climate change mechanism (Cadman et al., 2017). Furthermore, organisational features of 'good' governance include a multi-layered and polycentric system (different nodes of decision-making and actions that remain networked) (Lebel et al., 2006).

Based on the 'good' governance attributes mentioned above, REDD+ implementation cannot follow poor business-as-usual practices such as decision-making that is devoid of local community involvement (Angelsen et al., 2009; Pasgaard et al., 2016). Implementing a REDD+ mechanism therefore requires progress towards decision-making arrangements that reinforce socially just and sustainable management of forests (Hiraldo and Tanner, 2011). There is an interface between forests for carbon, and forests as a resource that serves local needs and livelihoods. Kanowski et al. (2011) assess the possibility of REDD+ "prejudice[ing] progress towards more decentralised, locally empowering" (p.112) forest governance models to one that denies Indigenous Peoples and local communities of rights. Once the principles of 'good' governance are embedded and more importantly enforced in REDD+, a more locally sensitive REDD+ could be achieved. A sole focus on mitigation approaches is no panacea to the complexities of developing states. Somorin et al. (2012) question the possibility of a carbon focused REDD+ mitigation approach completely capturing important development and adaptation needs. This is borne out through the reality that governments with diminished forest cover may need forests and forestlands for mitigation actions (e.g. REDD+), whilst communities' need for forests may primarily be for livelihoods and adaptation to climate risks.

Corbera and Schroeder (2011) agree that REDD+ has a limited cause and/or effect role on forest governance and this needs to be improved for efficiency and effectiveness. Reducing emissions in the forest sector means avoiding deleterious practices, which in turn requires identifying the specific primary and secondary drivers within and outside the forest sector (Somorin et al., 2014). According to

Gupta (2012) and Somorin et al. (2014), the ability to identify the drivers of deforestation and forest degradation and deal with each driver at multiple levels of governance is in theory the preserve of good forest governance. There are broad political and economic complexities to the issue of deforestation and land use related emissions and these require attention within the ambit of a REDD+ policy programme (Paudel et al., 2015; Dixon and Challies, 2015). For instance, in Nepal, Indonesia, Papua New Guinea and most of the developing forested countries, there have been reports of corruption and cronyism (Paudel et al., 2015; Koch, 2016; Sandbrook et al., 2010; Epule et al., 2014; Luttrell et al., 2014). As officials and politicians collude with timber traders to clear forest trees for sale, local forest communities are at times alienated in the process (Paudel et al., 2015; Murdiyarso et al., 2012).

In the estimation of Corbera and Schroeder (2011), Aziz et al. (2015), and Kamelarczyk and Gamborg (2014), the traditional forest governance systems are not adequate to deal with mechanisms such as REDD+, which is tailored to addressing global environmental issues that transcend country boundaries of authority. Many developing countries have weak institutions including a lack of qualified staff, limited funding and facilities, weak law and regulatory enforcement and a fragmented knowledge base (Koch, 2016; Kamelarczyk and Gamborg, 2014; Sandbrook et al., 2010). All these constraints, coupled with conflicts of interest and corruption, undermine the effectiveness of policy implementation (Kamelarczyk and Gamborg, 2014; Cadman et al., 2017). Although some existing policies, regulations and institutions for the forest sector can support REDD+, its dynamic nature requires new institutions (Scales, 2014) in some contexts and in some other cases for existing legal frameworks to instigate major reforms (Murdiyarso et al., 2012; Brockhaus et al., 2014; Cadman et al., 2017). Thus REDD+ requires institutional environments that extend discussion and decision making to diverse stakeholders¹¹ for varied inputs into the concept (Corbera and Schroeder, 2011; Somorin et al., 2014; Agrawal et al., 2011; Cadman et al., 2017). Limited or poor stakeholder engagement can compromise the effectiveness of REDD+ (Atela et al., 2016) as interest representation through “access (the extent to which interests

¹¹ REDD+ literature shows that the mechanism is further complicated by its multi-actor and multi-scalar elements of governance (Mbatu, 2016; Brockhaus et al., 2014).

actively participate) and weight (the level of influence among participants) is eliminated" (Maraseni et al., 2014: p.44). The introduction of safeguards¹² in Cancun under the UNFCCC, are therefore recognised as facilitative principles that propel, and contribute to achieving, 'good' governance in REDD+.

In line with instituting REDD+ in an enabling environment facilitated by 'good' governance, rich-forested developing countries are, by the help of multilateral and bilateral funds, engaging in REDD+ 'readiness' activities and pilot projects (Maraseni et al., 2014; Nathan and Pasgaard, 2017). This phase of REDD+ not only lays the foundations for successful REDD+ but also provides data for the design of REDD+ projects and programmes incentivised via performance payments (Maraseni et al., 2014). According to Atela et al. (2016; p. 38), 'good' governance within a REDD+ regime entails "institutional transformation [which] requires knowledge about where and how various sectoral policies might undermine or support REDD + rules". den Besten et al (2014: p.46) make a case in their study that "ideas and institutions are symbiotic and cannot exist separately". Under REDD+, how then is new knowledge created and how do institutions (both formal and informal) for regulations affect the application of this knowledge among the various actor constellations at the global, national and local levels? As intimated by Mbatu (2016), an efficient REDD+ governance structure should be such that it allows capacity building for multitude actors and their institutions; foster collaborative approaches that tie in the various actors, their interests, and institutions; and have a capability to coordinate several functions of different actors, different institutions and sectors in REDD+ design and implementation (Špirić et al., 2016). Coupled with the governance principles such as transparency, accountability, and equity, REDD+ should perform better with sequestering carbon additional to business-as-usual levels, whilst avoiding leakage and ensuring permanence (Somorin et al., 2014).

¹² Decision 1/CP.16 calls for the promotion and support of certain safeguards by implementing countries. These include: "transparency and effective national forest governance structures; respect for the knowledge and rights of indigenous peoples and members of local communities; and the need for the full and effective participation of relevant stakeholders, including, in particular indigenous peoples and local communities" (Lyster, 2011: p.119).

2.3.2 Legitimising old (state) development/deforestation narratives with REDD+

State governments are the principal actors in the development and growth of countries, which is usually measured via economic indicators like Gross National Product and Gross Domestic Product. Natural resources, including forests, have played significant roles in earning foreign exchange for countries to utilise in their development¹³. Due to this dependence on natural resources, most developing countries have a deepened political economy around commercialisation of forests for industrial logging (timber) and in some places like Indonesia and Brazil, forest lands are given out for soy, oil palm, rubber plantations and beef rearing, among other industrial uses (Hiraldo and Tanner, 2011). This conversion of forests to agricultural land and/or plantations is to meet the consumer demand of an ever-expanding population (Susanti and Mayurdi, 2016; Gupta, 2012). Other conversions of forests have been for infrastructure development such as dams and roads (Dimitrov, 2005). Decisions concerning forests and forestlands are therefore determined by economic motives over and above their environmental and social functions; this illuminates the land use change from forests to non-forests. States have considered forests to be less productive in value relative to alternative uses that yield higher financial returns (Susanti and Mayurdi, 2016). Therefore, the political economy of deforestation in many countries revolves around state exploitation¹⁴ of forests for economic growth and power (Paudel et al., 2015). So despite states being responsible for handling and balancing the social, economic and environmental demands of forests (Wibowo and Giessen, 2015), this has not been the case. Many states across the globe have centrally controlled forests and historically exploited them mainly for economic growth. Typical examples are evidenced in Kenya, Ghana and Nepal (Paudel et al., 2015; Githiru, 2016; Chomba et al., 2016). The 'de-facto' prioritisation of economic growth over sustainable forest management and socio-economic value to local forest communities, threatens socially-just REDD+ forestry (Hansen et al., 2009; Kanowski et al., 2011). Susanti and Mayurdi (2016) recount in their Indonesian

¹³ "There have been extensive studies that link national wealth and deforestation" (Susanti and Mayurdi, 2016: p.130).

¹⁴ Research demonstrates this relevant aspect of the political economy for forest resource access and use (see Bryant and Bailey, 1997; Kanowski et al., 2011; Latour, 2004).

study, that various actors use narratives of national economic development, regional development and poverty alleviation to justify the expansion of oil palm plantations.

The dwindling world forests present a challenge to some countries as their unsustainable management has led to an over-exploited resource, which no longer represents high economic value. The inception of REDD+ as an incentive based mechanism, has re-invigorated state interest in forests as new value for economic gains has been created. Some country governments have re-positioned themselves as the legitimate managers of forests (Broegaard et al., 2017). This re-positioning has been accompanied by narratives, which attribute deforestation and forest degradation drivers to local forest communities and Indigenous Peoples (Dooley et al., 2011). According to Holmgren (2013: p.369), this narrative is no different from that of the 1980s “where farmers and slash and burn practices were considered the main cause of [tropical] deforestation” and now the REDD+ narrative attributes it to local forest dependent communities and livelihoods. Brockhaus et al. (2014), in their study of REDD+ in six countries, found that none of the countries had ‘master frames’ targeting national drivers of deforestation and forest degradation. Hastily blaming local forest communities and Indigenous Peoples obfuscates other causes that are not linked to local livelihoods and legitimises the state taking control away from these actors (Holmgren, 2013). Furthermore, state governments being the official negotiators at the UNFCCC, and the medium through which any national REDD+ schemes would be financed, puts them in a position central to REDD+ decision-making. REDD+ centres on state management of resources, technology transfer and territorial control (Vaccaro et al., 2013). States “may serve to legitimise claims of authority over forests” and “recentralise forest governance, therewith diminishing the power and agency of local communities to determine their fates and lifeways” (Suiseeya, 2016: p.7).

2.3.3 Community livelihoods and development

Globally, forests are home to 300 million people and provide livelihood support in one way or another for a population of 1.6 billion (UN, 2011). Forests provide

products (timber, medicine) and services (micro-climate) that support the subsistence of local community dwellers and/or generate income for various stakeholders including governments and forest dwellers (Suisseya, 2016; Loaiza et al., 2015). Although forest benefits are important for local communities (Bluffstone et al., 2013), stakeholders (including local communities) may likely convert forestlands to other uses if those uses prove more profitable, especially in the short term (Gupta, 2012). Mbatu (2016) in a review of collective REDD+ scholarship produced since 2007, found that the majority of case studies featured in articles, pointed to farming as the main activity of forest communities in the tropics. Where livelihoods and other land uses like farming overtake forestlands or destroy the quality of the forests, then forest emissions result.

Forests and climate change influence, and are influenced by, each other on a biophysical level (Gupta, 2012). The introduction of REDD+ adds a new layer and further complicates the relationship between climate change and forests and therefore livelihoods derived from the forests. While REDD+ can restrict and harm local community use of forests for livelihoods, community extraction of forest resources for subsistence and income generation can affect the carbon reduction potentials of REDD+ (Newton et al., 2015). Meanwhile, sustainable management of forests contributes to reducing climate change impacts and increases the adaptive capacity of communities and forests and therefore reduces the risk to livelihoods from unpredictable climate change (Gupta, 2012; Holmgren, 2013). In a study of Nepal however, Newton et al. (2016) discovered that the link between carbon and biodiversity is stronger than either of the two, as main objectives, had with livelihood outcomes. The implication being that projects that seek to achieve carbon sequestration or biodiversity conservation, must deliberately work to achieve livelihood outcomes. At worst, carbon sequestration or biodiversity conservation projects, must purposely strive to 'do no harm' to community livelihoods (Newton et al., 2016). Works by Newton et al. (2015), and Nathan and Pasgaard (2017) note the immense challenge in designing national REDD+ schemes to integrate local actions on forests in a manner that is effective, efficient and equitable.

Concerns on designing a holistic REDD+ programme that takes into account local livelihoods and priorities while reducing emissions have featured in discourse (see Rival, 2013; Pokorny et al., 2013; Schroeder and McDermott, 2014; Loaiza et al., 2015). In discussing REDD+ and community livelihoods/development, particular attention is paid to the caution from some authors, such as Lau and Scales (2016) and Hiraldo and Tanner (2011), that communities should not be treated as homogenous nor as having unified shared interests. Forsyth (2003) also writes about how the concept of 'community' swallows up social divisions that exist including land tenure, gender, caste, age etcetera.

Development practice classifies five types of livelihood assets, human, financial, social and political, natural, and physical (Mahanty et al., 2006). Building sustainable livelihoods is linked to the access and use that an individual or community can have to the five livelihood assets (Mahanty et al., 2006). Aside from altering community forest management institutions, REDD+ in its design and implementation, can also alter livelihoods of communities by impacting any or all of these five assets (Newton et al., 2015; Veronesi et al., 2015). Some scholars examine the role of REDD+ in poverty alleviation, asking key questions of who is engaged/able to participate, which actors are missed out, who is considered poor, what obstacles prevent engagement and what impacts the schemes have on people (Groom and Palmer, 2012). In considering the uptake of livelihood and development issues under a REDD+ scheme, establishing a baseline on livelihoods¹⁵ is helpful practice (Groom and Palmer, 2012) to ascertain REDD+'s impact. Groom and Palmer (2012) call for the development of different policy scenarios that would showcase the potential trade-offs in each case. This would serve to inform policymakers on the most appropriate design vis-à-vis the established aims of REDD+ and the national development plans for rural development. In Cameroon, Somorin et al. (2014) found that the national development efforts such as energy security and rural development were quite disconnected from the REDD+ process.

Impacts on community livelihoods from forgone opportunities would be

¹⁵ Livelihood characteristics and conditions of the community before the REDD+ scheme was introduced.

manifested both economically and socially (Mbatu, 2016). REDD+ must therefore pay for the cost of any forgone activity especially those that pertain to community livelihoods. Such payments should be higher and more attractive than the forgone opportunities (benefits) (Mbatu, 2016). In Maraseni et al.'s (2014) study of some Nepal pilot projects, they found that the local forest communities reduced the number of livestock that graze in the forests and also reduced the extraction of certain forest goods like NTFPs, leaf litter and twigs as an approach to maximising carbon benefits. Atela et al. (2015) make same claims about how REDD+, in some cases, leads to local communities getting restricted forest access and use. This is why payments over and above the opportunity cost and balancing carbon emission reductions with livelihood objectives and development is a legitimate concern for REDD+ policy (Brockhaus et al., 2014).

According to Groom and Palmer (2012: p.43), sustainability of REDD+ policy should not only reflect in the permanence of the emissions sequestered or avoided but also "maintenance of income and welfare gains". Without improved livelihoods, income or maintenance of welfare gains, local communities threaten the sustainability of REDD+ gains by preferring to convert forests to other land uses (Cadman et al., 2017). Groom and Palmer (2012) in their study of the N'hambita project in Mozambique, found that the carbon sequestration project in safeguarding REDD+ had built in an objective to provide alternative livelihoods (wage labour and microenterprises) to the local community. In the N'hambita project, these alternative livelihoods were important, as the carbon payments on their own did not improve household incomes. In some cases, REDD+ payments are made into an established community trust fund and the resources are used to construct health facilities, schools or roads as the case may be (Groom and Palmer, 2012).

2.4 Process of REDD+ implementation: Who, what and how?

Policy processes and strategy definition at the national level are key to REDD+ implementation. In striving for equity, global designs need to be localised to fit specific settings of implementation countries and areas (Atela et al., 2015).

There is no universal definition of equity and it most likely differs from one stakeholder group to another (Schroeder and McDermott, 2014; Nathan and Pasgaard, 2017).

Institutional leadership at the national level depends on the framing that governments give REDD+ as a forest programme or climate change programme (Somorin et al., 2014). However, of primary importance in REDD+ governance is the interactions between, roles of, and influence of, the various stakeholders at the national level in designing REDD+ policies, strategies and implementation (Susanti and Mayurdi, 2016; Somorin et al., 2014). “The actors who articulate and define policy problems do not act in isolation. They instead articulate the problem based on their interests” (Susanti and Mayurdi, 2016: p.131) and would most likely seek what is equitable to them. All actors therefore have a role in REDD+’s equitability.

Some have argued that equity is key for a successful REDD+ implementation especially when it comes to the sharing of benefits (Mbatu, 2016; Hiraldo and Tanner, 2011). Others have stated that equity concerns in REDD+ must not only cover the equitable allocation of benefits but the sharing of costs such as the opportunity and the implementation costs (Pasgaard et al., 2016; Githiru, 2016). This latter strand of equity concern is referred to as ‘distributive equity’ – i.e. who gets what. For example, the state of tenurial arrangements does impact who is identified as having a stake in the benefits and who suffers costs. Evans et al. (2014) make a case that the pressures of emission reduction through REDD+, should thus not fall solely on forest dependent communities. Achieving equitable distribution of REDD+ benefits, calls for attention to the existing forest benefit sharing systems vis-à-vis their equity performance.

Another component of equity featured in literature is ‘procedural equity’. This speaks to how the stakeholders are engaged in decision-making and what influence they are able to exert over the policy processes and implementation. With ‘procedural equity’ the concerns are who is invited to participate in what and how they participate (Pasgaard et al., 2016; Cadman et al., 2017). Procedural equity provides insight into the different minds, experiences, interests and identities of different stakeholders to shape the policy process.

The third component of equity, which has received very little attention in the past but increasingly features in recent scholarship, is 'contextual equity'. This concerns the context within which REDD+ is implemented. What do existing politics, capabilities, access and power mean for REDD+ implementation? In some countries like Cameroon that have undergone reforms for the forest sector and enacted suitable laws and policies, the issue of inequality still arises from corruption, lack of transparency or accountability, and marginalisation by elites in the traditional logging industry (Mbatu, 2015). As the foundation for REDD+, this has implications for equity. Tackling contextual equity would mean a focus on the social and political underpinnings that serve as the root causes of inequality (Di Gregorio et al., 2013; Schroeder and McDermott, 2014).

2.4.1 Actors

State

The UNFCCC in 'Decision 2/CP.17' mandated states to coordinate and support national REDD+ policy approaches within their national jurisdictions (Atela et al, 2015). States are also the official channels through which any payments for a national REDD+ scheme would be sent (Schroeder and McDermott, 2014). Furthermore, states in their official role as negotiators to the UNFCCC, are powerful in handling and controlling, first hand, REDD+ information. Wibowo and Giessen (2015) support this claim with their finding of how the Indonesian Ministry of Forestry maintained and increased its overall power in many fields stemming from being the dominant source of information. In that privileged position, state authorities can exercise power over other stakeholders through withholding information, altering information, controlling what information to give stakeholders etcetera. This makes states key actors in how equity features in the phases of REDD+ readiness, REDD+ implementation and REDD+ payments for emission reductions. The state plays a significant role in the REDD+ process in all the various implementing countries across the globe such as Vietnam, Papua New Guinea, Brazil, Cameroon and Indonesia (Brockhaus et al., 2014).

There are formal and informal institutions embedded in every governance structure. Formal institutions are deliberative and include rules, regulations and structures with mandates and enforceable characteristics (Somorin et al., 2014). States normally spearhead the enactment of these rules and regulations. The state is responsible for enacting national level REDD+ policy frameworks, which will spell out the rules and principles to which national-level REDD+ programmes, jurisdictional REDD+ programmes or standalone REDD+ projects would conform (Groom and Palmer, 2012). The legal backing and mandate to 'make things happen' rests with the government. Challenges that may impede the work of states or the achievement of equitable processes and outcomes include weak institutional capacity, corruption, lack of transparency and bureaucracy among others (Atela et al., 2015). In addition, there are informal institutions and relations that also exist and in some cases work invisibly to influence state policy processes.

Even though states play the leading roles in REDD+ negotiations at the international level, equity concerns dictate that the notion of 'governance beyond government' would be valuable in the design and implementation of national REDD+ policies and schemes (Somorin et al., 2014). Where states refuse to engage other stakeholders and implement approaches that do not integrate stakeholder interests, concerns and ideas, and further capture benefits from REDD+, then injustice will result (Suiseeya, 2016).

Markets/Private Sector

The private sector is another group of actors engaged in REDD+ at the national level representing their own set of interests (Dixon and Chillies, 2015). The private sector actors in the market are primarily concerned with returns on investments in a REDD+ carbon crediting system (Mbatu, 2016). Markets shape the climate regime more broadly with the framing of solutions being 'win-win' (Rowe, 2015). The market/private sector funding was not deemed suitable for the first phase of REDD+, which involved creating conducive environment for REDD+ like law reforms and capacity building. These activities are considered unprofitable for the private sector, as they do not yield any direct profits. Despite not putting money into creating enabling environments for REDD+, private sector actors and business

interests lobby and influence the political system in the background (Brockhaus et al., 2014).

Markets delivering REDD+ means that the carbon prices must be at such a level that it is more than the opportunity cost. Farmers and communities that engage in REDD+ serviced by the market may be faced with periods when the carbon credits market is in a slump (Lederer, 2015) and so payments may not be better and above the opportunity costs and implementation costs (Githiru, 2016). Market payments based on carbon increments were regarded as unattractive in Maraseni et al.'s (2014) study of Community Forest User Groups in Nepal as payments would not be able to meet operational costs and opportunity costs incurred in the implementation of REDD+ schemes. Maraseni et al. (2014) dub markets deleterious to the sustainability of stakeholder engagement and involvement in the REDD+ process.

Some scholars criticise markets over the possibility of using offsets for REDD+; a neoliberalist approach that, it is argued, would secure "the property rights of heavy northern fossil fuel users over the world's carbon-absorbing capacity while creating new opportunities for corporate profit through trade" (Cabello and Gilbertson, 2012: p.165). Such markets in REDD+ would most likely support corporate interests at the expense of other actors like forest communities (Cadman et al., 2017; Vatn and Vedeld, 2013; Cabello and Gilbertson, 2012; Matt and Okereke, 2015; Hiraldo and Tanner, 2011). A new market regime would mean commodifying forest carbon and establishing property rights which would restrict forest resource access and require the purchase of forest products that are not affordable by forest communities. Markets requiring the establishment of 'carbon rights' to incentivise the right people, poses equitable risks in that elites and persons in positions of power may gain such 'carbon rights' and marginalise other stakeholders, especially local forest communities. Cabello and Gilbertson (2012) make specific reference to women who previously had free access to forest resources for their livelihoods and survival being discriminated against.

In places where private land tenure and ownership is secure, landowners are signing up for independent projects that are run by private actors and conservation NGOs. An example of such a project is in Kenya and renowned as one of the first REDD+ projects for the voluntary carbon market - Kasigau Corridor REDD+ project (Githiru, 2016). On the Kasigau project, landowners signed up to the project were educated on the vagaries of the market as carbon prices fluctuate over periods and are likely to be lesser in value vis-à-vis costs encountered by landowners and farmers at certain times (Githiru, 2016). Considering that contracts are for a period of time, a failing carbon market within the time the contract is active, would restrain the wellbeing of these landowners. Though a market system aims to cost-effectively reduce emissions from deforestation and forest degradation, it presents an inter-generational equity problem as it may only shift emissions from one place to another. According to Suiseeya (2016: p.5), there are “five core technical challenges that could undermine its (market) effectiveness: measurement, reporting, verification, permanence, and leakage”.

Civil Society Organisations

CSO actors are considered key in advancing ‘governance over government’ regimes in many countries across the globe (Forsyth, 2003). CSOs are an instrumental force in the transition from authoritarian to democratic governance (Lyster, 2011). CSOs current mode of operation has evolved from the past when the main role was to act as government ‘watchdogs’; now CSOs have funding to channel alternative governance arrangements to what governments embark on with aims of serving as lessons of best practice for governments (Bryant and Bailey, 1997). CSOs are either formal organisations or a group of concerned people who come together to champion a cause and act on their agency. CSOs involved in REDD+ processes, lead avenues that foster multi-stakeholder engagements and serve as bridges¹⁶ between national processes and local implementation (Newton et al., 2015; Forsyth, 2003). CSO roles are evidenced in REDD+ proposals and strategies prepared by implementing countries in their Readiness Preparation Proposals to the FCPF such as Nepal, Tanzania, Ghana etcetera. Using Brazil and Nepal as

¹⁶ “There is evidence that international donors have targeted civil society strengthening as integral to realigning state-society relations so as to expand citizen participation and reinforce state responsiveness and accountability” (Lyster, 2011: p.126).

examples, Brockhaus et al. (2014) make a case concerning how well organised and out-spoken civil society (deriving from a long history of community forestry), is contributing to a more effective and equitable REDD+ policy development.

CSOs are mostly funded by external agencies or sub-funded by other international NGOs/CSOs. As fund-recipients, CSOs are faced with maintaining their interests and 'brand' to remain legitimate whilst meeting the goals of their funders (Gallemore and Jespersen, 2016). Donors and funders as elucidated in the next section of this chapter, also have their own agenda to pursue. In the REDD+ discourse, policy formulation and implementation, CSOs are well known for campaigning on elements that promote equity including: ensuring security of tenure; recognising community rights; respecting indigenous and local community knowledge; participation of forest dependent communities; and fair benefit sharing (Fosci, 2013). Some CSOs hold sceptical views on carbon markets and argue that markets cannot achieve the equity and environmental integrity that is needed under REDD+ (Fosci, 2013). There has therefore been increased pressure on governments by CSOs regarding the institution of social and environmental safeguards for climate finance (Cadman et al., 2017).

The challenge with CSOs as an actor constellation is the myriad of organisations that exist within the forest-climate sector with varying interests in REDD+. As CSOs do not organise and come together in forming coalitions/platforms in all cases, state governments with limited resources are not able to engage all CSOs. The lack of a concerted front or platform weakens the agency of CSOs. Furthermore, state governments, in inviting CSOs to engage in decision-making, may select those they consider allies or those more recognised. The lack of a platform for organised CSOs creates complexities around participatory processes such as contending which CSO should be involved, on whose behalf are they involved, and whether the agenda they are advancing is reflective of the larger group. In addition, Lyster (2011: p.126) draws attention to how any "effective rights of participation in REDD+ decision-making will depend in large measure on the political space and freedom that civil society enjoys in any given jurisdiction". In the same study, the example is given of the swelling number of CSOs in Indonesia as the political

environment transforms to a more open one and they are able to establish their rights (Lyster, 2011).

There is a downside to the operation of CSOs in some places; rather than being promoters of equity, they produce inequity in the REDD+ process. Pasgaard et al. (2016) report that some CSOs in REDD+ dominate project design and implementation and, in effect, alienate or marginalise local groups. Locals also felt coerced into subscribing to project objectives. In attempting to speak on behalf of communities, CSOs may project their own defined values onto the groups they seek to help (Forsyth, 2003).

Donor Communities

The donor community comprises developed country donor agencies, foundations, firms, and multi-lateral organisations (Galemore and Jespersen (2016). Under REDD+, some of the main funding agencies are the World Bank (FCPF), African Development Bank, NORAD, European Union; German International Development Cooperation (GIZ); and UNREDD (FAO, UNDP, UNEP) (Dixon and Challies, 2015). Support in the form of technical and/or financial resources from the donor community to the REDD+ process is immense¹⁷ and transforms REDD+ from being merely a concept to an actualised policy mechanism. The majority of REDD+ funding channelled to developing countries has gone towards actions and activities to create enabling policy environments for REDD+ implementation (Dixon and Challies, 2015). The beneficiaries of donor funds have been mainly state governments and CSOs.

By controlling resources (financial or technical), donors and governments of developed countries wield influence over processes and outcomes in REDD+ (Cadman et al., 2017). Donors¹⁸ have their own interests that get pushed into the agenda or policies of the recipient countries. Donors therefore impact equity in REDD+ policy discourse and implementation arrangements (Somorin et al., 2014).

¹⁷ The 13th and 15th COPs to the UNFCCC requested developed countries and financial bodies support developing countries in their REDD+ implementation (Atela, 2016).

¹⁸ Under the UNFCCC, developed countries are referred to as 'donor countries', and they provide support via implementing agencies like the World Bank (Cadman et al., 2017).

Leggett and Lovell's (2012) study lends support to the idea that the driving force behind REDD+ direction and focus is donors and multilateral institutions. The interests of donors frame their understanding of what REDD+ should look like (Schroeder and McDermott, 2014). This means the myriad funding agencies impact equity in various ways as interests differ.

Components of REDD+ that receive funding (and therefore increased attention) depend to a large extent on the resources available as in allocation of funds, donors seek organisations and governments that support their mandate (Gallemore and Jespersen, 2016). Equity concerns arise around what is supported and what is not; which organisation is empowered via access to funds and which ones are not. These impact the REDD+ design, process and implementation. Evidence is strewn across literature from the early development years of REDD+ when funding was concentrated on the technical aspects of REDD+ (e.g. monitoring, reporting and verification systems) and limited funding channelled to stakeholder engagement and participation (Saeed, 2015; Paudel et al., 2015). The result was a greater focus on carbon credits at the expense of social and socio-economic equity, as seen in Nepal (Ojha et al., 2013).

Donors occasionally mediate information flow between state and non-state actors within the countries they operate in (Somorin et al., 2014). Some donors play lead roles in REDD+ including facilitating policy reviews and engaging in decisions as demonstrated in literature e.g. in Cameroon (Somorin et al., 2014), Tanzania (Koch, 2016) and Zambia (Kamelarczyk and Gamborg, 2014). Wibowo and Giessen (2015), in studying REDD+ in Indonesia, show how international actors affect domestic governance; for example by engaging with other government bureaucracies, donors reduced the power of the Indonesian Ministry of Forestry. Apart from being primary participants in REDD+ processes, donors sometimes remain in the background but offer advice or stipulate actions tied to their provision of funds. For instance, Norway's partnership with Indonesia on the latter's REDD+ programme, was used to influence the creation of new bureaucracies like the REDD+ agency, which gained relative and absolute power (Wibowo and Giessen, 2015). A further example of such aid terms is work activities to be completed using foreign or external experts opposed to local

experts and consultants. In interviewing government officials in Zambia, Kamelarczyk and Gamborg (2014) had several respondents mention that donors encouraged the use of consultants to ensure quality outputs. The use of foreign experts has implications for equity in the national REDD+ process as it likely imports foreign constructs at the expense of local demands (Koch, 2016). According to Koch (2016) this has a crucial effect, as documents presented as locally produced are actually shaped by foreign constructs and beliefs. In the case of REDD+, this would be the national strategies and policies.

In some cases, governments tweak the national agenda to align in some way with the donor interests, disguised as expert advice. For instance, FCPF, the intermediary fund for REDD+ operated by the World Bank, changed the 'consent' in Free Prior and Informed Consent to 'consultation' and its recipient countries adopted the change in their REDD+ processes (Cabello and Gilbertson, 2012). A lot of criticisms were levelled against the FCPF for not protecting community rights and for rushed consultations and processes (Dooley et al., 2011). Koch (2016) cautions that governments and civil society sometimes 'hide' behind their donors to pursue their own interests; agendas are changed to reflect donor priorities but fund recipients do not change anything in practice which causes implementation deficit. In both direct and indirect engagement with REDD+ in-country processes, donors affect the equity considerations between and within stakeholders in government, private sector and civil society, and on issues¹⁹.

Local communities

There is increased focus on community forest management as forests have gained more global recognition in their role against climate change. However, the institutions, structures and approaches adopted across local sites of community forest governance vary (Newton et al., 2016). Understanding how the different elements contribute to the outcomes intended for community forest management areas where REDD+ schemes are implemented is important (Newton et al., 2016). Approximately 22% of global forests are owned and managed by communities

¹⁹ Material power and dominant knowledge of donors causes them to possess relatively higher discursive power to influence stakeholders and policies (Koch, 2016).

(Evans et al., 2014; Maraseni et al., 2014). This somewhat validates the essence of local forest communities for REDD+ schemes. Furthermore, part of the forests in developing countries that are ‘de jure’²⁰ government owned, are ‘de facto’²¹ managed by communities (Bluffstone et al., 2013). Forests are critical for local communities as they represent different elements to different groups, a source of identity, local livelihoods, medicinal value, spiritual value etcetera.

Clarified and formalised tenure (stronger property rights) has been widely discussed as a fundamental enabling condition for the implementation of REDD+ (Veronesi et al., 2015). It is, to an extent, a deterministic factor of who identifies as a relevant stakeholder, participates in REDD+ decision-making, enjoys benefit distribution and seeks conflict management (Paudel et al., 2015; Newton et al., 2015; Suiseeya, 2016; Mbatu, 2016). A lack of secure tenure rights is detrimental to local communities who live and rely on the forests directly and/or indirectly as their participation, benefits and rights under a REDD+ scheme would not be guaranteed (Mbatu, 2016; Špirić et al., 2016). The Kasigau Corridor REDD+ project implemented by Wildlife Works in Kenya, engaged the wider community in consultations after holding FPIC processes with rights holders. The inclusion of the landless in the consultation process as key stakeholders in the community was met with some resistance from the landowners (Githiru, 2016). This showcases the role that property rights play within REDD+ implementation. Tenure/property rights²² fall within the categories of state-owned, private property or collective ownership (Paudel et al., 2015). Clarifying property rights does not automatically solve all the problems that come with using forests to address climate change, but it can contribute to the increase in forest cover (Paudel et al., 2015).

Collective action in management of a common property resource is regarded as a form of social coordination in which concerted effort of community members is channelled towards sustainable management and use (Bryant and Bailey, 1997; Bluffstone et al., 2013). According to literature, collective action is most assured when the members of the user group have a collective identity and shared

²⁰ According to law.

²¹ In reality but not necessarily backed legally.

²² Property rights over forest lands refer to the rights in control and management of forests and over the accruing forest benefits (Bluffstone et al., 2013).

understanding (Mosimane et al., 2012). Collective forest management by communities differs from place to place with options of full control and access or collaborative management between states and/or the private sector with forest dependent communities. For example, in Tanzania, there is joint/participatory forest management (PFM)²³ which is a sharing of responsibilities and benefits between other actors and communities (Newton et al., 2015); while in places like Nepal, there is community forest management, which is full control and rights to the communities.

According to Lyster (2011), there is evidence that collective forest management is successful and designating common property resources also fosters sustainable forest use. Atela et al. (2015), in their study of a globally-linked REDD+ project in Kenya, found that peasant farmers were able to benefit from the project when communal lands were included and that kept them from exploiting protected forests for charcoal production. Newton et al. (2016) also contribute more insight from their study on how legally designated community forests managed collectively by less ethnically diverse community groups, recorded higher carbon values. Strong sense of ownership by local forest communities is asserted to lead to better forest management and collective action in stamping out illegal activities that lead to the reduction of forest cover (Paudel et al., 2015; Cadman et al., 2017; Mosimane et al., 2012). This is attributable to the fact that decisions are more likely to be accepted and adopted by the local communities (Holmgren, 2013; Mbatu, 2016).

Communities with property rights maintain power in the relationship they have with other actors especially those foreign to the community (Lyster, 2011). The power to assert control and make decisions possibly incentivises judicial resource use (Špirić et al., 2016). Communities must be able to assert their property rights to access the benefits from a successful REDD+ scheme that leads to emission reductions. These rights to claim benefits are “ineffectual without the institutional capacity to claim, and fully utilise, them” (Lyster, 2011; p.123). Pasgaard et al. (2016) also found that community-based monitoring promoted accountability and encouraged equitable benefit sharing. The quality of CFM to sustainable forest

²³ PFM seems to produce much more effective forest preservation results than sole authority and management by national government (Newton et al., 2015).

management differs from case to case (Newton et al., 2015). There have been concerns noted about how some local community members and local elites have acquired dominant control and pursued actions that meet their individual interests at the expense of other community forest managers and users (Krott et al., 2014; Lockwood et al., 2010).

Despite the celebrated successes of collective action, there is cause for concern about how such systems become unstable and are disrupted by new and external initiatives like REDD+ (Bluffstone et al., 2013). In effect, community forestry arrangements may not be simply adoptable for REDD+ implementation without adapting to fit the REDD+ objectives (Newton et al., 2015). REDD+ can also promote and lead to the establishment of more community forestry systems for its implementation (Maraseni et al., 2014). Ostrom (1990) proposes a set of collective action principles for success in managing common property resources. These principles, treated in-depth in Chapter 4, are essential considerations in using collective action for REDD+.

CHAPTER THREE: THEORETICAL FRAMEWORK

3.1 Introduction

This thesis is exploratory in nature. It is problem focused and draws on knowledge from sustainability science, political science, and human geography to examine how processes of REDD+ are institutionalised and mediated into local spaces of contested forest governance. In particular the thesis engages with concepts that underpin ideas on the nested nature of local environmental use and management of REDD+ forests with broader understandings of how REDD+ is unfolding globally in various countries and how REDD+ forest governance is mediated through governance frameworks, constellations of actors, and justice in implementing processes. These ideas are joined through an amalgam of the concepts of Ostrom's (1990) 'Collective action principles for common property resources', McDermott et al's (2013) 'Equity Framework' and Agrawal's (2005) 'Environmentality', forming a new framework through which the findings of this thesis are analysed. Subsection 3.1.1.1, which explores national processes, sets the basis for analysis carried out in chapters 5 and 6. Subsection 3.1.1.2 on power and knowledge interplay between institutions links to chapter 7 (cross-scale institutions) and 8 (community institutions) and the final subsection on how local communities are impacted is relevant to chapter 9 (Subjectivity).

3.1.1 Linking concepts, processes and community impacts

This thesis engages with an original framework conceived under this study that brings together the concepts of collective action principles for common property resources (Ostrom, 1990), Equity framework (McDermott et al, 2013) and Environmentality (Agrawal, 2005a), which I term *REDD+ localization analysis* (RLA). Based on ethnographic analyses across scales, these three scholars developed the aforementioned concepts that were considered and pooled together under this study's analytical framework.

Principles for effective governance of Common Property Resources developed by Ostrom (1990) based on several forest management and governance studies forms

the basis through which this thesis examines actors and institutions in REDD+. Institutions, as “human constructs designed to steer behavior such as principles, norms, rules or collective decision-making mechanisms” (Lima et al., 2017: p. 11) are essential for governing REDD+. The framework acknowledges that there are both formal and informal rules, norms, decision-making structures that govern the design and implementation of REDD+ localization. The informal and formal processes are mutually affective and are deterministic of the shape, form and performance of REDD+ programmes. In addition to the myriad of institutions affecting the actions of actors at the same time, institutions also affect the performance and development of other institutions (Lima et al., 2017). The application of commons resource institutions (e.g. Ostrom, 1990) as one of the tenets of this study’s analytical framework, provides a balanced understanding of local regulatory institutions and allows the study to investigate how knowledge-equity is playing out in the process and therefore what impacts are emerging at the local level. The character of REDD+ necessitates the use of cross-scale and cross-level institutional arrangements and actor engagement from the level of international discourse, through national policy making to local implementation levels. Through engagements of actors and institutions, between actors and between institutions, knowledge is formed, transformed, disseminated and applied in various ways.

Knowledge-equity is a factor that determines social equity and inequities and the power relationships that exist (Jaffe, 2017). Knowledge-equity paradigm may shift social inequities or compound existing inequities within environmental governance regimes. With novel programmes such as REDD+, “new and more vehicles are needed in which different and transformative knowledges can chart new possibilities, practices and meanings” (Jaffe, 2017; p. 391) for forest peoples. Knowledge-equity and power delves into the creation of knowledge, who creates the knowledge (including co-production), how the knowledge is shared amongst REDD+ actors, and what forms of knowledge are created. For collective resource management in REDD+, “new modes of knowledge and research and new possibilities for action” (Jaffe, 2017; p. 405) are needed. McDermott et al’s (2013) ‘equity framework’ provides a comprehensive and systematic approach to

analyzing how institutions mediate equity. The framework distinguishes several dimensions of equity, including distributive, procedural and contextual equity.

The institutions mediating REDD+ and the knowledge-equity and power relationships produced have a bearing on the impacts that emerge on the ground specifically, how people come to care about REDD+ mechanism or not. How people embrace REDD+ is key to its institutionalization at the local level. Combining and applying the aforementioned concepts provided a well-balanced understanding of knowledge/power, and environmental subjectivities that are generated and/or how they are impacted (Agrawal, 2005a).

REDD+ localization analysis (RLA) opens up questions of how REDD+ is institutionalized locally, who is involved in mediating the knowledge that encompasses REDD+ and what changes in local identities come about through such global mechanisms? Features of RLA present a lens for examining social change over time in relation to the environment and can be applied to a broad suite of environmental concerns, where specific government strategies are a result of efforts to regulate, based on observations and assessments of natural resource systems, such as forest management or global climate change. In summary, the analytical framework under this study is characterized by three key aspects: firstly, forms of regulatory dispersal through which informal and formal rules govern the environment; secondly, knowledge-equity and power; and finally, the way that regulatory mechanisms and knowledge influence (or not) the formation of subjects as a way to understand behavioral change (See Figure 3.1 below).

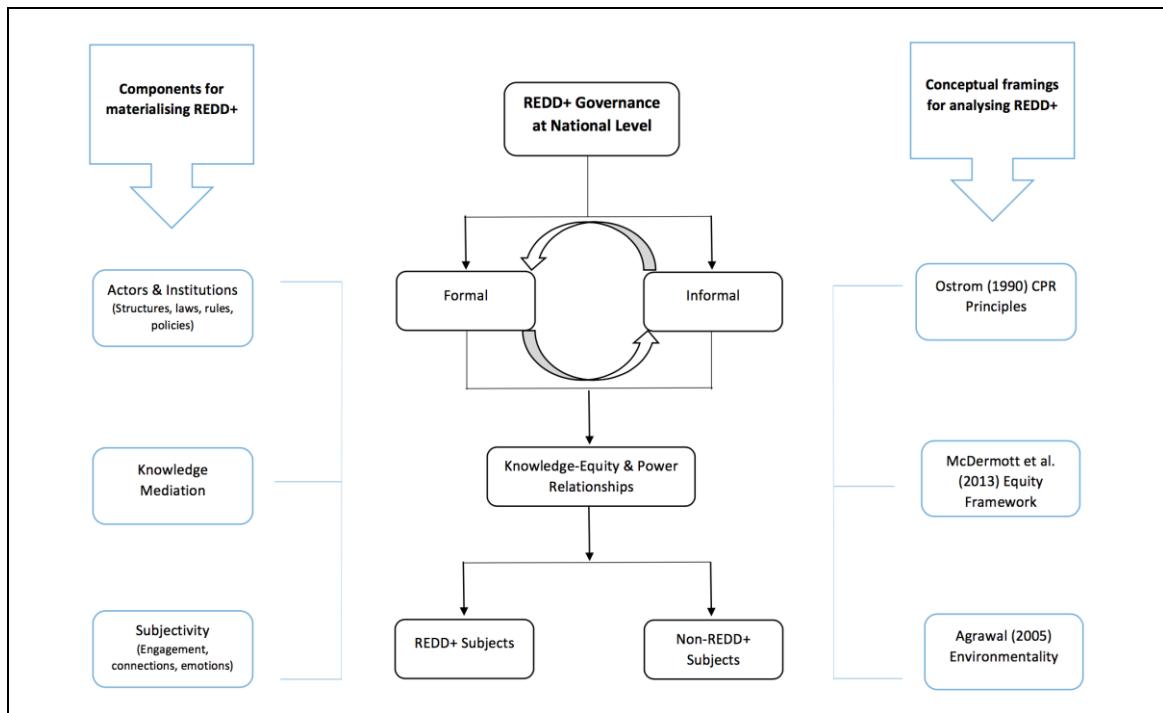


Figure 3.1: REDD+ localization analysis Framework (source: Author, 2017)

3.1.1.1 Exploring the shaping of successful or just national processes, and between national processes and local communities

States, by 'Decision 2/CP 17' are mandated by UNFCCC to coordinate and support REDD+ implementation within their national jurisdictions, making them key role players in REDD+ processes (Atela et al, 2015). However, limited technical capacity, resource constraints, or lack of political will by states, tends to create a disconnect between international initiatives and national implementation (Tanner and Allouche, 2011). In an era of contemporary environmental problems that demand 'governance over government' (Lockwood et al., 2010), REDD+ implementation extends beyond the state to other actors. Furthermore, REDD+ involves different land-use related sectors calling into significance the existing relationships between institutions across vertical scales and within horizontal scales and how these relationships shape and are (re)shaped by REDD+ (Wibowo and Giessen, 2015). The institutional leadership of REDD+ is reliant, to an extent, on the framing that national governments give to the mechanism – that is, as a climate change programme or as a forestry programme (Somorin et al., 2014). In

addressing this issue of institutions, Suiseeya (2016) warns that no institutional design is a silver bullet for achieving just forest carbon interventions.

As part of a suite of enabling conditions necessary for a successful REDD+ scheme, Brockhaus et al., (2014) argue for improved cross-sectoral policy coordination and for the disintegration of any and all political power structures that are deleterious to forests. This is not easy to achieve in practice, as some REDD+ countries (e.g. Brazil and Indonesia) encounter resistance to change at the national level. Resistance has been strongest in countries with higher deforestation and degradation rates stemming from deep political economies of large-scale operations in the forest sector. To realise any change at the national level, the greatest contention is the institutionalised policies that have led to the formation of powerful interest groups/political structures (Brockhaus et al., 2014). For example, in Ghana, powerful interest groups benefiting from timber exploitation were identified as likely to resist change (Pasgaard et al., 2016; Hansen et al., 2009). Actors willing to protect their work mandates by maintaining the status quo frustrate cross-sectoral coordination efforts (Shannon, 2003). Other elements required for improving cross-sectoral coordination include knowledge and information exchanges between stakeholders from different sectors, inclusive policy formulation networks, and improved and meaningful participatory processes (Brockhaus et al., 2014).

With drivers of deforestation and degradation extending beyond the forest sector, the interplay between sectors, ministries and organisations is important for a holistic approach to tackling the drivers. Cross-sectoral coordination does not have to be within government agencies only but across the private sector and CSOs that work in the different sectors. In many national REDD+ schemes, there are multi-stakeholder policy platforms that bring together representatives of government (ministries, departments, agencies), private actors (industrial loggers, carbon investors) and CSOs (NGOs, indigenous peoples organisations, local community groups, chieftaincy groups). Paudel et al. (2015) in their study contrast the effectiveness of such multi-stakeholder platforms. They found that in Nepal, the private sector and the CSOs had a weak presence on multi-stakeholder platforms.

Using multi-stakeholder platforms means that many national processes are based on stakeholder representation. This eliminates “a large network of forest officials, hundreds of NGOs and diverse groups of forest dependent communities” (Paudel et al., 2015: p.6) from the national process. Stakeholders across the national level therefore have varied levels of capacity and information in engaging in REDD+ deliberations and influencing the process (Paudel et al., 2015).

Somorin et al. (2014) assert that REDD+ institutions at the national and local levels will vary in details vis-à-vis their development and operationalisation thereby calling into question approaches to considering these varying elements and harmonizing efforts across scales. The way processes pan out at the national policy level impacts the interplay at the local implementation level (Atela et al., 2016). Policy dictates actions and so any enacted REDD+ policies that are a result of poor processes would be reflected in local level implementation. According to (Atela et al., 2016; p.45), “positive interplay creates enabling conditions (capacity, institutions and investments) for local on-the-ground implementation of REDD+ while negative interplay at the national level impedes the same”. For instance, a policy decision at the national level is drawn by mainly state organisations and recentralises forest ownership and management. The interplay between the national and local levels could lead to militarised anti-deforestation task forces enforcing logging bans, as is evident in Nigeria (Asiyanbi, 2016); or for instance, the expansion of and declaration of new protected areas, as in Nepal (Paudel et al., 2015). Delivering an effective, efficient and equitable REDD+ is reliant on national and local state institutions together with CSOs coordinating and cooperating (Newton et al., 2015). As discussed earlier in this chapter, the community forest management (CFM) concept and existing CFM institutions can be useful in the interplay of national policy and local implementation (Newton et al., 2015). These community institutions shape the relationship between livelihoods and REDD+ and further promote community claim to benefits (Atela et al., 2016; Morales and Harris, 2014). Conversely, in Kenya, Atela et al. (2016) discovered that despite decentralised forest management, communities were limited in their involvement at the national level on grounds of limited capacity (financial and technical).

Participation in natural resource governance has been treated across global discourses and featured in international UN conventions like the Aarhus Convention (Morales and Harris, 2014). However, participatory governance initiatives are not without shortfalls as concerns have been raised about some marginalising certain populations and at times, normalising inequity (Morales and Harris, 2014). Although quality of participation affects institutional interplay at national level and between national level and local level, it is an “undeniable reality that sustainable and equitable participation is exceedingly difficult to achieve in practice” (Morales and Harris, 2014: p.703). This creates a challenge in natural resource management as participation may sometimes be superficial – a ‘tick the box’ exercise – and would therefore not address social inequalities or address resource governance problems (Morales and Harris, 2014).

REDD+ payments are conditional on additionality and therefore require a way of measuring and verifying the avoided emissions. According to Vijge (2015), the activities of REDD+ implementation are couched around three schools of thought – there is the ‘expert-based’, which is the use of scientific and technocratic trained personnel; then the ‘expert-based devolution’ which is dependent on experts to design, monitor and interpret data but with limited devolution of activities to local communities especially in data collection; and finally there is the ‘collaborative approach’ which involves local communities to a higher degree than the former two, like designing MRV systems, and analysing and interpreting data collected. The latter, according to Vijge (2015) is scarce in REDD+. Though local communities are able to shape REDD+ processes with ideas developed through beliefs and practice (Mbatu, 2016), education and training under a REDD+ regime would facilitate local communities’ skills to represent their interests (Maraseni et al., 2014). Newton et al. (2015) propose training for local forest community dwellers in monitoring forests and livelihood outcomes. They further advocate that “greater institutional coordination, equitable benefit sharing mechanisms and higher community capacity for monitoring, reporting and verification are key areas needing change” (p.27).

3.1.1.2 Examining power and knowledge interplay between institutions forming frameworks

REDD+ as a novel policy mechanism for carbon sequestration and storage relies on new knowledge to manage forest resources differently. REDD+ thus concerns elements of knowledge production (ideas/science/research/discourse) and knowledge utilisation (the politics of it) (Kamelarczyk and Gamborg, 2014; Hiraldo and Tanner, 2011). How specific knowledge is formed and transformed for the formulation and implementation of REDD+ policy is a complex governance process (Cabello and Gilbertson, 2012). Those with the ability to influence, tend to shape the knowledge that is produced and how it is used. Additionally, actors who have access to expert scientific knowledge (e.g. from UNFCCC processes), become more powerful in influencing policy. Having information, especially on an ever-evolving mechanism such as REDD+, is a strategic approach to accumulating power (Susanti and Mayurdi, 2016). There are quite a number of authors that explore how information and other knowledge-based resources available to policy makers influence natural resource management outcomes, lives of local forest communities and relevant stakeholders (Mbatu, 2016; Lockwood et al., 2010; Folke et al., 2005). The important role information plays in REDD+ is further evident from its feature as one of the elements in the 4Is framework propounded by Angelsen et al. (2012). Wibowo and Giessen (2015) report on an Indonesian study by Moeliono et al. (2014) that indicates how influential actors did not seek nor obtain information from other actors. As actors kept to their formal mandates and competed to get more staff and fund allocations, this weakened the information exchange and knowledge network of REDD+. Wibowo and Giessen (2015) report that the relative power of the Indonesian Ministry of Forestry declined as responsibilities and tasks were shared with other agencies. Arguably, as tasks and responsibilities are no longer the sole purview of one organisation, the power that the organisation wields dissipates. The implicit sectoral control on power around resource control leads to path dependencies and makes the objective of transformational change under REDD+ challenging (Atela et al., 2016).

Knowledge is also created through discourse for policy formulation and implementation (Brockhaus et al., 2014). In the process, actors that subscribe to

the same or similar discourse narratives and understandings, form strategic coalitions to deepen their ‘power of influence’ (agency) (Brockhaus et al., 2014; Bryant and Bailey, 1997). Rowe (2015) in a study of power at international negotiations, draws attention to the gap around what counts as power in REDD+ space and how this power is exercised. This gap extends from the international level to local spaces of REDD+ implementation. “Power” in this context refers to the ability of actors to influence forestry and land use decisions such that the outcomes of these decision processes serve their interests” (Brockhaus et al., 2014: p.24). Power therefore is relational and not stagnant (Brockhaus et al., 2014; Foucault, 1979); an actor’s power shifts and changes temporally and spatially in relation to changing elements. Power can be manifested in the control of resources (i.e. access) and in the control of societal prioritisation of environmental problems (i.e. decision-making) (Bryant and Bailey, 1997).

Possessing the requisite knowledge facilitates actors’ engagement in discourse to therefore shape policy and implementation (Gupta, 2012). Effective participation changes the dynamics of power and redistributes it between the advantaged and disadvantaged and qualifies actors to claim benefits that are due them (Maraseni et al., 2014). In PNG, the provision of “transparent and complete information on REDD+ in a suitable format” to communities, is considered a form of empowerment (Brockhaus et al., 2014: p.28). The absence of knowledge on a given issue invokes emotions of shame and a lack of confidence, which then frustrates participation in the process thereby making the contribution nil or, at best, minimal (Morales and Harris, 2014). Conversely, those with knowledge possess power that is exercised over those without by making inputs and influencing the process, so they benefit (Asiyanbi, 2016; Kamelarczyk and Gamborg, 2014). Cadman et al. (2017) refer to this as “differential participation”²⁴ and caution that the required change from implementing REDD+ would most likely not result in such circumstances. Where power is exercised in natural resource access, it leads to a marginalisation of weaker actors (Bryant and Bailey, 1997). According to Tanner and Allouche (2011; p.6), the exercise of “power can be seen as both relational *and* structural (relational being the ability of actors to compel others to

²⁴ Policy makers have more access and corresponding influence in a process than other stakeholders, especially local forest communities (Cadman et al., 2017)

change their policies, while structural power refers to authority, or 'power over' outcomes in global frameworks of security, finance, production and knowledge relationships). Krott et al. (2014) argue that 'power' that is not used to influence the position of other actors, does not translate as power, but merely 'capabilities'.

There is a techno-scientific framing of REDD+ and use of technical experts, which makes community engagement difficult (Koch, 2016). This framing gives states and experts an edge over local communities as it fosters a notion that states and other high-level policy institutions are more capable of managing REDD+ than local communities (Newton et al., 2015). States therefore assume a relatively more powerful role; powerful enough to recentralise forest management (Koch, 2016). Špirić et al. (2016) in their study of the legitimacy of Mexico's REDD+ readiness process, concluded that there was increased centralisation of REDD+ policy making in national processes. They found that the state, donors, international NGOs and some CSOs were the predominant actors, as opposed to the local communities. In contrast, Vijge (2015) divulged that many of the project stakeholders interviewed believed that the use of technical experts fosters local community knowledge and capacity, as opposed to making them less powerful.

3.1.1.3 Understanding how local communities are impacted

Interest in the formation of 'green subjects' or 'environmentality' as introduced by Agrawal (2005a) is increasingly adopted to deepen understanding of how and why people come to care about the environment vis-à-vis emerging global environmental governance regime initiatives (Morales and Harris, 2014: p.706).

Lau and Scales (2016) intimate that 'space' and 'place' play key roles in shaping individual and group subjectivities. Subjectivity is shaped by context, and shifts as the prevailing circumstances shift (Lau and Scales, 2016). Time and space are factors that affect subjectivity. The interactions and intra-actions that occur in a given space, as part of lived experiences, shape individual and group subjectivities (Lau and Scales, 2016). Morales and Harris (2014), through various examples such as fishermen meeting with policy makers in their office (see Nightingale, 2011)

and Spanish speaking farm workers resisting relegation to the back of a meeting room (see Cole and Foster, 2001), demonstrate the importance of space in shaping or shifting subjectivities and how such subjectivities can be visibly manifested. Subjectivity can be a result of regulatory processes and prescriptions to narratives that legitimise approaches for “conduct of conduct” (Foucault, 1979; Morales and Harris, 2014). REDD+ subjectivity is how one understands their role in environmental sustainability within their social context and what it means and feels like to fulfil these roles, or not.

Cases have been made to demonstrate shifting subjectivities and the role that emotions have to play in that (Morales and Harris, 2014; Nightingale, 2011). When fishermen were together fishing, they internalised themselves with pride, power and competence, but once the situational context changed and they were in a meeting with others, there was a shift to powerlessness and discomfort. Lau and Scales (2016) draw attention to how subjectivity of the same person may vary when (s)he is with people of his/her stakeholder type – group subjectivity- and when (s)he is with other actor types who have a different narrative of the relationship between the person and natural resources – individual subjectivity- such as farmers together and a farmer with other policy level actors. The subjectivity one possesses or assumes at a particular time may be repositioned based on the experience being encountered (Lau and Scales, 2016; Morales and Harris, 2014).

“Subjectivity may reference a sense of identity (e.g., to feel as a woman or as a racial or ethnic minority)” (Morales and Harris, 2014: p.706). What people are perceived to be and how they see themselves contributes to what subjectivities they form. For instance, Lau and Scales (2016) conclude from their study of female oyster harvesters in The Gambia that emerging subjectivities were uniting and divisive. Though space was created for the women to engage and to see each other as belonging to one big ethnic group, there were still differences created as some women gained more capacity than others. When subjectivity is uniting and divisive at the same time, it inadvertently has implications for natural resource use and management. From the literature reviewed, time, place and power (relationships and regulatory control) all have a bearing on how subjects are formed (Lau and

Scales, 2016: p.137). In the case of REDD+, exploring how people become subjects or come to resist the policy mechanism deepens understanding of performance against set objectives.

3.2 Concluding summary

There are significant matters to consider in the ability of REDD+ to deliver beyond its emission reductions and benefit local forest communities and their development. Drawing on existing literature, this chapter has laid out how 'good' governance principles are considered instrumental for the performance of REDD+. Principles found across the breadth of the reviewed literature include participation, accountability, transparency, equity, coordination and capacity. REDD+ as a form of governance towards sustainable development includes multiple actors and interests; objectives of carbon, biodiversity and livelihoods; a complex mix of deforestation and degradation drivers; and management options dictated mostly by existing property rights regimes and methodological issues (Somorin et al., 2014). REDD+ may increase marginalisation and alienation, which will create inequity, mistrust and insecurity and therefore possibly conflicts among local communities and states or implementing private sector actors, whichever the case may be. Such conditions will likely undermine REDD+ and impact the success of its implementation. Therefore, national REDD+ policy strategies require an enabling environment premised on effective/improved/ 'good' governance.

REDD+ literature shows that national development paradigms, economic interests/dependence and political interests (particularly in natural resources) shape and affect the implementation of REDD+. Those whose interests are protected by sticking to the status quo are most likely to frustrate processes aimed at improving governance such as cross-sectoral coordination. This is deeply rooted in the power (influence and access) that states, the private sector and civil society have relative to other stakeholder groups. Knowledge, funding and resources play significant roles in conferring power to actors and how they influence policy outcomes towards meeting their own interests (Paudel et al., 2015).

This Chapter has given an account of what makes people care about the environment and how they come to do so. It revealed that subjectivity is not stagnant but alters spatially and temporally based on lived experiences. The review shows that there are gaps regarding the understanding of the practicalities of REDD+ implementation, especially relating to the way that REDD+ is governed, managed and understood locally. It is hoped that this thesis, in exploring the uptake of REDD+ by forest communities (including the role of local institutions), will increase understanding of REDD+ performance in emission reduction, meeting local livelihood needs and the role community institutions play in the process.

CHAPTER FOUR: METHODOLOGY & SITES

4.1 Introduction

This chapter presents the methodology and sites used for this study. A researcher's choice of methodology "implies the use of certain 'rules and procedures', with different connotations and purposes" (Carson et al., 2001: p.1). This includes approaches to data collection, data analysis and the dissemination of research findings. In this chapter, I first explore the epistemology and philosophy that serves as a guide within which the study is conducted. The second section discusses the choice of research methods and the justification for their adoption. The third section gives a profile of Ghana and presents the two case study forest communities. The later sections of the chapter address my research positionality, the ethical considerations of dealing with humans as subjects of research, and the limitations of the study.

4.2 Methodology

4.2.1 Research philosophy, ontology and epistemology

Human geography research design is underpinned by philosophy (Graham, 2005). According to Carson et al. (2001: p.8), "different research studies will require different ontological, epistemological and methodological commitments". With a 5-year working background in natural resources and social justice in Ghana, I approached this research from the perspective that internationally crafted mechanisms such as REDD+ are seldom designed in tandem with local forest communities. Such impositions are likely to have varied implications and realities for forest communities, as contexts differ. As a new policy instrument designed at a global level, REDD+ has potential challenges for its implementation at local level. What then are the emerging realities in the introduction and implementation of such a new global environmental governance initiative (Edirisingha, 2012)?

As a researcher, my epistemological ideology adopts an interpretivist approach (Carson et al., 2001). This approach allows my previous experience, knowledge and understanding as a young professional in the field, to guide the research. Interpretivism brings together the existence of varied realities, which are relative and created from social interactions, personal experiences and constructed meanings, as opposed to being objectively determined (Carson et al., 2001). These constructed realities determine how individuals act and therefore, in order to understand these actions, researchers need to experience and see through the eyes of the actors being studied ("Positivism and interpretivism", 2015).

I recognize that, irrespective of the level of engagement of local forest communities in REDD+, the communities have played an active role in the determination of the environmental and social justice outcomes of REDD+ (Graham, 2005). With underlying social structures influencing everyday social practices, new initiatives like REDD+ are of interest for how they (re)shape existing social practices and structures. Giddens' (1984) structuration theory explains that there exists a "duality of structure in which the relationship between individual and structure is taken to be reciprocal" and "interpenetrates in complex ways" (Graham, 2005: pp.26-27). There are various components that interact complexly in shaping structures, including "economic, political, legal and the communicative structures of language" (Graham, 2005, p.27).

In the context of REDD+, an interpretivist approach allows the research to tease out the different meanings stakeholders, including state officials, NGOs/CSOs, private sector actors, chiefs, farmers, and local forest community dwellers, attribute to REDD+ policy and processes. My previous professional experience and the review of scholarship inevitably impact my interpretation of the study's findings (Duberley et al., 2012). Carson et al. (2001) state that the experience of the researcher affects how the issue researched is understood and structured. In some cases, there is a risk of the researcher simultaneously missing certain aspects of the problem. This is the advantage of having research assistants (treated in section 4.5) who did not have the same level of REDD+ experience and knowledge. This lack of background represents an avenue for fresh perspectives in the field.

Carson et al. (2001) support a balance of inductive and deductive approaches for interpretivism. While this research uses an inductive approach in its primary data collection, it also employs a deductive framework in its systematic review of REDD+ secondary literature, using the Commons Property Resources (CPR) theory. In addition to the inductive and deductive approaches, the REDD+ localization analysis (RLA) framework developed under this study, guides the entire thesis. Concepts of the RLA framework guide the empirical data collection. The issues on the ground captured in the fieldwork are inductively analysed for new scholarship, insight and understanding.

Though broadly taking an interpretative approach, the specific research perspective from which the findings are analysed is towards the side of the spectrum of 'constructivism'. In constructivism, truth is considered relative and therefore dependent on one's perspective (Baxter and Jack, 2008). I accept that there are a plethora of discoverable realities that are drawn socially, empirically and from the intangible mental constructions of individuals (Carson et al., 2001). The aim is to understand how REDD+ policy and implementation plays out on the ground, and further, the context and meanings that stakeholders construct and ascribe to the policy mechanism.

According to Duberley et al. (2012), methodology ties philosophical assumptions to the methods adopted to obtain warranted knowledge. In the ensuing sections, I carefully set out the techniques employed to discover more about the REDD+ policy mechanism's impact within a given context (Carson et al., 2001). How I capture the data for interpretation is described below in a suite of methodical approaches. Under interpretivism, the methods used to gather data allow me to experience, in part, the lives and contexts within which the research subjects operate (see Box 4.1). For example, my immersion into the two forest communities, keeping field notes and memos (see Appendix A) and triangulating data from several sources (discussed later in this chapter), are techniques that increase the quality of the research results (Denzin and Lincoln, 2005; Carson et al., 2001, Baxter and Jack, 2008).

Box 4.1: Adopting interpretivism: ontology and epistemology

In adopting an interpretivist approach to study, the researcher aligns with the belief that there is no single external reality but multiple realities that arise from various and complex interactions and experiences. The ways in which the world can be understood is through multiple actor experiences and perspectives that are recounted. Interpretivism seeks to understand a specific context that the researcher has no direct access to unless he/she engages the subjects having the experiences, or immerses herself/himself in the context under study through certain appropriate methodologies. In such studies, the researchers experience what they are studying and this affects the research in terms of both scientific knowledge and personal experience.

Research that follows interpretivism concentrates on understanding through questions of 'how' and 'why', and therefore is primarily qualitative rather than quantitative. In this light, interpretivism is nothing like positivism, which uses statistics and rigid scientific machinations to explain causal relationships, based on objective 'facts' and a researcher who is 'removed', independent from the research.

Researchers need to pay particular attention to the downside of the interpretivist approach, which is the possible accretion of bulky, meaningless or irrelevant data and observations.

Source: Adapted from Carson et al. (2001)

4.3 Research design

4.3.1 Qualitative research

The adoption of qualitative research is ideal for establishing a deeper understanding of REDD+ and making a contribution to scholarship (Hay, 2010). Qualitative research serves as the best means of exploring experiences, attitudes and behaviours through examining, in-depth, the opinions of interviewees,

complemented by the first-hand experience of the researcher (Dawson, 2009). Qualitative research offers tools and approaches to explore the thoughts, feelings and experiences of social systems, in order to provide a rich understanding of societal issues and interactions (Hay, 2010).

A wide range of methods exist within qualitative research, which facilitate the researcher capturing findings within an equally wide range of descriptive and narrative experiences (Dawson, 2009). In the pursuit of an in-depth understanding of a problem, research questions focus on 'why', 'how' and 'what' (Carson et al., 2001). As open-ended questions, these are best answered using flexible methods within qualitative design (see Table 4.1 below). Qualitative research differs from quantitative research, which typically deals with statistics and questions that are framed in a close-ended fashion (Carson et al., 2001: Dawson, 2009). Qualitative research is intensive and quantitative research is extensive (Bradshaw and Stratford, 2010). Qualitative research of a specific phenomenon helps draw out existing links and connections, and is valuable in identifying instances where such links do not exist (Hay, 2010)

For each of the four objectives (column 1) depicted in table 4.1 below, key questions (column 2) and subsequent sub-questions (column 3) were developed and used as guiding topics to select the research method techniques (column 4) and in the data collection process. Specific and suitable research method techniques were used for investigating each objective as justified in column 5. For example, focus group discussions (see section 4.4.3) were employed to assess the subjectivities produced at the local level but was not used for exploring governance and stakeholder engagements at the national policy due to its unsuitability. Getting policy makers together for a doctoral research focus group would be difficult to accomplish due to their busy and varied availability schedules and the lack of incentive to commit and engage to the research process.

The four objectives of the study shown in table 4.1 are designed to tackle REDD+ by first drawing on a collection of literature that gives insight into global experiences. The second objective focuses at the national level, with an understanding that processes and outcomes at this level have implications for how

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REDD+ rolls out in the country's implementation sites. The study's third objective considers the cross-institutional processes of REDD+ from the national to the local and also across sectors. Finally, the fourth objective focuses on the community level and examines the institutions at play at this level, and how these institutions are impacting people's relationship with forest resources (see figure 4.1).

The study analyzed the data collected under each objective using different approaches (column 6) such as actor mapping (see Appendix G), documentary analysis and network analysis as described in section 4.9 of this chapter.

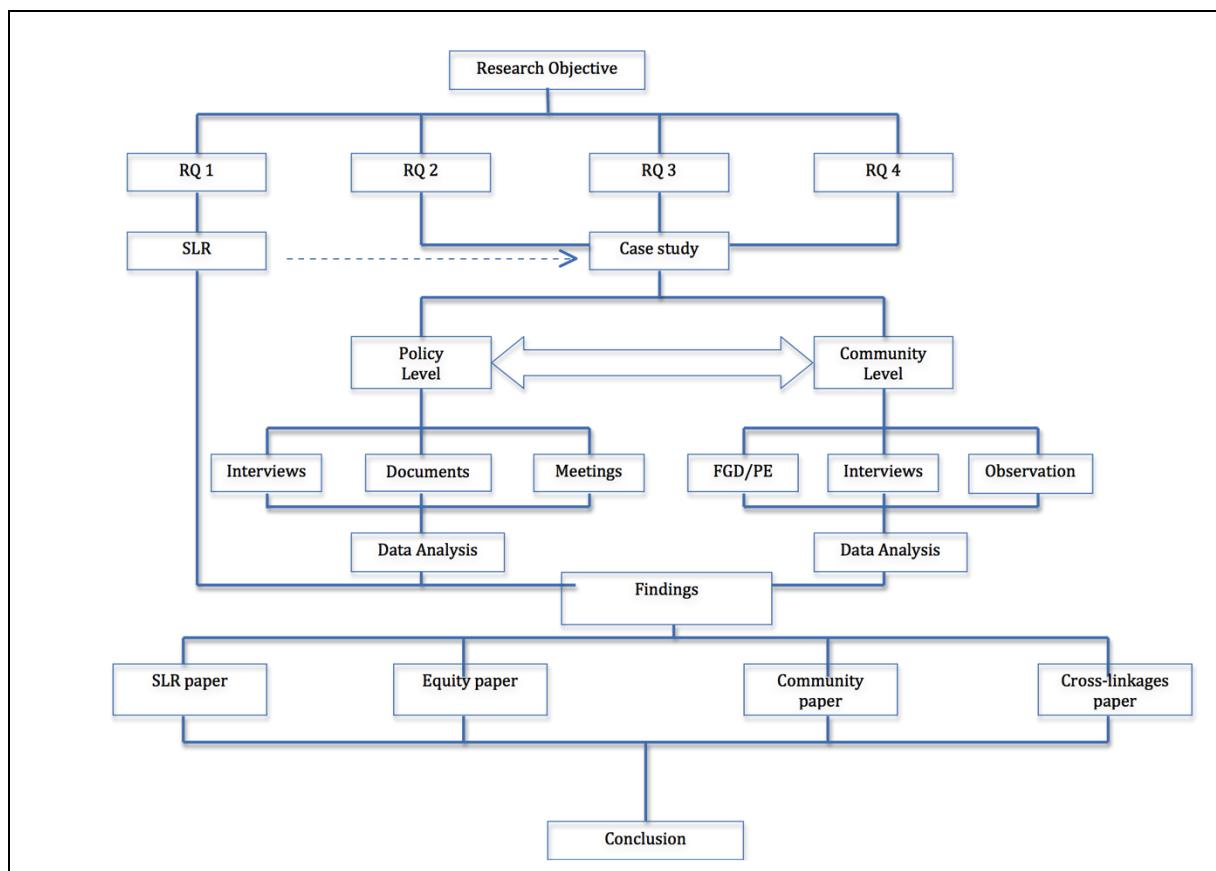


Figure 4.1: Research structure outline

Table 4.1: Link between the objectives, methods adopted and analysis

Objectives	Key questions	Sample of subset of questions	Methods adopted	Method and data justification	Data Analysis
Examine if and how REDD+ governance across the globe conforms to principles of collective action to benefit local communities (Chapter 5)	Q1: How have REDD+ projects (on public and community lands across the globe) performed according to a set of collective action principles for effective forest management?	How is REDD+ implementation and management affecting local communities What are the research gaps in scholarship? What are the on-the-ground gaps in evidence of REDD+ practice?	Systematic literature review	Confirms established knowledge and identifies gaps in research (geographical and content) and practice. Essential in refining and framing the study and in selecting case study sites	Critical analysis of peer-reviewed empirical literature on REDD+ community projects
Explore governance and stakeholder engagements in Ghana's REDD+ policy process (Chapter 6)	Q2: How do different dimensions of governance and stakeholder engagement affect equity in REDD+?	How does equity feature in REDD+ in Ghana? Who counts in REDD+ governance? How does the state mediate actor interests and relations in implementing REDD+ in Ghana? How REDD+ 'ready' is Ghana? Who are the key actors? Who is included and excluded?	Elite semi-structured interviews, actor mapping, informal discussions with key informants, attending REDD+ meetings and workshops, identifying and gathering relevant documents	Gives empirical insights of REDD+ national policy process to show how REDD+ is translated from the international to national Identifies power/influence dynamics amongst stakeholders to draw out marginalized actors	Analysis with QSR Nvivo software package Documentary analysis

		<p>What and how are policies and strategies governing REDD+ institutions?</p> <p>How is consultation and participation operationalized?</p> <p>What are the key institutional bottlenecks</p>			
Examine REDD+ institutionalization across and within scales of governance at national, regional and local levels in Ghana (Chapter 7 and 8)	Q3: How is REDD+ institutionalized across and within scales of governance at national, regional, and local levels in Ghana?	<p>How is REDD+ knowledge produced and mediated from the national to the local level?</p> <p>What institutions mediate REDD+? Where does power lie?</p> <p>What relationships exist between different REDD+ stakeholders?</p> <p>How are local actors and institutions shaping and shaped by REDD+? Who is considered powerful to influence and who actually influences and why?</p> <p>What are the barriers?</p>	Elite semi-structured interviews, observation, focus groups, identifying and gathering relevant documents, community interviews	<p>Adds to global scholarship on international environmental governance</p> <p>Identifies the gaps that exist in REDD+ institutional set up to help improve holistic governance of REDD+</p>	<p>Analysis with QSR Nvivo software package</p> <p>Documentary analysis</p> <p>Actor mapping/Policy network analysis with Gephi software</p>

Assess REDD+ subjectivities produced at the local level in Ghana (Chapter 9)	<p>Q 4: What are the emerging realities from REDD+ implementation within the social, political and historical context of local communities in Ghana?</p>	<p>How is REDD+ understood among cocoa-forest communities?</p> <p>Who is considered powerful enough to influence, and who actually influences, and why?</p> <p>How are people affected by their sense of place and does this impact REDD+ implementation?</p> <p>How does REDD+ situate with local uses, values and livelihoods? What changes in behaviour have been manifest?</p> <p>How has REDD+ changed community action since its introduction? Why do people engage or care about REDD+?</p>	<p>Focus group discussions, community semi-structured interviews, elite semi-structured interviews, observation, identifying and gathering relevant documents, photo elicitation, walk-and-talk</p>	<p>Gives empirical insight into the REDD+ realities</p> <p>Identifies the experiences and feelings of individuals towards REDD+</p> <p>Informs as a way of feedback into national REDD+ policy and international design</p>	<p>Analysis with QSR Nvivo software package</p> <p>Documentary analysis</p>

4.3.2 Case study and fieldwork

The research adopts an exploratory and multiple-case study approach to exploring REDD+ as an instrument that “has no clear, single set of outcomes” (Baxter and Jack, 2008: p.548). According to Yin (2014), using multiple-case studies presents reliable and rigorous evidence of the phenomenon in question.

Case studies are vital for research that seeks to get an in-depth understanding of a contemporary phenomenon over which the researcher has no control (Yin, 2014; Baxter and Jack, 2008). I set out to look at the case of REDD+ in Ghana. I look at multiple levels of decision-making processes at the national policy level and experiences on the ground in two communities encountering REDD+ projects. This is done via first-hand on-site fieldwork data collection, which Tietze (2012: p.58) refers to as “a deliberate interruption of the respondents’ lives with a view to generating understanding and knowledge”.

Case studies allow for the use of multiple data sources, which is ideal for the qualitative research design. Using multiple data sources as a strategy enhances data credibility (Baxter and Jack, 2008). Yin (2014) maintains that addressing a broader range of historical and behavioural issues, then approaching evidence from multiple sources, is useful. A further advantage of using multiple sources to draw data is the rigour and validation that is built into the research findings (Yin, 2014).

Adopting a case study approach allows the study to interrogate REDD+ issues at both policy and implementation levels. This study conducted field visits in Ghana from July to September 2014 (10 weeks) and February to March 2016 (5 weeks). The 2016 fieldwork took place in local forest villages (Attobrakrom and Kamaso) with policy level mop-up interviews, whilst the 2014 fieldwork mainly took place in the policy arena in Accra and other major cities including Kumasi and Takoradi. The case study approach allows the research to undertake a focused in-depth inquiry rather than diverge into broad areas of inquiry (Baxter and Jack, 2008).

4.4 Research method choices

Employing a range of qualitative methods is critical to validating the findings, as each source of data serves as an additional pathway to understanding the issues researched. Under the research, various methods are used to gather data and triangulate for validity (Golafshani, 2003). The total number of participants engaged across the research methods employed (described below) in this study is 124.

4.4.1 Documentary analysis

REDD+ discourses, decisions, and designs have evolved over time, and quite rapidly. This makes documents an important source for mapping the processes of REDD+ development. The documents of particular interest to this study are government proposals, progress reports and other organizational records; policies and strategies; commissioned consultancy reports; minutes of multi-stakeholder meetings and consultations. These were obtained via internet searches and from officials in the REDD+ Unit of the Forestry Commission of Ghana and NGOs. Documentary analysis is generally challenging, especially when studying a 'living' topic such as REDD+.

Some of the documents proved helpful for profiling stakeholders and key experts involved in the Ghana REDD+ process. The contact details of some stakeholders were easily retrieved from meeting reports. Yin (2014) notes, that an Internet search ahead of fieldwork is invaluable for gathering first hand data. The document analysis complements the semi-structured interviews in validating findings. Documents that were not retrievable via the Internet were solicited from stakeholders as the fieldwork progressed. Yin (2014) suggests that researchers should constantly try to identify the objectives for which documents were produced, as this places the researcher in a position to critically interpret the contents, and do so accurately. The documents analysed in this study are outlined in Table 4.2 below.

Table 4.2: List of documents analysed

Document Title	Source
1992 Republic of Ghana Constitution	Government of Ghana website
Ghana REDD+ Readiness Preparation Proposal	World Bank website
Ghana Readiness Project Idea Note	World Bank website
Ghana National REDD+ Strategy	Forestry Commission
National Vision for Developing a Cocoa Forest REDD+ Program in Ghana	Nature Conservation Research Centre
Achichire/Pebiaseman/Sureso CREMA Constitution	International Union for Conservation of Nature
2012 Forest and Wildlife Policy	Forest Commission website
Ghana's Emission Reduction Project Idea Note	Forestry Commission
Engaging local communities in REDD+ in enhancement of carbon stocks (ECLIR+)	African Development Bank website
REDD+ Mid-term review report	Forestry Commission
Ghana MRV Consultancy report	Forestry Commission
2013 Ghana REDD+ monitoring and evaluation report	Forestry Commission
2014 National Climate Change Policy	EPA website
REDD+ SESA consultancy report	Forestry Commission
Benefit Sharing Mechanism for REDD+ Implementation in Ghana consultancy report	Forestry Commission
Ghana Forest Investment Plan	Ministry of Lands and Natural Resources

4.4.2 *Semi-structured interviews*

Interviews helped capture interviewees' own sense of reality (Yin, 2014). Semi-structured interviews were conducted in the national policy-making arena and at the community level. Semi-structured interviews enabled the researcher to 'get inside' participants' heads and explore their perspectives as framed by feelings, memories and interpretations (Carson et al., 2001). Semi-structured interviews

are essential for probing, with open-ended questions, for deeper insight into 'how' and 'why' areas of inquiry. Semi-structured interviews allowed the study to follow a desired line of inquiry, but also to present invaluable flexibility and delve deeper into other relevant issues that emerged during the interviews. According to Valentine (2005: p.111), interviews should be "sensitive and people-oriented, allowing interviewees to construct their own accounts of their experiences by describing and explaining their lives in their own words".

Key thematic questions were developed before the interviews to ensure that relevant issues were covered and captured in the interviews. Although questions varied across the interviews, some cut across all interviews. For example, at the policy level, common questions regarded stakeholder participation and barriers to implementing REDD+. In total n=66 semi-structured interviews were carried out in the study (between 2014 and 2016). A total of n=35 interviews were undertaken at the policy level between 2014 and 2016. To validate and bridge gaps in the community fieldwork findings, clarify issues, and expand on some areas of interest, some overarching questions were included in the follow-up interviews with policy level interviewees in 2016. Thirty-one (n=31) interviews were carried out with local community dwellers and farmers in Kamaso and Attobrakrom in 2016.

The interviews were captured on paper and with a digital audio recorder. The audio recordings were a reliable resource for crosschecking what was said in the interviews at a later time. Audio recordings also helped tease out insights that were missed in the original interviews. Sometimes, the dialogue became very interesting and engaging, and neither my notes nor those of the assistant researcher captured what was said, so the audio recordings helped bridge that gap. Valentine (2005) suggests that recording facilitates the researcher's concentration on the interview and allows him/her to interact better than the divided attention that accompanies note taking. Audio recording eliminates having the interviewee pause or talk slowly, which often happens when the researcher takes notes on paper. This in turn affects the level of interaction between the researcher and interviewee and thus the quality of the information obtained. Audio recording

proved particularly useful in the community interviews as these were carried out in the local language and translating into English at the time would have been demanding and detract from the fruitful engagement and interaction.

The community interviews served as an avenue to explore in-depth issues that arose in the focus group discussions (discussed in section 4.4.3 below). They allowed the study to follow other lines of inquiry that revealed the experiences of individual interviewees without any fear of their views being compromised, as could have happened in the focus groups.

4.4.3 Focus groups and participatory community mapping

Focus groups were undertaken in the communities. A total of 60 participants, comprising 28 males and 32 females across the two communities, engaged in the discussions. The participants were voluntarily self-nominated, after public community announcements were made on the purpose, outputs and logistics of the meetings, such as times and venues (Kandola, 2012). A focus group discussion is a research technique used to collect data based on group interaction on a topic or number of topics (Carson et al., 2001). The research design targeted 8 participants per focus group, but this was less in some sessions (see Table 4.3). This number is selected to foster interaction. Larger groups may result in some participants not airing opinions (Carson et al., 2001; Kandola, 2012). Four (4) focus group discussions (FGD) were held per community in the categories of 'adult male', 'adult female', 'youth male' and 'youth female'. 'Adult' applied to those of 35 and above, and 'youth' to those of 18-34 years (see photos. 4.1 and 4.2).

Table 4.3: Focus group discussants

Gender and category	Attobrakrom	Kamaso
Mature males (over 35 years)	7	8
Mature females (over 35 years)	8	8
Youth males (18-34 years)	7	6
Youth females (18-34 years)	8	8
Sub-total	30	30
Total participants	60	

At the start of every session, the purpose and outcomes of the study were reiterated and the housekeeping rules established, jointly with the participants. This included respecting the views and opinions of everyone; there being no wrong comments; and no phone use during the session. After this, rapport was built between the researchers and the group, by dedicating a few minutes to ice-breaking activities such as individual introductions and posing traditional riddles and jokes. This helped the participants feel relaxed for the actual research discussions. Nevertheless, it was clear that the men (both adults and youth) in both communities were more outspoken and vibrant than the women. This could be a result of the researchers being male. Despite the housekeeping rules laid down, I had to moderate the processes to encourage all the participants to speak up, eliminate domination by one or two people, and ensure all views were respected without intimidation. In the Attobrakrom adult male FGD, the CREMA organizer (who helped recruit participants for the study), tried to hijack the process. I unobtrusively applied firmer control of the group so that others contributed (Kandola, 2012).

FGD differs from other methods as it “brings together a group of individuals who may be either heterogeneous or homogenous, in an interaction of views that collectively aims to achieve a balance of meaningful information and opinions” (Carson et al., 2001: p.116). In this study, the groups were heterogeneous, based on a number of factors, including land owners and the landless, and immigrants and locals. As a research method, focus groups are useful for providing insight into the views the subjects hold on an issue, and how they interact and speak about issues with one another (Conradson, 2005).

As this study seeks to understand the way communities construct meanings of REDD+ and engage in the initiative, the focus group discussions helped tease out their understandings based on exchange of opinions. According to Carson et al. (2001: p.116), “focus groups generate greater depth of information on an issue than a general count of single opinions gleaned from a survey”. It is insightful to observe the commonalities and differences in knowledge and opinion, and how perceptions are re-shaped, or not, when counteracted by others in the group

(Cameron, 2005). This is in line with Crang and Cook's (2005) statement that focus groups structure meanings that are negotiated via intra- and inter-personal discussions. This promotes knowledge creation and transfer among the 'researched'.

The focus group discussants were asked a range of questions, covering the historical accounts of the community, including their forest management practices, deforestation and degradation drivers, understandings of REDD+ and meanings of place attached to the community (see Appendix E). The group discussions aimed to generate in-depth understanding of the engagement processes in the Community Resource Management Area (CREMA) and REDD+ decisions and implementation. Each of the 8 FGD sessions lasted between 60 and 120 minutes. The discussions were conducted in Twi, the dominant local language of the communities - to embolden participants' involvement. I acted as the main moderator, with the assistant taking notes and translating from English to Twi and Twi to English as and when necessary. The assistant was also in charge of sharing refreshments, water and taking pictures as the sessions progressed. I was therefore able to fully concentrate on the discussions and probe with further inquiries (Carson et al., 2001). The discussions were audio recorded and transcribed verbatim.



Photo 4.1: Male focus group participants (Attobrakrom).

Source: Author (2016)



Photo 4.2: Female focus group participants (Kamaso).

Source: Author (2016)

In Attobrakrom, all the focus groups were held in the premises of the Presbyterian Church. The environment was conducive and removed from any external environmental distractions. However, two women in the adult female group were nursing mothers who came with their children and were therefore distracted at times when the babies needed attention. In Kamaso, the adult male and adult female FGDs took place in a church room, but those of the youth were held under a tree in the compound of the 'Jaasihene' (elder in chief's council). The latter was not the most ideal location for focus groups as there were other audio and visual distractions that may have affected the quality of the process to a small degree.

One challenge was to capture technical concepts such as 'carbon' in the local language, as there was no direct terminology to cover it. However, after a couple of FGDs and interviews, the study adopted the term 'nframa-boni' (bad air), as that was what the participants used whenever they referred to 'carbon'. Another challenge was encountered in the Attobrakrom youth male focus group discussion, as a few participants complained they were in a hurry to leave thirty minutes into the session. However, this changed from around the 40-minute mark until the end of the session, when they found the discussion more interesting and became intensely engaged.

At the end of every FGD, the participants drew a map of the community showing any wealth disparities and the location of what they considered important services and infrastructure in the community (see Photos 4.3 and 4.4). They also indicated protected and off-reserve forests.

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Photo 4.3: Participatory community mapping exercise

Source: Author (2016)



Photo 4.4: Participatory map drawn by Attobrakrom community participants

Source: Author (2016)

4.4.4 Direct observation

Direct observation bridges the gap between what people say and what they do. Direct observation is key to identifying day-to-day life in the community with respect to traditional decision-making, community relations and machinations for an understanding of local institutions. For example, Photo 4.5 below shows community members engaged in communal labour, building a village clinic on newly acquired land. Observation adds a layer of contextual understanding of realities in an unobtrusive and informal manner (Agar, 1996). Both myself, as the researcher, and the research assistant immersed ourselves in the culture and lives of the local communities (Crang and Cook, 2007) for a four-week period. The aim was to identify local institutions and understand how they work with resource governance in regulating the community. This facilitated the relationship between me, as the researcher, and the local communities being researched, as some of the participants were excited to see that an 'urban abrokyire-schooling' man was interested in aspects of their lives. Some villagers teased me about my lack of knowledge of tree names, their use as herbal medicines and many other things I had no idea about.



Photo 4.5: Communal labour constructing clinic in Kamaso

Source: Author (2016)

Observation was undertaken even when the research team was carrying out focus groups and interviews. For example, my observations included participants' reactions and responses to issues in interviews; how focus group discussants interacted and behaved to the research team and amongst themselves (Carson et al., 2001). Our observations were captured in the form of field notes and pictures (see Appendix A).

The study also employed direct observation for data collection at the policy level. I sat in REDD+ stakeholder workshops and committee meetings organised by the FC and by NGOs like the Ghana Integrity Initiative. This provided first hand knowledge of REDD+ stakeholder interactions and decision-making processes.

4.4.5 Walk-and-talk

In Attobrakrom and Kamaso, two farmers led us on a transit walk across a cross-section of the villages from one end to the other (Kar, 2005). This walk profiled residential settlements, convenience stores, schools and farms. In Kamaso, this included the Mamire forest reserve. During the walks, I observed and discussed issues with the guides and took notes and audio recordings. Walk-and-talk provides a good overview of the physical geography of the communities whilst taking note of human interaction with the environment (Krause, 2013). The key contribution being to understand land use, first-hand observation and understanding of material poverty, social ties and differences in the farms with trees and those without trees.

4.4.6 Photo elicitation

To complement the focus group discussions and the transect walks, the research employed photo-elicitation. Photo elicitation is a participatory process in which the participants are given a camera and asked to capture something of significance to the study objectives. In this study, I adopted the approach as a way to spark discussions about what people considered important with regards to REDD+ and development in their communities. For each village, I had three people from each focus group take pictures. Each of these people was asked to relay the reasons for their choice of image. As a technique, photo elicitation gives the participants time to reflect on the issues under investigation. It is also a good way to get the participants to relax and engage. The geography of the study is captured in the sense of place and emotion attached to the images that the participants captured in the process.

It was a new experience for those who took part in the photo elicitation, and I had to teach them how to operate the camera. There was a lot of excitement on the part of the villagers and they were enthusiastic about seeing the pictures they had captured on the camera screen. In Attobrakrom, I had to get a young, high school educated man from the youth male focus group to supervise the camera's use and transfer it from one person to another. In Kamaso, the research assistant went around the village with the participants to capture images of what they considered important to them.

4.5 Use of field assistants

Two field assistants were engaged in the study; one in 2014 and the other in 2016. For the 2014 fieldwork, the position of Research Assistant was advertised (see Appendix B) on the notice boards of the main public universities in Ghana for a month. I conducted Skype interviews with the 5 candidates who applied. Based on remuneration expected, location of applicants and experience, I selected a suitable assistant. The 2014 assistant was female and an MSc student at the time of the fieldwork. She did not have an educational background in environment or natural resources. Prior to the fieldwork, she familiarized herself with the basics of REDD+, climate change and Ghana REDD+ governance. It proved insightful working with someone who had no prior experience or knowledge of the field, as her perspectives on the gaps and meanings she constructed from the interviews were sometimes different from mine.

The 2014 assistant was not available in 2016 due to other commitments, so I recruited another person to assist with the community fieldwork. The second assistant was recruited with the help of the CODESULT NGO that hosted me in Asankragwa. The 2016 male assistant was a first-degree university graduate with a background in environmental science. He had work experience in forestry and climate change and was familiar with Kamaso and Attobrakrom, having worked there previously on child education.

Both assistants were fluent in Twi, the dominant local language of the study sites. Both assistants were experienced with the qualitative research methods adopted

by this study. The assistants were responsible for technical and managerial tasks such as email reminders for interviewees of forthcoming appointments, taking notes, follow-ups for documents and translating from Twi into English and vice versa. Even though my Twi was not as strong as the male research assistant, on a few occasions I supported his translations when he used an incorrect word while interpreting questions or respondent views. Despite this, there remains a possibility that some errors occurred during this study from the assistant interpreting from one language to another (Valentine, 2005).

4.6 Research location

The study was undertaken in Ghana, a sub-Saharan (8°00N, 2°00W) West African country that has a total land area of 238,533sq km and an estimated population of 26.4 million people (CIA, 2016; UNDP, 2015). In Africa, many of the studies of REDD+ to date have focused on East and Central Africa, thus there is a gap in peer-reviewed scholarship on REDD+ in the West African sub-region (Chapter 5). This supports the choice of Ghana as a case study country. In addition, Ghana, a country that has ratified the UNFCCC and many other environmental conventions, is one of the first countries to sign up to REDD+ and is already pursuing REDD+ readiness under the World Bank Forest Carbon Partnership Facility. Anecdotally, Ghana is also considered a 'front runner' in REDD+.

The country is divided administratively into 10 regions, with the Greater Accra Region in the south, housing the capital, Accra. Accra is the seat of government and the hub of all government ministries, government departments, multilateral organizations, embassies and foreign donor agencies. However, because of the decentralized nature of Ghana's government structure, there are regional and district government offices and branches. For example, the Accra Forestry Commission is the headquarters, but there are regional and district Forest Service Division departments scattered across the regions.

The country is divided mainly into the 'High Forest Zone' and the 'Savanna Zone' (FC, 2013). Ghana experiences an average deforestation rate of 2% per annum,

which is one of the highest in the sub-Saharan region. Deforestation threatens many timber species in Ghana (Kufuor, 2000; Boon et al., 2009), the livelihoods of the forest dependent communities, and the extent to which communities near the vanishing forests will be impacted by climate change. Ghana's deforestation arises for a plethora of reasons, including demand for agricultural land, unfavourable agricultural practices such as slash and burn, legal and illegal timber felling, bush fires and illegal mining activities in and around the forests (FC, 2010). A suite of approaches and initiatives that Ghana is embarking on to salvage its depleted forest cover include the Wood Tracking System²⁵ under the Voluntary Partnership Agreement and National Forest Plantation Development Programme (Offei and Iddrisu, 2011). It is this ambition for resource sustainability that led to Ghana embarking on incentivized activities to improve forest cover and reduce GHG emissions (FC, 2010).

As a lower middle-income country, Ghana's economy is largely driven by an unsustainable reliance on the export of natural resources such as minerals, timber (Lund et al., 2012) and, more recently, oil. The government exercises control and management over foreign exchange earners as part of state building efforts (Baruah, 2013). After gaining independence in 1957, from the British, the State reinforced centralized control over natural resources (Baruah, 2013). Six decades on, there are visible remnants of colonial political administration across various natural resource sectors in Ghana. The country's political economy is of a design that serves the "entrenched interests of an economic and political elite in the exploitation of timber" (Lund et al., 2012: p.117).

As of 2015, Ghana's forest percentage in relation to its total land area is 20.7 (UNDP, 2015). "All forest land in Ghana is managed by the government in trust for the stool landowners" (Agidee, 2011, p. 17). As per the country's 1992 Constitution, the Forestry Commission (FC) has overall responsibility for forest management and utilization. There are reserves protected by the state and off-reserve forests across the country. The off-reserves in the High Forest Zone of the country are largely farmed for cocoa (Lund et al., 2012).

²⁵ Designed for timber monitoring as logs are felled and transported to processing centers and export facilities or from points of import to processing sites and sale outlets.

Cocoa in Ghana has earned the reputation as a dominant land use activity that is a major competitor with forests. Cocoa covers an estimated cultivation area of over 1.6 million ha (FC, 2013). It is a primary livelihood for 800,000 farm households in Ghana (FC, 2013). Productivity of cocoa, measured per average yield, has reduced in Ghana and is lower than Indonesia and Côte d'Ivoire, which are the top cocoa producing countries. Despite this, Ghana is the second largest producer of cocoa in the world (FC, 2013). Farmers have adopted extensive approaches (expanding areas) rather than intensive approaches, to increasing cocoa yield. Considering this, Ghana has adopted a REDD+ approach that focuses on the link between cocoa and carbon, and aims to increase the tree density while maintaining and improving cocoa production.

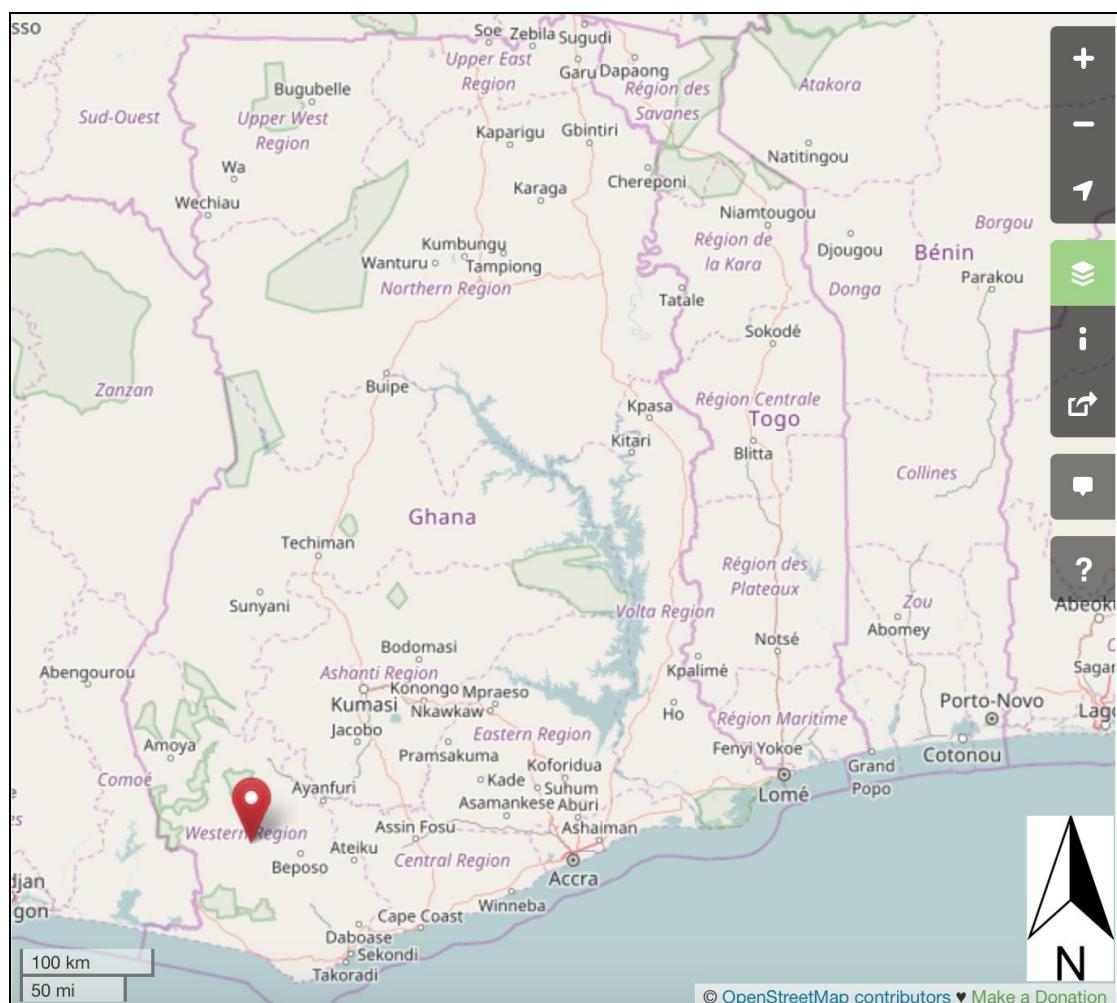


Figure 4.2: Map of Ghana showing location of study sites

Source: OpenStreetMap Contributors

4.6.1 Case study sites: Attobrakrom and Kamaso settlements

Both Ghanaian communities used in this study, Attobrakrom and Kamaso, fall within the Western Region, where the bulk of the country's remaining tropical forests are located (see figure 4.2 above). The Western Region is one of the wettest parts of the country with average annual rainfall as high as 175mm. Based on Ghana's decentralized local governance model, the two communities administratively belong to the Wassa Amenfi West District. The district, established in 2012 by a legislative instrument, has Asankragwa as its district capital town. Located between latitudes 5°30'N and 6°15'N and longitudes 1°45'W and 2°11'W, the district has over 242 settlements that are mainly cocoa farming communities (WAWD, 2006).

A large number of rivers serve domestic and farming (irrigation) needs, including the Tano, Yire and Ankobra. Unfortunately a spate of 'galamsey' (illegal local artisanal mining) in the district has led to the pollution of some of the major rivers (see photo 4.6). There are other smaller rivers within Kamaso and Attobrakrom but these reduce in volume or totally dry up at some times of the year. Most of the rivers are protected in large part by the forests of the district. There are five forest reserves in the district, Mamire Forest Reserve, Fure Head Water, Angoben Shelter Belt Forest, Totoa Shelter Belt Forest Reserve and Upper Wassa Forest Reserve (WAWD, 2006). However, most of these forests are exploited for the export of timber. Samartex, an expatriate timber and wood-processing firm located in one of the district's towns (Samreboi), is the main concessionaire of forests in the district (WAWD, 2006; 2016 fieldwork).



Photo 4.6: River Tano polluted from 'galamsey' (local artisanal mining) activities
Source: Author (2016)

In the culture of the people in the district, every third Friday of the month is a taboo day that every resident is required to observe. This taboo day is referred to as 'Adum' and it signifies a day when no one is supposed to go to farm. It is believed that the land gods come to the lands and farms for excursions and any human that does not observe the day and meets these gods in the farm will die or incur the wrath of the gods and suffer a strange fate. As part of the culture and tradition of Wassa Amenfi West District, as in other parts of Ghana, there is a paramount chief ('Omanhene') who has divisional chiefs under him and at the lowest level, the sub-chiefs ('Odikro') of minor settlements. As chiefs act as custodians of the land, their establishment is important in land distribution and conflict resolution in the district. In Wassa Amenfi West, chiefs lease land to family members, migrant farmers, private organizations and individuals for a variety of purposes.

Agriculture is the main land use and economic activity of the district with the farming of cocoa, oil palm and rubber being most common. Other crops include

cassava, maize, tomatoes and rice. The section of the population engaged in agriculture is estimated to be 75%, including those who rear livestock such as goats and cattle. Agriculture is practised largely by slash and burn, bush fallowing, and shifting cultivation farming. These agricultural farming practices, in addition to timber exploitation (legal and illegal logging) and forest fires are the main threats to forest sustainability in the Wassa Amenfi West District.

The field sites for this study were chosen by IUCN-Ghana as 'gatekeepers', based on their established presence working on the forests and with people's livelihoods in the communities. IUCN provided insight into some communities complaining of research fatigue. This study therefore excluded such communities and engaged with those that, at best, guaranteed responses from willing participants. Besides facilitating selection and entry into the communities, IUCN did not have any influence over the data gathered for this research (Broadhead and Rist, 1976).

Attobrakrom

Attobrakrom is a farming community situated about 22km from Asankrangwa, the district capital. Having electricity only since 2014, Attobrakrom community has a population of 710 people made up of 380 males and 330 females. The total number of houses in the community is 137 and the number of household in the community is 126 (Photo 4.7).

Attobrakrom started as a settlement for workers and labourers of ATP, a logging company of the forests in the area. The company put up bungalows to house workers who commuted daily to another town called Aboi to work (FGDs, 2016). The settlement was used at the time to store the company's sawn timber. The town, which was all male at that time, was referred to as Kotisuaba. When the company went out of business, the settlers sought permission from the chief of the traditional area to use the land for farming. This attracted new migrants including women, leading to reproduction among the residents and community expansion. The growth led to the need for a ruler to oversee the community. A sub-chief (Odikro) called Nana Attobra was enstooled in 1978, and the name of the community was changed in 1979 to Attobrakrom because of the gender

insensitivity of the former name Kotisuaba, which loosely translates as ‘collection of male genitals’ (AFGD, 2016). The community is estimated to have been in existence for 70 years. Although the Wassa were the first to settle there, at the time of the fieldwork Attobrakrom was a mixed ethnic settlement comprising Ewes, Wassa, Fantes, Dagombas etc.

In addition to the ‘Adum’, Tuesday is another taboo day, and market day. This taboo day is one acquired by the community as its lands belong to the Achichire stool that observes the tradition. It is a worship day for the gods and so the stool pours libation as an offering to a deity. Though there are varying ethnic groups that make up the populace, the dominant local language is Twi. Attobrakrom is mainly Christian, with a few practising Islam and others subscribing to traditional religion. The community observes and celebrates the Yam Festival just as other communities in the Wassa Amenfi West District.

Attobrakrom has a newly tarred road running through the community. This road is the main and only road that the Samartex timber trucks use to transport cut logs. The community has very limited trade and industry. There are two small convenience/grocery stores that serve the community. Outside of farming, services and other livelihoods are non-existent. Attobrakrom does not share any direct boundaries with any of the forest reserves in the district. The community is part of the Pebiaseman/Achichire/Sureso Community Resource Management Area (CREMA).

The community has boreholes and a well but still faces water shortages and sometimes conflicts arise at the sites of these water facilities. There is a library, a basic clinic facility, a primary school and a pit-style toilet facility in the community.



Photo 4.7: A section of Attobrakrom community showing dwelling units
Source: Author (2016)

Kamaso

The initial settlers named the community after the river 'Kama', a Twi word meaning 'nice'. Kamaso therefore means 'upside of the nice river'. The community came into existence when commuting traders, who used to stop by the river 'Kama' to rest and eat on their way to and from their own communities, started living there. The river still exists in the community but ceases to flow in the dry season. The first settler there sought permission and lands from the chief, and he became a sub-chief. Most of the settlers were relatives of the sub-chief. Chieftaincy was passed on by inheritance through the community's estimated existence of 50 years.

Kamaso, just like Attobrakrom, is located about 22km from Asankrangwa, the district capital. However, Kamaso is connected only by a small dirt road, which floods during and after heavy rains. This makes transport to the community relatively more difficult than Attobrakrom. Kamaso community (Photo 4.8) has a population of 669 made up of 335 males and 334 females. The community has one

hundred and thirteen (113) houses and one hundred and twenty (120) households. The community is multi ethnic with the Akwapim ethnic group in the majority. Other ethnic groups in the community are Asante, Busanga, Ewe, Dagaate, Kusasi, Fante, Wassa, Krobo, Baasare and Frafra.

The main occupation in the community is farming, with crops including cocoa, palm oil, teak, rubber, cola, plantain and cassava. Other income generating activities are masonry, dressmaking, hairdressing, trading, carpentry, hunting, and charcoal. Compared to Attobrakrom, the community has more convenience stores. The community, which is also part of the Pebiaseman, Achichere and Sureso CREMA, shares a boundary with the Mamire Forest reserve.

The community observe both the taboo days of the traditional area (every Tuesday and every third Friday of the month). On Wednesdays, the community comes together and performs community tasks. The women clean and tidy the community and the men weed the bushes and help to patch the roads in, and leading to, the community. The men in the community also assist the forest guard to clear bushes and weeds that cover the demarcation patch between the forest reserve and the community. At the time of the research, Kamaso was using communal labour to build a new and improved clinic to replace the existing one. The community first had electricity a year prior to the fieldwork. It has two boreholes but still faces water shortages, poor transportation in and out of the village, and limited jobs and industry besides farming.

See table 4.4 below for a summary of the characteristics of both cocoa-forest communities used in this research.



Photo 4.8: Un-tarred road and local convenience shop in Kamaso

Source: Author (2016)

Table 4.4: Characteristics of case study sites

Attobrakrom	Kamaso
<ul style="list-style-type: none"> • Existed for 70 years • Predominantly cocoa farmers • Balanced mix of locals and migrants • Located off major road • Limited trade and industry • Does not share forest boundary • No forest guards • Part of CREMA • Population approx. 710 (2010 census) 	<ul style="list-style-type: none"> • Existed for 50 years • Predominantly cocoa farmers • Migrant settlement first • Located on un-tarred minor road 1km from major road • Relatively better in trade (mainly household consumables) • Shares boundary with Mamire Forest reserve • Forest guards in community • Part of CREMA • Population approx. 669 (2010)

<ul style="list-style-type: none"> • On high and low lands 	<p>census)</p> <ul style="list-style-type: none"> • On high lands
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4.6.3 Recruiting research participants

4.6.3.1 Policy level participants

Any research that plans to use interviews as a method of data collection needs to ask who should be interviewed (Alvesson and Ashcraft, 2012). With REDD+ as a central focus of the study, the decision on who to speak to was clearly guided. Adopting a criteria sampling approach, an initial list of interviewees was constructed. The first step was to identify key actors and leaders engaged in REDD+ policy in Ghana from documents and reports that profile REDD+ stakeholders. This meant consulting documents like the Ghana Readiness Preparation Proposal and REDD+ workshop reports and meeting minutes. With a 5 year working background in REDD+ and climate change policy in Ghana, I used my prior knowledge to add to the interview list generated from the documents, as a second approach.

As a third approach, the study adopted the use of snowball sampling during fieldwork interviews in Ghana. This afforded the study the opportunity to capture stakeholders that had been missed. Organizations such as Arocha, Tutton, Indufour, and PwC were added to the interview list through snowball sampling, which involves using one contact to help recruit another contact, who is in turn requested to do the same (Valentine, 2005; Saunders, 2012). The essence of this method is that it facilitates access to other interviewees who would ordinarily be difficult to find. According to Valentine (2005), the introduction of the researcher by one interviewee to another not only helps identify the appropriate people to speak to, but also increases the trust needed for a rich interview. As part of the snowball process, some interviewees sent introductory emails and recommended participation in the study. In a few instances, interviewees only provided names and contacts without any prior introductory emails. As an exploratory study, the use of snowball sampling for the policy level interviews served its purpose well as

a non-probability sampling approach for gathering data to answer the research questions.

All interviewees profiled via both criteria and snowball sampling, were sent emails with introductory letters and an information leaflet on the aim of the research, areas of inquiry, average interview duration and information on the ethical considerations guiding the study. Some interviewees replied with appointment dates, but the majority had to be followed up by phone, sometimes more than twice, before appointments were scheduled. This was exceptionally difficult with government workers, so I had to personally drop in without appointments in some cases. This worked, for example, in the Ministry of Lands and Natural Resources (MLNR), where I was able to conduct an interview without an appointment.

The ideal venue for the interviews would have been offices or quiet meeting rooms, but this was not the case in the field. Unfortunately, an issue with the recruitment process was that some interviewees proposed public spaces like restaurants. In such instances, I made sure to set the audio recorder to 'noisy environment mode' so that it eliminated superfluous background noise. In a few cases, the environment of proposed venues were not conducive, and so the best option was to conduct interviews in the backseat of the field car.

During this research, some recruited interview participants became key informants (Alvesson and Ashcraft, 2012) and this deepened the relationship I had with them, as I went back for more information on REDD+ status over the years, government issued documents and reports and repeat interviews, by Skype and phone, when I was in Reading, UK. Examples include officials from the FC and the Nature Conservation Research Centre.

4.6.3.2 Community level participants

Key leaders in both Kamaso and Attobrakrom facilitated access to the participants in the communities for the study. They were both executives of the district CREMA and also of their Community Resource Management Committees (CRMCs). These 'gatekeepers' of the community had the "power to grant or withhold access to

people" for the research (Valentine, 2005: p.116). Their role as 'gatekeepers' was legitimized by the leading role they played as points of contact for IUCN's work in the region.

I was introduced to both facilitators by IUCN and they were requested to assist me with logistics and participant recruitment in their respective communities. I explained the purpose of the research, the kinds of information to be collected and the methods to be used in securing the information. Each community 'gatekeeper' was paid 20 Ghana Cedis for the series of announcements they had to make through the public community announcement system. The facilitators proved vital for my identification, recruitment and access to the field participants for the FGDs and interviews.

The focus group discussions were left as open invites for community members to volunteer their participation. However, for the semi-structured interviews, I requested the facilitators assist in soliciting and compiling a list of respondents. I emphasized the need for a mix of males and females, a mix of people in positions of leadership and not, and farmers and non-farmers. This approach is the non-probability sampling technique of purposive and random sampling within social science methodology.

As Saunders (2012) puts it, despite the physical access gained to the participants, there is further need to gain their cognitive access. This was achieved through the participants' acceptance and consent of the research team and the issues under investigation. This was easier to foster through the 'gatekeepers' rather than going in alone as a stranger. Each refusal in the field is a risk to the research aims (Saunders, 2012).

4.7 Reflections on positionality

Within the scope of an 'interpretivist' approach, I recognize that my position as the researcher, those 'researched', and the meanings constructed from the findings, mutually and continually affected each other (Haynes, 2012). My interest in the

research topic stems from my work experience in social justice. I therefore came to this study with a pre-existing and pre conceived thinking, premised on a desire to see a world where community rights are recognized, benefits accrue and equity exists within REDD+ programmes. During the research process, for example the review of literature, some of my understanding and appreciation of the issues changed leading to a review of the topic, research objectives and, subsequently, methodology choices. For example, I initially had an underlying assumption that the government was simply not interested in engaging the farmers and local people at the community level. In the research process, this thinking was challenged, and reformed to an understanding that there are various nuances, complexities and messy realities at play at community level.

Questions of gender, class, race and nationality, shape our research and interpretations of the world (Valentine, 2005). Bearing in mind my identity and the way this could affect my interactions in the study, I was particular in scrutinizing my approach in the field. Valentine (2005: p.113) says that, in addition to the necessary “self-critical sympathetic introspection and self-conscious analytical scrutiny”, one should also bear in mind the power relationships that may exist between the respondents and the researcher. The latter became important in the community fieldwork, because I was not only regarded as a highly educated urban male but also as one who was highly knowledgeable, schooling outside the shores of the country, ‘in the white man’s land’. Some participants expressly opined that my interest in studying REDD+ was a sign and further assurance that REDD+ was a ‘good’ initiative. For others, I was in a position to assist them concerning REDD+. From the foregoing, it is clear that Valentine (2005: p.114) does not exaggerate in stating that, “if you are embarking on research in the developing world it is particularly important to be aware of your privileged position in terms of wealth, education and so on, in relation to those you will be working with”.

However, being a Ghanaian researcher who spoke the local language, and shared a similar cultural background with the case study sites, I had an advantage in developing rapport with interviewees and this arguably led to rich, detailed insight into the world and the experience of the research participants (Valentine, 2005).

Despite identifying with the local culture and people, I was at the same time an outsider. This was most apparent in the moments when I encountered new ways of life and traditions in the communities.

Being an urban Ghanaian all of my life, travelling 9 hours by road for the first time to Asankragwa with IUCN, made it feel very remote and removed from civilization. I was uneasy as we left the cities and built-up areas behind, and rows of trees and forests consumed the land that bounded the road we were traveling on. Even though I had worked with an NGO that dealt with local forest communities and community based organisations, I had never lived in any of them and so this was a new experience on many fronts. I had questions on my mind: how were people in the communities surviving with limited access to urban life and all the services and main government offices? I wondered about the distance that children commuted by foot or bike to school and the scarcity of transportation, even from the district capital, to the case study sites.

Culture may have played a part in the level of engagement in the female FGDs and their interaction with the research team. Being two men researching in a patriarchal society, could account for the limited level of engagement we got from the women in the community FGDs.

During the research in the communities, I was in a relatively dominant position and in control of the process, but then in the policy interviews, the elites and policy makers were often those with the upper hand, controlling the information and trying to influence the research process (Valentine, 2005). For example, getting government officials to diagrammatically depict linkages between the various government offices engaged in REDD+ was very difficult, as many refused on the grounds of not being the most reliable people to provide such information.

4.8 Ethical considerations

Ethical considerations are a formalized concern, intended to safeguard researchers and those that the research touches (Symon and Cassell, 2012). This research,

which dealt with various actors of various social standing, decision-making powers and influence, set out to avoid harming any participants, especially the vulnerable. The research conformed to the ethical protocols of the University of Reading Research Ethics Committee, based on a review in February 2014 (see Appendix C).

4.8.1 Gaining informed consent

Before every interview and FGD, the participants were given information on the identity of the researcher and research assistant; the purpose of the study; the use of the study; and they were assured of the confidentiality of their involvement. Policy level actors, including government department workers, ministry officials, NGOs, the private sector and donor agencies, gave consent by appending their signatures to a consent form (see Appendix D). With the local forest community data collection, the participants' oral acceptance to partake in the study was considered consent. This was to avoid any intimidation and eliminate any distrust that could emerge with requesting unlettered (in most cases) farmers to sign a form that they could not read or understand. All participants were informed of their right to exercise withdrawal from the study at any point without having to state the reason for the decision.

There was a second consent sought from all research subjects for audio recording the interactions and taking pictures in the process. They were assured that the recordings and images were for the purposes of the PhD research and would not be used for any other purpose. All participants, with the exception of two policy level actors, gave express permission to be audio recorded. However, even within the set of participants who agreed to being recorded, there were a couple of times that the interviewees felt they had spoken a bit too frankly and requested that part be off-the-record.

Prior to both the 2014 policy level interviews and the 2016 community fieldwork and policy interviews, the research assistants received an orientation on the ethical considerations of the study from me. They were also made to sign a declaration to abide by the said ethics.

4.8.2 Confidentiality

All participants, in both the policy and community level fieldworks, were assured that their identities would be kept anonymous and quotes used from their interviews would not be directly attributed to them by their real names. In line with this, the research participants were allocated codes during the data analysis stage. The codes reflected the actor type, for the policy level interviews, and in the case of the community fieldwork, the codes identified the particular community the participant was from. All data obtained from the field was kept securely. Audio recordings, pictures and documents were secured on a password-protected laptop, in Drop-box and on the University of Reading's N-drive. The hard copies of notes and documents were kept under lock and key, away from third party persons who were not involved in the research. In the field, no participant was allowed to know what the other participants had said, even in follow-up questions that sought to triangulate the validity of assertions that had been made.

4.8.3 Rewarding community participants

Most participants engaged in the study did not go to their farms on one day or another based on the directive of the village elders who helped recruit them. The village elders did not specify times to the participants for the interviews but rather just the day they were to be interviewed. Despite my persistence to get the participating villagers to be given appointment times, this did not materialize, because it would be difficult to get a farmer to leave his/her farm once they were on it if the work for the day was not completed. According to the 'gatekeepers', it was in the research's best interest to have them stay at home and wait. This sacrifice by people who depend mainly, and in most cases solely, on farming as their source of survival was one that needed recognition in some tangible form.

The ideal case would have been to reward all the participants (including the semi-structured interviewees). However, based on the limited budget of the research, payments of GhC10 (the equivalent of £2 at the time) per participant were made only to those in the focus groups. This token was an appreciation for their

invaluable time and energy. The focus groups were lengthier than the semi-structured interviews, and this was the only justifiable reason for paying those in the 8 focus group discussions and not those in the semi-structured interviews. The focus groups were provided with snacks (fizzy drinks and meat pies) and water mid-way through the discussions, to keep the participants energized, interested and seated.

Payments were also made to the village elders/champions who helped with the required Ghanaian tradition of seeking the chief's (in this case, local sub-chief's) approval, the community entry, enlisting participants, arranging venues and times and showing the research team around the villages on the walk-and-talk.

4.9 Data analysis

4.9.1 Secondary data analysis

To determine the gaps in scholarship and identify the appropriate field sites for data collection, a systematic literature review is first conducted. Systematic literature reviews vary from traditional reviews, and are relatively novel within the development and environment sector (Petrokofsky et al., 2011) and more so for forestry and REDD+. According to Shadish et al. (2005), large amounts of information, as commonly associated with a traditional review, can lead to bias and prejudiced selection of studies to support author's own arguments. Subsequently, Petticrew and Roberts (2006) have written about how a systematic literature review limits subjectivity and bias in the review process.

A well-defined methodological approach is laid down prior to the review, to produce a transparent and replicable process (Pickering and Byrne, 2013). Using the systematic review approach, the study maps out the implementation progress and gaps in the literature on global REDD+ projects. The systematic review approach comprises a three-tier approach: systematic search, critical appraisal and synthesis. To increase the trustworthiness of a systematic review, a key feature is the need to document and describe the process as it is carried out (see

Chapter 5 for a full description of the systematic review process used in this study).

The review shows a lack of existing empirical data on REDD+ activities in sub-Saharan West Africa. This supports the need to conduct the study in the researcher's home country, Ghana.

4.9.2 Primary data analysis

The audio recorded interviews and focus group discussions from the field were transcribed verbatim. This allowed flexibility in processing the data comprehensively (Carson et al., 2001). The local community interviews and FGDs were transcribed directly from Twi to English. A total of 354,395 words were transcribed for the whole study. In addition to the help of the research assistant during the transcription process, a Ghanaian IUCN staff member, helped to crosscheck certain parts of the interviews that contained traditional proverbs and technical names and phrases.

The transcriptions were imported into QSR Nvivo software to allow proper organization (see Appendix F). According to Carson et al. (2001: p.177), "where there is a large quantity of data requiring coding, annotation, linking, search and retrieval", then software packages are best used. Data organization allowed easy access and appropriate clustering of findings according to the fieldwork periods (i.e. policy and community level). To guide the analysis, the interview data was classified into codes in QSR Nvivo. The codes/themes were decided from the interviews and topics. New codes were introduced as they emerged in the data coding process. The coding stage served in "organizing the data according to the topics and sub-topics of the research" (Carson et al., 2001: p.83). During the coding, interrelationships between data were marked and noted.

As mentioned, analysis of the study was both deductive (in the systematic literature review) and inductive (for the empirical data from primary fieldwork). Thematic analysis – generating themes from the data – is ideal because it is a

highly inductive type of analysis (Dawson, 2009). I used REDD+ localization analysis framework (see Chapter 3) to navigate and interpret the findings in each thematic area, construct meanings and lay out discussions. Some data analysis also took place during the data collection process, which helped reformulate questions and pursue inquiry into new areas, as they arose. The thinking and reflection that led to changes and adaptations in the field, according to Dawson (2009) constitutes data analysis.

As part of the analysis, this research employed actor mapping and social/policy network analysis at the national policy level to identify which actors were doing what in REDD+, their various interests in REDD+, and also the exchange of information, ideas or knowledge amongst actors (see chapter 7). Actor mapping was conducted before and during the field data collection. The study employed interviews and organisational website visits to fully map out the actors in Ghana's REDD+ policy process. The list constructed served as the basis for the social/policy network analysis.

A policy network analysis allows insights into the formal institutional and informal linkages between the state and other actors and how these interactions lead to REDD+ policy (Rhodes, 2006). Usually actors with similar beliefs and interests engage in exchanges (Rhodes, 2006). This was particularly useful for understanding REDD+ mediation, as it is a 'living' concept that is being designed and shaped by discourse, dialogues and research. The study used online 'Survey Monkey' web application to design and circulate questions to Ghana REDD+ stakeholders. The various stakeholders ranked other actors by influence and importance on a scale of 1-10 and also scored the relationship between their organisation and the other actors. The scoring for each organization was weighted and entered into Gephi 0.9.1 software to map out actor relationships (see chapter 7).

4.10 Limitations to the methodology

Despite the study having put together a comprehensive list of Ghana's REDD+ national level stakeholders, I did not interview all the relevant actors due to their busy schedules (e.g. FORIG official), travel abroad (e.g. Ministry of Finance official) and unwillingness to be interviewed (e.g. World Bank official). For the willing interviewees, there were a few cases in which the venues for the interviews were not ideal. For example, the interview with the EPA official took place in the back seat of the field car in a parking lot.

For some interviews that had excellent venues, we still experienced interruptions from interviewees' friends, co-workers and cell phones. These interruptions cut through the interviewees' trains of thought. For example, the interview at the Ministry of Lands and Natural Resources was interrupted by a couple of work colleagues for various reasons including an exchange of social pleasantries. I had to pause the audio recorder during such interruptions and re-start it after the interruption. In most instances, the interviewees picked up from where they left off, but on a few occasions this was not the case. Naturally, this made certain parts of the interview transcribing process unsatisfactory.

A couple of interviewees at the national level were in a hurry and rushed the interviews. In such interviews, the general lines of inquiry were not pursued; the justification being that these were questions that could be answered by review of government issued REDD+ reports and documents; for example 'what is the current state of Ghana's REDD+ process?' Instead, questions that served to follow-up other claims, questions for validation and those that drove the core inquiry of the research were pursued.

At the local forest community level, the challenges and limitations included some women's limited confidence in engaging with the issues, especially in the focus group setting. The presence of toddlers and children in some of the FGDs was distracting and, to some extent, affected the quality of concentration of the participating mothers.

CHAPTER FIVE: ARE REDD+ COMMUNITY FOREST PROJECTS FOLLOWING THE PRINCIPLES FOR COLLECTIVE ACTION, AS PROPOSED BY OSTROM?

Abdul-Razak Saeed, Constance McDermott & Emily Boyd

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Abstract: Forested countries in the global south that have agreed to engage in REDD+, a policy mechanism for addressing climate change, are receiving support to improve laws, policies, systems and structures. As a mechanism initiated at the global level and seeking to use forests to address a global commons crisis (atmospheric carbon concentration), understanding how REDD+ translates into implementation at the local level is essential. Therefore, using a systematic review approach, this paper examined 15 studies of REDD+ in the context of public and/or community managed forests, drawn from a comprehensive application of inclusion criteria to identify relevant published peer-reviewed empirical research. The common property resources literature was used to highlight the role of local institutions in REDD+ and to distil how REDD+ community forest projects conform to Ostrom's collective action principles. The review revealed limited sharing of information and decision-making authority with communities; a general absence of FPIC; and a lack of defined benefit sharing and conflict resolution arrangements in many of the REDD+ projects.

Keywords: Climate change, collective action, forest, local communities, REDD+, systematic review

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5.1 Introduction

A decade, and several negotiations, after the initiation of incentivized avoided deforestation at the United Nations Framework Convention on Climate Change (UNFCCC) 11th Conference of Parties by Costa Rica and Papua New Guinea, the mechanism has seen significant metamorphosis. The proclaimed cost-effective mechanism for atmospheric carbon emissions reduction is currently referred to as REDD+, which stands for “Reducing Emissions from Deforestation and Forest Degradation” with the “+” including conservation, sustainable management of forests and enhancement of forest carbon stocks.

As negotiations proceeded under the UNFCCC, third party institutions such as the World Bank and UN agencies (UNDP, UNEP, FAO) rolled out the Forest Carbon Partnership Facility and the United Nations Collaborative Programme on REDD (UN-REDD) respectively, for interested developing countries to enter a REDD+ ‘readiness’ phase (Minang et al. 2014). The ‘readiness’ phase includes reforming governance processes; reviewing laws and policies; establishing national REDD+ strategies; designing workable and equitable benefits sharing arrangements; and establishing baseline scenarios or referencing emission levels (Mora et al. 2012; Minang et al. 2014).

REDD+ has faced significant criticisms relating to its implications for local communities’ livelihoods and socio-cultural life (Phelps et al. 2010; Minang et al. 2014). Early critiques of the mechanism, asserted that REDD+ discussions and ‘readiness’ activities by national governments, donors and funders focused too much on carbon and associated technical challenges. Issues given preference in the initial stages revolved around monitoring, reporting, verification, and establishing the baseline scenario for forest carbon emissions with little attention paid to social co-benefits such as community rights (Dooley et al. 2011; Lasco et al. 2013;

Pasgaard 2013). Critics of REDD+ have warned of the mechanism's potential to recentralize forest governance, marginalize local communities and resource users, bolster corruption and entrench inequity within the forest sector (Phelps et al. 2010; Larson 2011; Jaung and Bae 2012). There are also fears that benefits accruing from REDD+ will not be fairly distributed to local communities (Skutsch et al. 2013; Chomba et al. 2016). Some scholars have therefore called for REDD+ to recognize community rights to access, use and management of natural resources (Sandbrook et al. 2010); an advocacy based on a common problematic of national government failures in managing natural resources (Gibson and Becker 2000; Heltberg 2002; Delmas and Young 2009).

A critical part of the REDD+ 'readiness' process involves piloting the mechanism to draw out lessons and challenges, assessing the adequacy of systems and noting areas for reform to achieve REDD+ objectives. Though empirical studies of REDD+ projects have started to emerge recently, many have focused on 'readiness' progress at national level, or on developing REDD+ at a regional forest scale such as the Congo Basin. Only subsets of studies examine REDD+ projects, where it is possible to assess their direct impacts on local communities. These include conservation projects that have been re-labeled as REDD+. Minang et al. (2014) acknowledge that all of these studies have adopted different indicators for measuring progress and this makes for a difficult comparison.

Therefore, this review systematically examines REDD+ literature drawn from global research to highlight trends and identify gaps in our understanding of how REDD+ project-level initiatives, implemented on community owned or public lands conform to principles for successful collective action. This paper draws on Ostrom's (1990) common property rights (CPR) principles. The overarching question guiding this paper is: 'what is the evidence regarding how REDD+ projects have performed according to a set of collective action principles for effective forest management?'

5.2 Conceptual approach

5.2.1 *Collective action*

There are complexities in the pursuit of global collective action to address climate change, including conflicts among political and economic interests (Ostrom 2009). While global consensus has been slow to materialize, climate action has been characterized by local, state and regional efforts such as in American metropolises, the State of California and Europe respectively (Ostrom 2009). This fragmented approach to climate action has been particularly evident in REDD+. While REDD+ was initiated by a global institution to address the contribution of forest loss to global emissions, it has since been operationalized largely at regional, state and local scales.

Particularly due to the multi-scalar characteristics associated with REDD+, it is critical that actors at all scales understand how norms, rules and structures (referred to collectively as 'institutions') shape REDD+ outcomes on the ground (Agrawal and Lemos, 2007). Institutions, be it formal or informal, guide and shape stakeholder interactions and behaviour (Crona and Bodin, 2011) including the ability to protect environmental integrity, advance social equity and enhance human wellbeing (Redman 2014). Functional institutional mechanisms to govern natural resource use have been shown to extend beyond private property arrangements and state ownership, to common property collective action (Agrawal 2002). The primary focus of this paper is on the intersection of REDD+ with these two latter forms, i.e. state and community-based forest management.

Ostrom (1990) identified a set of collective action principles that have proved essential for successful collective processes and outcomes in natural resource management. These principles help us to better understand how groups manage common property resources by means of well-established rules, laws and relational processes for formal and informal institutions. Subsequent research has identified strong links between these collective action principles and forest condition (see Gibson and Becker 2000). Since Ostrom's identification of these principles in 1990, they have been subject to various theoretical debates and empirical evaluations (Gautam and Shivakoti 2005). A synthesis and analysis by

Cox et al. (2010) of a large number (91) of subsequent studies evaluating the Ostrom CPR design principles provide empirical and evidential support to the principles.

The principles, totalling 8 in number, are expanded in Table 4.1 and highlight the importance of: setting clear boundaries of the resource and resource users; local knowledge of the ecological system; local networks that actively build trust and take decisions; environmental monitoring coupled with processes for feedback; and mechanisms for conflict resolution. However, according to the work of Cox et al. (2010), a couple of the principles need to be expanded to incorporate new aspects; for example, the principle on 'monitoring' must, in addition to environmental monitoring (the condition of the resource), encompass social monitoring (users monitoring each other's behaviour). The review therefore incorporates these suggested sub-principles into the 8 CPR principles for our examination of government and non-state actor REDD+ projects on community lands to establish evidential trends. This paper cautiously notes that these principles are conceived as the minimum necessary for successful collective management and do not represent a panacea for forest management globally. Despite this, the study chose to use Ostrom's collective action principles as criteria, to bind the systematic review within a universal framework that is helpful in contextualising and unpacking REDD+ projects.

Table 5.1: Collective action principles adopted from Ostrom (1990) as an analytical lens.

<p>1. Clearly defined boundaries – The REDD+ forest project is well defined in geographical scope and boundary and assigned to a particular resource user group or community. This principle is often best served where land tenure is clearly defined with supporting documents to back titles. This effectively helps exclude external claims by 'foreign' unentitled parties. The greater the certainty of the boundary definition, the less costly it is to exclude outsiders.</p>
<p>2. Congruence between resource environment, its governance structure and rules – Governance structure and rules must be specific to local circumstances and characteristics of the REDD+ area. The rules and structures</p>

<p>must evolve as the status of the resource and the resource environment change</p>
<p>3. Decisions via collective choice arrangements – Decisions involve all the parties that have a stake in REDD+ forests. All voices matter and should be regarded for a generally satisfactory and accepted decision. Such collective choice arrangement processes should be well known by all stakeholders.</p>
<p>4. Effective monitoring – There is a system to monitor REDD+ and activities of stakeholders. Stakeholders of the resource play a major part in monitoring. All rules and monitoring outcomes should be transparent. This includes monitoring all safeguards that exist for REDD+ and the stakeholders in the project area. This principle requires a feedback mechanism.</p>
<p>5. Graduated sanctions and punishments for violations – All acts that go contrary to, or threaten the sustainability of, REDD+ and forest at large must be spelt out and publicly available to all stakeholders. Sanctions should be weighed against offences and repetitive violations should be more heavily sanctioned than first time violations.</p>
<p>6. Low-cost and easy-to-access conflict resolution mechanism – Stakeholders should be aware of where and how to channel grievances or conflicts. The resolution mechanism should be transparent, and handled by a trusted body with no conflict of interest. All grievances must be well documented.</p>
<p>7. Right of resource appropriators to self-govern – Authorities outside the REDD+ forest project area do not appropriate resources or their management and do not exclude or marginalize stakeholders and increase their vulnerabilities. Neither do state authorities practice remote governance; making the local community merely 'resource watchers'.</p>
<p>8. Organized rules and enforcement via nested enterprises – There are various systems at varying levels from the local community to the district, regional and national. The lessons from the REDD+ projects should rise through these vertical channels to inform national policy and international discussions. There is also horizontal nesting.</p>

5.2.2 Forest communities and community forestry

There are an estimated 1.2 billion people across the globe depending daily on

forests in one way or another (den Besten et al. 2014). Out of this number, an estimated 300 million directly rely on forests for their livelihoods (Stoian 2005), and are frequently categorized as local forest communities or indigenous peoples (prevalent in South America and Asia). Whilst the affect of these local communities on forests is partly shaped by local needs, management decisions made at higher levels also affect their stake in the sustainability of natural resources and the development of local institutions to manage those resources (Agrawal 2002).

Not all communities dependent on forests are engaged in community forestry. Instead, forest management by communities spans full control and management at one extreme, to a total lack of engagement and involvement at the other (see Brown et al. 2002; Sunderlin et al. 2014). Between these two extremes, there are differing community forestry practices that comprise a host of arrangements, agreements and activities (Mayers and Vermeulen 2002). Community Forest Management (CFM) institutions take different forms based on the resources being managed such as timber, non-timber forest products, forest ecosystem services, among others (Larson et al. 2010). Under CFM, communities (self-defined and identified groups of actors) collectively govern forests based on shared rules, rights and obligations (Banana and Gombya-Ssembajjwe 2000).

A consolidated CFM requires the secured delineation and recognition of rights and obligations, referred to as tenure. Tenure over land and forests includes ownership and sets of rights such as rights to access, use, manage and exclude. These rights may be held by a person, another private entity, families, clans, communities or government (White and Martin 2002). Reportedly, many governments across the world have, over the years, devolved rights to local forest communities, based on existing evidence of local forest management being good for forests (Banana and Gombya-Ssembajjwe 2000).

However, Vijge and Gupta (2014) suggest that allocating authority over forests to communities has had mixed results across the globe, and likewise, such devolution offers no guarantee of REDD+'s success. Communities must therefore be treated on a case-by-case basis to promote understanding of the contexts of host-REDD+ communities and the factors that enable the adoption of community management

systems that effectively reduce carbon emissions and contribute to social benefits (Cerbu et al. 2013). With the advent of REDD+, this paper explores the performance of global projects in light of the set of collective action principles instigated for effective forest management.

Before proceeding with this analysis, it is important to mention a few caveats. While the focus of this paper on collective action under REDD+, not all REDD+ projects need be designed in ways that require the type of local collective action covered by Ostrom's principles. Secondly, 'communities' may be highly diverse, with members who differ in occupational status, religion, wealth, ethnicity, gender, length of community residence, and many other variables (Di Gregorio et al. 2008). These factors impact the ability (availability of time, money and social capital to participate and to voice opinions) of community members to influence processes. Thus collective action that succeeds in maintaining forest cover may, or may not, result in outcomes that are equally beneficial for all members of the community.

Just as community forestry may produce inequitable outcomes, REDD+ has been criticized for having negative impacts on communities, such as undermining local institutions (Corbera and Schroeder 2011). Therefore, and as a complement to these critiques, this study was designed to provide the first systematic evaluation of the empirical evidence on how REDD+ implementation is positively contributing to collective action and building communities, rather than causing harm.

5.3 Methods

5.3.1 *Introduction to the systematic review*

Systematic literature reviews vary from traditional reviews, and are relatively novel within the development and environment sector (Petrokofsky et al. 2011) and more so for forestry and REDD+. A well-defined methodological approach was laid down prior to the review, to make the process rigorous, transparent and replicable with a high certainty of producing similar results (Pickering and Byrne 2013). Using the systematic review approach, this study mapped out global REDD+ projects' implementation progress and gaps in REDD+ scholarship.

5.3.2 *Review process*

The review process comprised a three-tier approach: systematic search, critical appraisal and synthesis (Figure 5.1 – www.tandfonline.com). Within each tier, various steps were adopted and adapted from Pickering and Byrne (2013) as enunciated below.

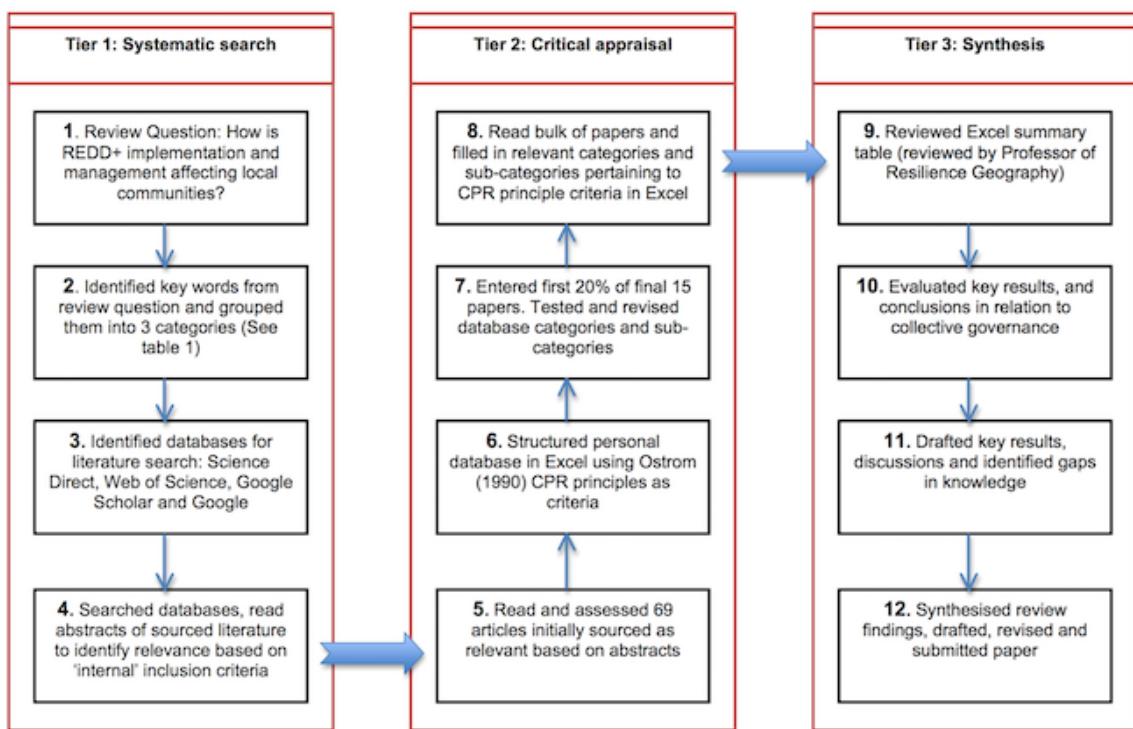


Figure 5.1: Systematic review process adapted from Pickering and Byrne (2013).

This first tier consisted of 4 steps. The paper defined the topic of the systematic review to look into evidence regarding the performance of REDD+ implementation, according to a set of collective action principles proposed for effective forest management. The review posed the research question; 'what is the evidence regarding how REDD+ projects (on public and community lands) have performed according to a set of collective action principles for effective forest management?' Based on the question, the study identified combinations of key words (Table 5.2), relevant to the literature search. The final tier 1 step identified databases and searched for literature. These databases were: Science Direct; Web of Science; Google Scholar; and Google. The study used all combinations in Category 1 and Category 2 with 'forest governance' for the first set of searches. The second set of

searches included all combinations of key words in Category 2 and Category 3 with 'REDD+'. All combinations of searches used the logic 'AND' with no publication date limits stipulated. As the literature search took place in February 2014, none of the papers retrieved for review are after this date.

Table 5.2: Key words for database literature search.

Category 1	Category 2	Category 3
REDD+	Civil society	Forest governance
Forests in climate change	Local community	Institutions
Avoided deforestation	Forest communities	Forest management
	Indigenous Peoples	Safeguards
	Local stakeholders	Participation
		Benefits

Under the second tier, the researcher read all the abstracts of the literature sourced and ascertained their relevance to the key research question. Articles were judged based on a set of 'inclusion' criteria applied to abstracts to narrow the voluminous collection of studies retrieved by the keyword searches (Pickering and Byrne 2013). The 'inclusion' criteria, decided internally by researchers were: 1) articles had to be published peer-reviewed empirical research; and 2) had to focus on REDD+ projects, not general forest governance or management. By REDD+ project, this study refers to any project rolled out to reduce emissions from forests in line with UNFCCC forest-climate objectives and any previous conservation projects re-labelled as REDD+. Therefore, this paper uses 'REDD+ projects' to also embody 'REDD+ like' projects that may or may not be officially recognizable under the UNFCCC. This paper considers government-led REDD+ projects, government-recognized REDD+ projects and projects by non-state actors (such as NGOs and private investors) implemented on public or community lands. In validating papers based on their abstracts, a total of 69 papers passed the initial 'inclusion' screening. All 69 papers were again subjected to the 'inclusion' criteria via thorough reading of the entire contents. After which 15 papers met the inclusion criteria. This sample size reflects the stage of REDD+ development and is also not an unusual sample size for a systematic review.

A second set of criteria (with sub-categories) were framed in a Microsoft Excel database and used to assess the 15 articles. This second set of criteria was drawn

externally, based on the works of Ostrom (1990), Dietz et al. (2003) and Cox et al. (2010). Ostrom's 8 CPR principles were adopted and adapted to serve as a lens for reviewing the final set of 15 papers. The first 20% of papers were entered into the database and an iterative process of testing and revising the database categories was undertaken before the bulk of the papers were evaluated and entered into the database. Under tier 3, where gaps in research were identified and findings were synthesized for an overview of REDD+ projects globally, the CPR principles allowed a critical evaluation of institutions of local level REDD+ projects and the related outcomes. The 15 studies reviewed, contained REDD+ projects (Table 5.3) spread across 14 countries: Tanzania, Papua New Guinea, Brazil, Peru, Vietnam, Mozambique, Philippines, Cameroon, Bolivia, Democratic Republic of Congo, Indonesia, Cambodia, Nepal and Ecuador as shown in Figure 5.2.

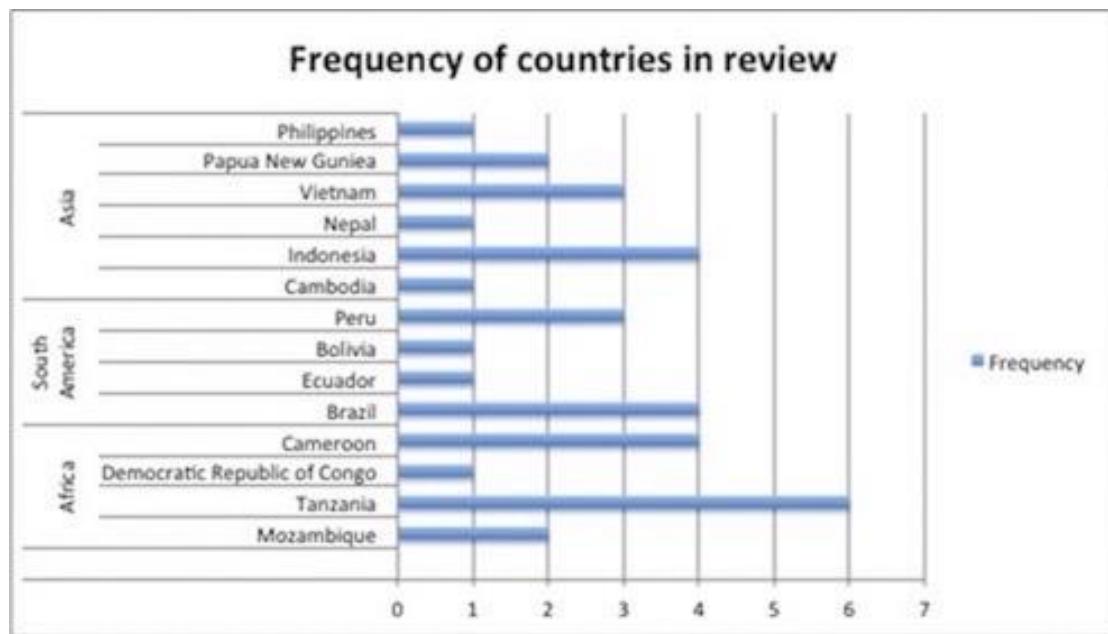


Figure 5.2: Country frequency in the 15 studies reviewed

Table 5.3: Geographical representation of projects in reviewed literature

Continent	Country	Project Title and Location	Reference
Africa	Cameroon	Mount Cameroon REDD+ project, Bova Bomboko, Likombe, Mapanja, Muelli; Payments for Environmental Services project, Nkolenyeng and Nomedjoh	Awono et al, 2014
	Tanzania	Angai Villages Land Forest Reserve, Mihumo and Lilombe Northern Rufiji Delta islands Carbon Forestry projects, Mshinzi and Mchele	Mustalahti et al, 2012 Burgess et al, 2013; Beymer Farris and Bassett, 2012
Asia	Indonesia	Ulu Masen REDD+ Project, Aceh; Ketapang Community Carbon Pool, West Kalimantan; Kalimantan Forest and Climate Partnership, Central Kalimantan; Rimba Raya Biodiversity Reserve REDD+ Project, Central Kalimantan; Katingan Peat Restoration and Conservation Project, Central Kalimantan	Resosudarmo et al, 2014
	Papua new Guinea	April-Salomei Pilot REDD+ Project, Niksek (Paka), Bukapuki, Kagiru, Wagu and Bitara	Leggett and Lovell, 2012
	Cambodia	Oddar Meanchey Community Forest REDD+ project, Oddar Meanchey	Pasgaard, 2013
	Philippines	Climate-Relevant Modernization of Forest Policy and Piloting of REDD in the Philippines, Southern Leyte; Advancing Development of Victoria-Anepahan Communities and Ecosystem through REDD (ADVANCE REDD), Southern Palawan; Community Carbon Pools Programme, Southern Sierra Madre Mountain range; Quirino Forest Carbon Project, Quirino; Philippine Peñablanca Sustainable Reforestation Project, Peñablanca	Lasco et al, 2013
South America	Brazil	16 communities* from these projects: System of Incentives for Environmental Services, Acre; Sustainable Settlements in the Amazon: the challenge of transition from family production on the frontier to a low carbon economy, Pará; Central Xingu REDD+ Pilot Program, São Félix do Xingu; Northwest Mato Grosso REDD+ Pilot	Duchelle et al, 2014

Continent	Country	Project Title and Location	Reference
		Program, Northwest Mato Grosso	
	Ecuador	Socio-Bosque programme, Cofan, Waorani, Awa	Reed, 2011
	Peru	Belgica; Amigos; ACA Castaña; Tambopata; Piramide; Inter Andean; Manu-Amarakaeri; DRIS; MDD Amazon; Infierno; BAM Castaña – all in Madre de Dios Watershed area	Hajek et al, 2011
Africa, Asia	Mozambique, China	N'hambita Community Carbon Project, N'hambita China was considered on national level in article and therefore was omitted from review	Groom and Palmer, 2012
Africa, Asia, South America	Brazil, Indonesia, Tanzania, Democratic Republic of the Congo, Bolivia, Cameroon, Peru, Nepal, Vietnam, Mozambique, Papua New Guinea	Communities* not stated in study	Murdiyarsa et al, 2012
	Brazil, Cameroon, Tanzania, Indonesia and Vietnam	Field research was in 19 REDD+ project sites across the 5 countries comprising 71 villages*	Sunderlin et al, 2014
	Brazil, Cameroon, Indonesia, Tanzania, Vietnam, Peru	Findings from study was derived from 71 villages*	Larson et al, 2013

**Authors did not state names of communities and so our study is limited in identifying specific community names.*

5.4 Findings and discussion

5.4.1 *Clearly defined boundaries*

The reviewed literature frequently echoed Ostrom's principles (1990) in stating that the physical delineation of community and forest boundaries is essential for REDD+ implementation. However, these boundaries were as yet largely undefined across most REDD+ project areas in selected literature, such as in Ulu Masen and Mount Cameroon sites in Indonesia and Cameroon respectively (Sunderlin et al. 2014). In addition to this physical delineation, the majority of reviewed papers regarded the specific bundles of rights articulated in tenure arrangements as another important element in resource management.

Land ownership in the project sites was revealed as either customary or statutory, with these two ownership forms commonly co-existing (Awono et al. 2014). Some studies found forestlands strictly under statutory control (*de jure*) but often with communities residing near the natural resources carrying out informal management (*de facto*). Across the selected literature on REDD+ on communal/public lands, tenure remained un-clarified in project areas. This meant that REDD+ sites in countries like Papua New Guinea, Indonesia and Cameroon are vulnerable to governments overriding customary ownership, and allocating concessions to industrial companies or private sector actors (Murdyiarso et al. 2012). Clearly, tenure security has been prominent in REDD+ discourse since its inception (Larson 2011); however, this has not often translated into progress in tenure clarification and security.

Further, 5 papers examined the right of exclusion as an element of secure tenure. These studies highlighted that communities' perception of their right to exclude did not always translate into actual ability to exclude. This is the case in the 'Central Xingu REDD+ pilot' (Brazil); 'Making REDD+ work for Communities and Forest Conservation Project' (Tanzania); and the 'Ulu Masen Project' (Indonesia), among others (Sunderlin et al. 2014). Commonly, governments distribute rights over community lands to outsiders or tend to appropriate lands for other purposes including claims of 'for public interest' (Beymer-Farris and Bassett 2012;

Murdiyarsa et al. 2012). Having legal title documents therefore plays a key role in enhancing security of tenure (Omura 2008). Thus, communities that lack formal legal recognition of customary land rights (maintained historically through customs and preserved by local knowledge) risk having their lands confiscated by governments (Sunderlin et al. 2014). Under a REDD+ policy mechanism, where communities may have legal liability for obligations, recognized community rights and the ability to exclude outsiders are essential to ensure the reduction of carbon emissions and its permanence (Palmer 2011).

To establish a functioning REDD+, projects are working to clarify and secure tenure for forests and lands in the villages and communities in which they operate. A process mainly dominated in the locality by community mapping and boundary demarcations. However, in the case of REDD+, tenure is further fraught with uncertainties around carbon rights (Hajek et al. 2011; Duchelle et al. 2014; Sunderlin et al. 2014). Very few countries have developed carbon rights (Skutsch et al. 2013) to guide REDD+ projects. It has been argued that, to avoid conflicts, carbon rights have to be defined and the complexity around its transfer further unpacked (Palmer 2011). Even though Sunderlin et al. (2014) argue that drawing a clear distinction between carbon rights and forest tenure is essential, this distinction was not always realized in practice in the studies reviewed. For example, Indonesia's regulatory tenure framework that guides local REDD+ projects does not separate forest tenure, land tenure, or carbon rights (Resosudarmo et al. 2014). In another vein, as identified by Larson et al. (2010) in Mexico and Costa Rica, the arrangement is to have various rights and responsibilities relevant to carbon management and benefits within the concept of stewardship for forest users, as opposed to ownership.

Power dynamics, actor interests and demands, entrenched institutional systems and financial rewards associated with REDD+, will most certainly influence the processes of defining carbon rights (Angelsen et al. 2012). Contained within the process, are the possible threats of elite capture, conflicts and inequity (Larson 2011). Economic and political interests have in some cases, such as in Indonesia and Papua New Guinea, promoted favouritism among state officials and industrial

actors (Murdiyarso et al. 2012; Resosudarmo et al. 2014). These informal relationships might affect REDD+ communities in ways not yet understood, and therefore need to be further researched.

5.4.2 Congruence between resource appropriation, rules and local needs

Eleven studies revealed a broad range of livelihood activities that indigenous peoples or local forest communities engaged in, including agriculture (shifting cultivation), charcoal production, the rearing of livestock, gathering of fuel wood and collecting non-timber forest products (for trade and subsistence). In some other places like Northwest Mato Grosso and Acre in Brazil, community livelihoods were fishing, hunting, wage labour and business (Duchelle et al. 2014). The majority of these livelihoods interact with forest resources and therefore raise issues regarding their congruence with REDD+. Though the literature revealed evidence of indigenous peoples and local communities' reliance on land and forests for their daily activities and livelihoods, it failed to demonstrate considerable evidence of successful integration of REDD+ carbon storage objectives with the livelihood objectives of communities.

The REDD+ strategy for each project area requires giving attention to community livelihoods and their impact on land use and carbon emissions. Considerable REDD+ actions to safeguard and promote community livelihoods alongside emission reductions are expected to decrease community vulnerability to climate change, whereas community vulnerability will be increased should REDD+ negatively impact their livelihoods. REDD+ requires new and conscious thinking on how to combine the objectives of carbon emission reduction with community needs (Somorin et al. 2012), as synergies will not necessarily develop naturally (Cerbu et al. 2013).

Some of the selected REDD+ projects engaged with certification schemes and international standards, including: Plan Vivo (N'hambita in Mozambique); Climate, Community and Biodiversity Alliance (CCBA) (April-Salomei in PNG); and the Verified Carbon Standards (VCS) (Cusco/Madre de Dios in Peru). In contrast,

REDD+ projects in some countries such as Cameroon followed national implementation rules and guidelines formed via multi-stakeholder platforms at ministerial level. Though some projects adopt CCBA, VCS and Plan Vivo, it was not clear if these guidelines represent fair and legitimate rules in the communities within which they are applied (Gautam and Shivakoti 2005). As externally designed rules, there is a likelihood of negative consequences if these guidelines are imposed without effort to match to local customs and to fit in with existing livelihood strategies (Cox et al. 2010). The specific rules regarding resource extraction and whether REDD+ project designs accounted for congruence between usage and provision rules with respect to local conditions and needs were inconclusive from the review.

The selected literature further revealed that certain governance issues affected the congruence between the state of the resource and the rules and standards needed to ensure improved forest cover. Major problems included corruption; elite capture of resources; entrenched structures and systems that enforce inequity; and economic interests driving unsustainable timber exploitation. It must therefore be recognised that power relations can lead to the co-opting of local decisions and processes and marginalization of some community members (Di Gregorio et al. 2008; Eriksen et al. 2015).

5.4.3 Decisions via collective choice arrangements

To analyze how decisions are made, the paper first examined information sharing approaches; studies indicated a suite of approaches ranging from meetings and training to capacity building workshops. Sunderlin et al. (2014) found in some cases that private project implementers did not divulge full information on REDD+ to forest-based communities. This was the case in 6 project sites (3 in Brazil and 3 in Indonesia) where the implementers totally refrained from mentioning REDD+ when they engaged communities. In addition, Free Prior and Informed Consent (FPIC) under the United Nations Declaration on Indigenous Peoples Rights (UNDRIP), which involves providing full and accurate information in a timely manner to communities to enable decisions on a project, is largely limited in the

REDD+ projects reviewed. There is substantial evidence that some communities face inequity in engagement based on the limited, and in some cases lack of, REDD+ knowledge. Access to knowledge is one approach to reducing the inequity and resource capture gap (Berkes 2009). However, based on findings, the study notes that information-sharing approaches in REDD+ need review.

In most of the countries featured in the review, findings revealed that project developers dominate decision-making and project design. For example, in Groom and Palmer's (2012) research on REDD+ projects in N'hambita, Mozambique, project developers had already decided the generic design of the projects before subjecting the design to community inputs to tweak it to fit local circumstances. The engagement processes often do not portray participatory outcomes, as evidenced by Lasco et al.'s (2013) Philippines' Visayas and Luzon Island projects. In Leggett and Lovell's (2012) study of April-Salomei in Papua New Guinea, though discussions had been participatory, inputs to shape decisions and designs were selectively chosen by the project implementers external to the communities. They noted only positive outcomes were reflected whereas negative opinions were ignored. In addition, the language of engagement and contract documents were in some cases not tailored to local languages of the communities. This lack of sensitivity to local situations and practices such as non-disclosure of full information to communities, entrench inequity. The experience of decision making in the 12 REDD+ projects across Peru was reported to be different however, as project leads were indigenous peoples, grassroots NGOs, and forest concessionaires (Hajek et al. 2011).

Though engaging communities catalyses a working knowledge of decisions and procedures, and increases ownership, there is an outstanding question of what constitutes adequate engagement in REDD+. It has been argued that having a stakeholder-agreed minimum standard for participating in REDD+ project levels will foster a collective decision making approach for effective management of relationships between various stakeholders (Berkes 2009). These minimum standards can include the minimum time needed to allow communities to digest, absorb and form their own decisions and positions to feedback to the process.

5.4.4 Effective monitoring

Elements monitored across REDD+ projects in selected literature differed; they included forest and tree exploitation, carbon, programme activities and stakeholder engagement. In the Khasi and Gaw Hills pilot projects in India, provisions and proposals were made to monitor carbon and biodiversity benefits. The monitoring approaches identified in this review range from strict licensing systems based, for example, on quota allocation, to the use of remote sensing and satellites. Other processes include forest inventory and observations via patrol systems.

There were recognized risks of excluding forest-based communities or indigenous peoples from monitoring systems. This is linked in literature to elite capture of resources and processes as seen in the REDD+ projects in Papua New Guinea, Indonesia and Vietnam (Murdyiarso et al. 2012), resulting in disempowerment and marginalization of locals. With respect to the principle, the review found that studies largely reported monitoring of the resource condition and lacked any mention of the monitoring of behaviour of users by users. For a successful community based natural resource management, Cox et al. (2010) posit the importance of both social monitoring and environmental monitoring. There was also a lack of focus on the essence of a feedback system for the monitoring framework in selected literature, except Pasgaard (2013) in the social-dimensioned study on Oddar-Meanchey (Cambodia), who cursorily broached the subject.

To establish the effectiveness, efficiency and equity of REDD+, it can be argued that monitoring should extend beyond carbon to costs, procedural and socio-economic outcomes. Other arguments have been levelled to integrate REDD+ impacts on biodiversity in the monitoring framework (Gardner et al. 2012) and the performance of safeguards. Monitoring safeguards is currently lacking in on-going projects and, for those kicking off, plans to monitor safeguards were not visible (Pasgaard 2013; Somorin et al. 2014). These safeguard monitoring systems can rope in a monitoring framework for REDD+ co-benefits (Somorin et al. 2014).

Safeguards in the review comprised respecting the rights of forest dependent communities (access, participation, Free Prior Informed Consent); biodiversity protection/rights of nature; benefits sharing (equity); recognizing indigenous knowledge and customs; and ensuring permanence. As countries are increasingly moving from projects towards jurisdictional and national level programmatic approaches (see Ravikumar et al. 2015), communities may not be engaged in monitoring since this is not a UNFCCC requirement for carbon or safeguard measurements. However, it is noted that there is a growing consensus amongst practitioners that communities adequately trained for monitoring can produce data comparable in quality to data produced by professionals (Fry 2011).

5.4.5 Graduated sanctions and punishments for violations

The process of determining sanctions and the actor(s) involved in such processes were not tackled in any of the literature reviewed. The various studies were also silent on the forms of sanctions existing in various projects, except Resosudarmo et al.'s (2014) study of REDD+ in Indonesian villages, in which he reports sanction forms including jail time, compensation fines, confiscation, oral social disapproval and physical punishments.

To enhance resource governance and management including rule adherence, sanctions and punishments are essential for effective forest institutions (Mehring et al. 2011). However, from the REDD+ projects reviewed, it is not known what sanctions exist, how they came to exist or the impact they have on communities. Violations of natural resource rules vary in type and magnitude; thus, according to the Commons literature, sanctions have to be graduated (Ostrom 1990). First time violations must correspond to lesser sanctions whilst repeated offences attract steeper sanctions. Sanctions also have to correspond to the magnitude of the violations. Pertinent questions include: How can sanctions for violations be introduced and by whom? How should a system decide what sanctions correspond to what violations and to what degree? Mehring et al. (2011) found that implementation of state driven formal rules were not effective in the past. Therefore such a process requires buy-in from local people as sanctioning systems

and sanctions must fit their circumstances, culture and norms (Mehring et al. 2011; Ramcilovic-Suominen and Hansen 2012). Likewise, it is key to consider what sanctions under REDD+ means for community cohesion.

5.4.6 Low cost and easy-to-access conflict resolution mechanism

The need for a conflict resolution mechanism in REDD+ implementation was discussed by 4 of the 15 of the studies reviewed. It was evident that the current state of un-clarified tenure across global REDD+ project sites was seen as one of the first threats of conflict arising within REDD+. Even where land tenure is clarified and secured, conflict resolution mechanisms are necessary to ensure regularized tenure is sustained (Duchelle et al. 2014).

According to Ostrom's principles, conflicts and contentions require fair and just systems of adjudication so that they do not aggravate and threaten REDD+ permanence. The selected literature revealed that little attention has been paid to REDD+ conflict resolution mechanisms. According to these principles, access to grievance redress may be essential at the lowest level of REDD+ implementation to avoid bias and conflict of interest. It should in addition, be accessible and inexpensive for aggrieved actors to seek redress (Ostrom 1990). Seeking redress requires a transparent and public process that specifies how and where appeals of dissatisfied parties must be channelled.

5.4.7 Right of resource appropriators to self-govern and to benefit

Four of the selected articles examined communities' collective ability to organize under REDD+. In the study of Northern Rufiji Delta Islands by Beymer-Farris and Bassett (2012), communities were reported to have collectively worked together and had historically opposed outside influences. In Waorani, Cofan and Awa (Ecuador), distrust for top-level indigenous leaders suspected to align with government and other special interests, led to a disintegration of collective views and actions of forest-based communities for REDD+. In addition, for some communities, members were more loyal to families and clans than the community

as a whole, and this affected their self-governance for collective action (Reed 2011).

To function collectively, some trust in allegiance to community aspirations or goals plays a big part (Reed 2008). A stronger tie (cultural homogeneity) amongst community members is a pre-requisite to collective functioning and sustainability (Bardhan and Dayton-Johnson 2002; McManners 2014). Research on the extent to which trust, or the lack of it, will impact REDD+ success in meeting its objectives and why some communities foster collective action and others do not, may help to foster greater understanding of REDD+. In classic forest management, the size of the community has been indicated to have importance in the success of collective action (Agrawal 2000).

In the Waorani, Cofan and Awa (Ecuador) study, there was a *Confederación de Nacionalidades Indígenas del Ecuador* network that indigenous communities had ceased to recognize and use as their mouthpiece. Unlike the foregoing case where a coalition existed but lost legitimacy, Somorin et al. (2014) found the reverse in Cameroon where a new network had been formed and was garnering support from the wider community. In Awae and Akok areas of Cameroon, Cerbu et al. (2013) identified various groups, and individuals as members of one or more groups. There was a farmer association group, which was particularly well organized and effective in decision-making. Literature on Tanzania disclosed that 13 villages had formed a collective body called MUHIMA for forest management but which recognizably would affect REDD+ (Mustalahti et al. 2012), whilst in Ecuador, Reed (2011) found that organized groups experienced conflicts due to different philosophical viewpoints of village elders' interests and local reality demands.

On the subject of community benefits, the selected literature treated REDD+ benefits as the financial assistance to undertake REDD+ readiness and the payments to be made for delivering results. Results based benefits ranged from community livelihood programmes and enterprise and infrastructure development (Visayas and Luzon, Philippines), to agricultural systems

diversification (Awae and Akok, Cameroon) and financial payments (Cofan, Waorani, and Awa, Ecuador). What remained scanty and much of which was not clear in the review was who the recipients of REDD+ benefits were. In some cases such as the Cofan, Waorani, and Awa study, communities were required to present an investment plan on the communal use of benefits (Reed 2011), whereas in N'hambita in Mozambique, performance payments were made individually to participating households with a portion of benefits carved out for purposes that benefited the whole community (Groom and Palmer 2012).

The review identified that deciding who benefits, what they benefit from, and how the benefits get to them, are all outstanding issues that need to be fleshed out in most REDD+ countries that are implementing projects.

5.4.8 Organized rules and enforcement via nested enterprises

Eight out of 15 papers showed evidence of a link between project level and national level REDD+ activities. Often, a national framework or policy strategy shaped the form and activities of REDD+ at all levels. There was evidence of nested governance arrangements across various cases and these were divided between the national, regional and community level. REDD+ nesting in the selected literature was clearly vertical (e.g. between user groups and government authorities) with limited mention of horizontal nesting (e.g. among user groups) (Cox et al. 2010). The nature of REDD+ as a mechanism emanating from higher levels of global environmental governance causes implementation to rely on nested approaches. For instance, changing local interactions with forests via REDD+ projects is reflected in the national level reform of policies and strategies to rectify unsustainable timber extraction and cross-sectoral policy conflicts on land use (Murdiyarno et al. 2012).

Four studies highlighted national REDD+ committees that were comprised of various stakeholders and were mandated to make decisions. In some cases, there were inter-ministerial REDD+ committees that fostered coordination amongst sector ministries and agencies. None of the studies presented clear lines of

responsibility and reporting for the REDD+ elements in their cases. A nested approach allows the determination of spaces for reform on practical issues that require policy backing at the national level.

5.5 Conclusion

Using a systematic review approach, this paper contributes to our understanding of how REDD+ project-level initiatives implemented on community owned or public lands conform to Ostrom's (1990) principles for successful collective action. This revealed many challenges across countries and world regions.

The paper found, for instance, that tenure clarity and security, including carbon rights, is high on the REDD+ discourse but pragmatically has seen very little headway at implementation levels. While communities were engaged in the REDD+ projects, their engagement was often in an ad-hoc fashion. Decisions were taken before communities were consulted to gauge their reaction. Many of the REDD+ projects examined under this review demonstrated a lack of FPIC, and the withholding of information by project implementers in a bid to manage community expectations.

Other gaps in REDD+ on the ground include the elite capture of resources and corruption, which frequently pre-date the start of REDD+ projects. There has frequently been inadequate benefit distribution, often exacerbated by a lack of clarity in project design regarding who is expected to benefit, what they are to benefit and how they will benefit.

The systematic review further allowed this paper to highlight the areas in need of further research regarding the successful implementation of the REDD+ mechanism. The gaps in research that were identified are:

- There was limited research that clearly explained how the design of REDD+ projects on community forests and public lands addressed community-involvement in decision-making. Building on this, research is required to

establish both inter-stakeholder and intra-community social impacts of REDD+ including any impacts that community heterogeneity, such as gender, may have on REDD+ implementation, and vice versa.

- The review indicates that implementing REDD+ involves multi-stakeholder, multi-institutional and various governance approaches at nested levels. As realized, multi stakeholder platforms play a major role in the REDD+ process. However certain key elements such as conflict resolution mechanisms and benefit sharing systems are key issues that need to be unpacked to understand how these will impact forest-based communities and REDD+ carbon storage objectives.
- Literature is scant on the rules for governing resource use in REDD+ projects, how the rules were formed, how often they are renewed and what leads to their review.
- Research into sanctions and punishments for violations needs to be carried out to establish how sanctions are determined, what sanctions exist, who imposes sanctions and what sanctions mean for community cohesion.

Using Ostrom's design principles proved useful in understanding the gaps, both on the ground and in the research, in the context of REDD+ projects. Many of these gaps may be similar to those found in the practice of community forestry more generally. But nevertheless, further research is needed on how to best address these gaps, if REDD+ is to be used as a tool to support community forestry.

Available information in some studies was insufficient to examine the relevance of all principles as a lens for evaluating empirical evidence on REDD+ implementation. For instance, principles 5, 6 and 8 were not well elaborated in the literature reviewed. While clearly much more could be done to explore Ostrom's principles, there are also limits to the degree to which this framework can explain all the issues, barriers and opportunities to communities from REDD+. In addition, it is important to consider other complementary frameworks, such as the 'equity

framework' (see McDermott et al. 2013), or the 'justice framework' (see Sikor et al. 2010) to build upon an understanding of contextual, procedural and distributive aspects of REDD+ at community, national, and regional scales.

This paper focused on projects at the community level. In future, it is highly likely that REDD+ projects will be required to fit within a more scaled-up and coordinated national REDD+ structure. This study concludes that Ostrom's principles contribute an important starting point for understanding local institutions of REDD+ governance, which can then be used to inform the scaling up of REDD+. While the UNFCCC focuses on the reporting and achievement of both carbon reductions and safeguards implementation at the national level, the success of REDD+ implementation rests ultimately with its ability to engage effectively with the local actors shaping its enactment on the ground.

CHAPTER SIX: EQUITY IN GHANA'S NATIONAL PROCESS

Abstract: Reducing Emissions from Deforestation and Forest Degradation, sustainable forest management, enhancement of forest carbon stocks and conservation (REDD+) aims to reduce the 12-17% of global greenhouse gas emissions attributable to forest loss worldwide. As tropical countries undertake REDD+ readiness, vital questions arise around the equity of REDD+ interventions. In particular, there has been much critique of the impact of REDD+ on local forest communities, and whether these interventions serve to entrench or address existing inequalities and the structural causes of poverty. Taking Ghana's REDD+ process as a case study, McDermott et al.'s (2013) 'equity framework' is used to systematically examine the contextual, procedural and distributive dimensions of equity, based on fieldwork carried out from July 2014 to March 2016. This study draws on stakeholder perspectives and document analysis to draw conclusions about the equity of Ghana's REDD+ process. Our study shows that Ghana's national REDD+ strategy, legal texts and documents aim to ensure that all actors, including local forest communities, are considered 'subjects of equity'. However, according to stakeholder perspectives and general forest laws and policies, there are multiple barriers to realizing the intended goals of equity. Firstly, the complex, multiple and unclear tenurial arrangements inhibit distributive equity. Secondly, uneven stakeholder knowledge and capacity hamper effective engagement in decision-making and limit procedural equity. Thirdly, contextual factors that are remnants of colonial structures and systems, and that serve competing political and economic interests through resource exploitation impact distributive equity. The 'equity framework' reveals that historical contextual factors impact the achievement of equity through REDD+, even with right government policies and strategies in place.

Key words: REDD+, Equity, Policy, Forest, Climate Change, Ghana

6.1 Introduction

Reduced Emissions from Deforestation and Forest Degradation (REDD+) is a voluntary mechanism under the United Nations Framework Convention on Climate Change (UNFCCC). It incentivizes forested developing countries employing new strategies to reduce forest loss in order to cut the carbon emissions associated with such loss. The mechanism is aimed at mitigating the 17-20% of total global greenhouse gas emissions attributable to forest loss (Boucher et al., 2014). REDD+ comprises: enhancement of forest carbon stocks; conservation; sustainable forest management; reducing forest degradation; and reducing deforestation.

Under the UNFCCC, many tropical forested countries have signed up to REDD+. New initiatives such as the World Bank Forest Carbon Partnership Facility (FCPF) and the United Nations Collaborative Programme (UNREDD), have emerged in concert with REDD+ to fund these countries' early activities, as the UNFCCC debates the financial architecture to support the mechanism, including via the Green Climate Fund. Ghana is one of 197 countries to have ratified the UNFCCC, and is actively participating in REDD+. As a relatively less industrialized country, but with a growing population, emerging economy and development, Ghana's land use sector is a key consideration in its greenhouse gas emissions (MEST, 2010).

Ghana aims to reduce its overall emissions over the next 10 years by 40% (FC, 2016). It aims to achieve this in tandem with addressing ecosystem service threats and ensuring environmental integrity. REDD+ governance and policy in Ghana is a collective action problem as the country commences its full programme. Collective action in this context is understood as the basic condition for achieving effective governance outcomes in the commons (Ostrom, 1990). There is an opportunity to contribute to knowledge, necessary in shaping Ghana's process of effectively managing REDD+ for equitable and effective outcomes, and reducing the social risks and costs of REDD+ (Ribot and Larson, 2012).

The aim of this paper is to examine how equity features in REDD+ in Ghana, based primarily on REDD+ stakeholder perceptions and document review. While equity is relevant at all spatial scales, this paper focuses on Ghana's national level

institutions, rather than the international UNFCCC level as treated by Ituarte-Lima et al. (2014) in their study. This national focus is particularly crucial given that the UNFCCC stipulates the “adoption of a national approach to reporting on REDD+, that assigns national governments the ultimate authority in governing REDD+ actions” (Ituarte-Lima et al., 2014; p. 293).

Accompanying new governance mechanisms such as REDD+ are theoretical debates around how such mechanisms impact equity, and thereby either entrench or successfully address existing inequalities and structural causes of poverty (McDermott et al., 2013). There are many ways to approach equity in REDD+ (e.g. those of Quesada-Aguilar and Franks, 2015 or Rantala et al., 2015). However, the paper draws on McDermott et al.’s (2013) ‘equity framework’, specifically because it provides a comprehensive and systematic approach to analyzing how institutions mediate equity. The framework distinguishes several dimensions of equity, including distributive, procedural and contextual equity.

The paper applies McDermott et al.’s ‘equity framework’ empirically to: explore REDD+ governance and policy processes in Ghana, including institutional set-up; to ask questions of those who count in REDD+ governance; and understand how the state mediates actor interests and relations in implementing REDD+. The research examines the inclusion and exclusion of actors, identifies important decision making processes, identifies which actors matter in defining implementation activities and who faces what costs and risks and enjoys what benefits. The paper further discusses the extent to which the Ghana REDD+ process addresses equity and it does this premised on the importance of REDD+ doing no harm, promoting net benefits and being effective in achieving its objectives (RECOFTC, 2015).

6.2 Adapting the equity framework to REDD+ in Ghana

Ghana has been endowed with natural resources including an estimated 8 million hectares of forest, which has dwindled at 2% per annum since the 1990s to an area covering 1.6 million hectares (MLNR, 2012; Marfo et al., 2013). Ghana's forests are

divided into 'reserves' and 'off-reserves'. The 'reserves' are governed by the state under a prohibitive 'command and control' approach and zoned into 80% production reserves and 20% protection reserves. 'Off-reserves' across the country are managed under various arrangements including collaborative approaches with communities and farmers. Reports indicate that Ghana has lost, and is continuing to lose, forest cover at an alarming rate in the 'off-reserves', amounting to more than it has in the 'reserves' (FC, 2010; Marfo et al., 2013). This is mainly due to unsuitable exploitation practices including logging that exceeds the annual allowable cut for timber (FC, 2010).

Forests play a significant role in the economic development of Ghana both informally and formally. For instance, formal logging contributed 3.7% of gross domestic product in 2009, and it is estimated that the sector employs 120,000 people (MLNR, 2012). Ghana's forests informally serve as a source of livelihood including non-timber forest products for subsistence and commercial purposes, hunting, chain-saw operations to supply domestic timber demand, small-scale carpentry, and herbal services. With a population of 25 million people and an estimated 11 million forest area dwellers, out of which 2 million depend on forests and wildlife for their livelihood (MLNR, 2012). Ghana's dwindling forest remains a valuable natural resource that demands new forms of sustainable management (Lockwood et al., 2010) such as REDD+.

REDD+ focuses on the extent to which it can reduce emissions (effectiveness) at a minimum cost (efficiency), while still achieving fair distribution of costs and benefits (equity) (Quesada-Aguilar and Franks, 2015; Angelsen et al., 2012). REDD+ therefore requires a diversion from business-as-usual to achieve emission reductions, but in an equitable fashion that provides net-benefits without causing harm, and contributes to poverty reduction in both process and outcomes. To understand the realities associated with REDD+ implementation, the paper investigates equity in Ghana's REDD+ readiness process. Equity has various dimensions and the equity framework introduced by McDermott et al. (2013) attempts to identify and bring together these dimensions in an integrated, systematic and rigorous way (see Figure 6.1 below). McDermott et al. (2013)

elaborate their framework on the scalar dimension of equity, the goal of equity and the parameter setting process. Their framework sets the scene for questions of why equity matters, who counts, and what counts as equity in the context of changing global values for local ecosystem services.

The equity framework helps to clarify the relevance of equity goals and that goals may incur costs. For example, a scheme that sets out to alleviate poverty through carbon forests can come with a cost of excluding access for some people (Penna-Firme and Brondizio, 2007). Understanding the parameters of equity demonstrates relevance of process for deciding goals, targets and contents of REDD+, as a way to clarify who is included or excluded from intervention, and how that has relevance for policy and practice.

McDermott (2013) has also applied the framework to compare priorities and trade-offs on different environmental and social certification schemes. The framework reveals existing variation in how environment or equity are prioritized across supply chains according to the way that equity is framed and standards are safeguarded. Overall the equity framework helps to identify a general need for further deliberative strategies for participation in forest certification schemes. Ituarte-Lima et al. (2014) also apply the equity framework to assess key articles of the UN Framework Convention on Climate Change, as well as Indonesia's Constitution, its REDD+ strategy and selected legislation. They found value in adopting such a comprehensive framework to situate detailed analysis of specific REDD+-related laws within their broader legal and fiscal contexts from international to national and local.

In this instance the framework helps us examine Ghana's REDD+ governance systems within the dimensions of:

- **Procedural equity** – This dimension refers to decision-making and how it features in the uptake of new ideas and approaches by local people in the context of REDD+. It considers which marginalized groups are recognized,

who is included and who is left out (McDermott et al., 2013; REDD-net, 2011).

- **Distributive equity** – This dimension addresses the risks, costs and distribution of benefits, in particular to marginalized groups e.g. women, the landless, migrant farmers etcetera, and the core 'benefactors' of REDD+. It sheds light on the intended basis for benefits distribution and the impacts that the costs and benefits have (REDD-net, 2011).
- **Contextual equity** – This dimension examines pre-existing social, political and economic conditions, such as tenure, land rights and political structures, that limit or enable people's access to decision-making procedures, resources and benefits (McDermott et al., 2013). In other words, it addresses how level the playing field is. With respect to REDD+, this includes earlier processes, historical forest management institutions, practices, and existing policies and laws. Equitable participation cannot lead to equitable outcomes on an uneven playing field.

All three dimensions are relational, with context influencing the procedures that take place and the distributions for stakeholders of costs borne and benefits accrued. There are other essential elements that overarch the three dimensions. These are examined within the exploration of equity in Ghana's REDD+ process:

- **Equity parameters:** This refers to what constitutes equity and how it comes to be embodied in the process. It is process oriented with a focus on the scale of decision-making and who is included or excluded from making decisions.
- **Goal of equity:** This concerns why the equity parameters are established. It draws out the essence of why the programme has to include equity considerations such as maximizing equity, improving equity, doing no harm or eliminating equity altogether (REDD-net, 2011).

- **Who counts:** This refers to who is considered a target of the equity parameters that are set, and how they come to be targets. In other words, the targets encompass relevant stakeholders – those that affect, and are affected by, the programme.

Exploring the Ghana REDD+ process using this framework is a way to contribute to the effectiveness of a REDD+ programme that does not cause harm but inures net-benefits for relevant stakeholders and contributes to the low-carbon development pathway of the country. There are serious concerns around the scale at which equity needs to be addressed, as what is inequity at one scale may lead to equity at another. For instance, McDermott et al. (2013) say that payment for environmental service schemes emphasize environmental outcomes at the neglect of poverty reduction, and thus may lead to inequitable outcomes at the forest community level but globally benefit the poorest peoples by the reduction in catastrophic green house gases.

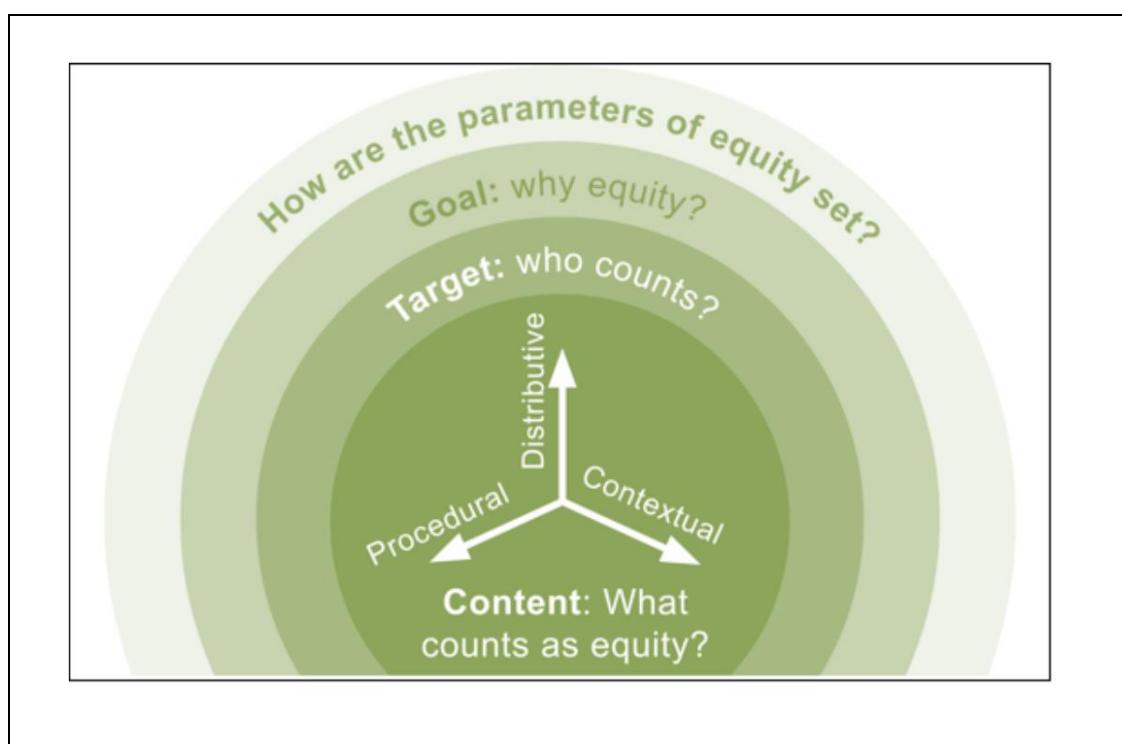


Figure 6.1. Equity Framework (McDermott et al., 2013)

To date a number of REDD+ case studies focus on equity with inspiration from broader justice frameworks, yet with similar entry points to McDermott's

framework. For example, Nathan and Pasgaard (2017) situate analysis of REDD+ within a broader context of efficiency, effectiveness and equity in Northern Cambodia. They found tensions between objectives of creating efficient and effective financial value from carbon stored in trees through the private market and the social equity considerations that are often overlooked. REDD+ projects implemented in areas of limited statehood are unlikely to be effective, efficient, and equitable at the same time they note. They also identified the need for more studies on REDD+ projects with different approaches that could lead to different conclusions. Similarly, Isyaku et al (2017) investigate the dimensions of justice in REDD+ in West Africa by paying explicit attention to transparency, equity and legitimacy (TEL) criteria to examine justice considerations in REDD+ implementation in Nigeria and Ghana. Their findings show that including the normative elements of justice provides important insights into how REDD+ might both enable and disable justice for local people.

Fraser (2001) draws attention to the work of Taylor (1994) and Honneth (1992, 1995) on recognition, as "being recognized by another subject is a necessary condition for attaining full, undistorted subjectivity. To deny someone's recognition is to deprive her or him of a basic prerequisite for human flourishing" (Fraser, 2001: p.26). Schlosberg and Carruthers (2010) demonstrate the value of focusing on broad, integrated, and pluralistic discourse of justice among indigenous peoples—one that can incorporate a range of demands for equity, recognition, participation, and other capabilities into a concern for the basic functioning of nature, culture, and community. Forsyth and Sikor (2013) go a step further and examine justice in the values, knowledge, access and property rights relating to forests. They critique John Rawls' principles of fair allocation to known actors as insufficient and argue instead for Amartya Sen's more deliberative and inclusive vision of justice that focuses on how different users experience different benefits, and seek to achieve multiple objectives together. They argue that approaches to redistribution and recognition do not acknowledge the diversity of concerns about which aspects of forest benefits are to be allocated and highlight the rights in forest governance beyond indigenous peoples.

6.3 Research design and methods

With REDD+ being a contemporary and evolving mechanism, an exploratory-qualitative case study serves as an appropriate approach with which to launch an in-depth analysis of empirical findings (Yin, 2014; Baxter and Jack, 2008). With complex and integrated real world issues such as poverty reduction, livelihood security, effective emission reduction and resource rights/access surrounding the performance of REDD+, our adoption of a case study makes it possible to consult various data sources. Ghana is chosen as the case study country based on its pioneering status in commencing REDD+ readiness under the FCPF in 2008. In addition, empirical REDD+ literature on Anglophone West Africa is limited, compared to other regions (Saeed et al., 2017). However, in the last couple of years, an increasing number of studies on West Africa have emerged. For example, Asiyanbi (2016) on political ecology of REDD+ in Nigeria; Arhin (2015) on the progress, prospects and challenges in Ghana's REDD+ process; Asiyanbi et al. (2017) on politics around REDD+ design and implementation in Ghana and Nigeria; Isyaku et al. (2017) on framing justice in REDD+ governance; and Tilahun et al. (2016) on REDD+ opportunity costs in Ghana. This study, by researching equity in Ghana's national REDD+ policy process, contributes novel insights into the region's progress with REDD+. The study presents an interesting case to which the application of the 'equity framework' helps ascertain the balance between the intention to establish and attain clear equity goals for REDD+, and stakeholder perspectives on the actual outcomes.

This study reviews literature pertaining to REDD+ in Ghana including legal texts, documents, meeting reports and consultancy reports on Ghana's forest sector. These include the 1992 Constitution of Ghana; 2012 Forest and Wildlife Policy (FWP); 2013 National Climate Change Policy; REDD+ Benefit Sharing Consultancy Report; 2016 REDD+ Strategy; Social, Environmental and Strategic Assessment report (SESA); and the REDD+ Readiness Preparation Proposal (R-PP).

Primary data was gathered from mid July to late September 2014 and February to March 2016, employing criterion and snowball sampling approaches (Teddlie and

Yu, 2007) to identify relevant interviewees in Ghana. Criterion sampling, as the initial approach, allowed the study to profile experts and authority figures identified from key Ghanaian REDD+ forestry documents such as the R-PP. The interviewees profiled assisted in the identification of other relevant actors not captured in the original list. A total of 35 face-to-face interviews were held with REDD+ stakeholders including representatives of the private sector, government officials, civil society organizations (CSOs), national level traditional authorities and donor communities.

All the interviews were audio-recorded, transcribed and exported to the QSR-NVivo software package. NVivo was used to organize interviews in one place and code raw field data into themes. Coding in NVivo allowed the data to be broken down into manageable bits, given the large amount of data generated from 35 interviews each averaging 50 minutes. NVivo was useful in cross-referencing anecdotal evidence with electronic documents.

The paper adopts a reflexive approach to research analysis, to make sense of the findings; a process that involved the interpretation of what was said in interviews and written in documents, while reflecting on what positions, previous knowledge and understanding the researchers, brought to the study (Symon and Cassell, 2012).

6.4 Results

6.4.1 *Process: How are the parameters of equity set?*

In Ghana, the Forestry Commission (FC) under the Ministry of Lands and Natural Resources (MLNR) serves as the key authority for the national REDD+ process. The FC's designated REDD+ Unit initiated the process by submission of a Readiness Plan Idea Note (R-PIN) to the World Bank in 2007. The R-PIN gave insight into land use patterns, drivers of deforestation and institutional arrangements. The World Bank accepted Ghana's R-PIN in July 2008, thereby initiating the development of the Readiness Preparation Proposal (R-PP) document.

Currently, Ghana's REDD+ policy process, as per the directive of the World Bank in 2010, has strong political backing at the highest level of cabinet. The platform chaired by the Vice-President is known as the Environment and Natural Resources Advisory Council (ENRAC). ENRAC provides guidance and direction on policy coordination with respect to various sectors and the pursuit of sustainable development vis-à-vis the environment and natural resources. Beneath ENRAC is the Technical Coordinating Council Plus (TCC+), which makes decisions for the FCPF REDD+ readiness and the REDD+ up-scaling facility, the Forest Investment Programme (FIP). Under TCC+, is the National REDD+ Working Group (NRWG), a multi-stakeholder committee at ministerial level that has created the opportunity for all key stakeholders to be engaged in setting the parameters for REDD+ activities. Plans are developed by the REDD+ Secretariat and submitted to the NRWG for approval before implementation. However, It was pointed out by a number of interviewees that the NRWG:

“...meetings are hardly summoned. And once in a while when meetings are scheduled they have been last minute to the displeasure of others... the working group is not that active” (CSO official B, 2014).

Despite this shortfall, there are 7 sub-working groups including policy and governance, consultation and participation, monitoring, reporting and verification, which operate much more frequently. The aggregated members of the sub-working groups constitute the NRWG. Furthermore, the REDD+ design process in Ghana has relied heavily on consultants. According to the fieldwork findings:

“the [REDD+] secretariat does not always use its mechanism to do things when they realize that there is an obvious gap. They involve or try to draw expertise across board to help them push certain issues forward so I think... that brings in lots of ideas... experts within this space bring in the knowledge” (Consultant B, 2014).

Consultants were commissioned to develop the national REDD+ strategy, the grievance redress mechanism, the benefits sharing scheme, monitoring, reporting and verification protocols and other REDD+ components. The demand for (new)

knowledge under REDD+, means consultants as experts in particular areas are essential in bridging capacity gaps of the FC and other state institutions vis-à-vis the scientific and technological requirements for rolling out REDD+ (FC official A, 2014). Despite the value attached to consultants, some respondents alluded to some commissioned consultants having been bad choices as they lacked the requisite capacity. It was evident from the field that some consultancies failed to meet the expected outcomes of their assignments. In reference to one of the consultancies, official A from the FC indicated that:

"there were major weaknesses in the work that was submitted by consultant organization C. I think, looking back, they didn't have the capacity to do this kind of job and when they made the bid for the assignment, in their proposal they gave us [FC] an impression that they had a very competent team and that they could also tap into the global network of consultant organization C... clearly the people who were leading this work didn't have the qualification so it was a consultancy gone wrong".

In this sub-section, the paper posed the question, how are the parameters of equity set in the Ghana REDD+ process? In summary, the work discovered that the design process for REDD+ in Ghana is set around a complex use of various platforms at several levels that seek to promote cross-sectorial, inter-ministerial and multi-stakeholder involvement, including high political support. There are difficulties surrounding the process such as infrequent meetings of some platforms, and stakeholders who are actually affected, such as forest communities, having limited or no role in policy discussions. There is also high reliance on consulting firms, which arguably impacts the equity goal set, and has implications for various stakeholders. The effectiveness of the process via which REDD+ and inherent equity parameters are established is questionable.

6.4.2 *What is the equity goal? Why that goal?*

The Ghana R-PP contains a Social and Environmental Strategic Assessment (SESA),

which states a commitment to “do no harm” and enhance positive REDD+ benefits relating to society, livelihoods, governance, biodiversity and the environment. The R-PP includes equity in promoting national socio-economic development, accountability and due process for all (FC, 2010). This aligns with the 2012 Forest and Wildlife Policy, which guides all interventions, programmes, and actors within the forest sector. It upholds as its over-arching guide, the need to enhance the quality of the socio-economic life of all stakeholders. The current Forest and Wildlife Policy takes advantage of new opportunities such as REDD+ and shifts the initial policy focus on timber for economic development to one in which environmental and social demands are of concern. Yet, the policy has been criticized by a cross-section of interviewees including a conservation NGO official who said...

“Here, policy is always last to happen. It’s like it’s not the policy that is leading us and guiding us... things are happening and then we try to integrate it into the policy... if you look at the new Forest and Wildlife Policy, I just think its empty”.

Equity is sought across the country with respect to securing optimum welfare among forest stakeholders; decision-making and ensuring adequate means of livelihoods; economic, social and environmental aspects of development across the board; and doing no harm at the expense of another (FC, 2010; MLNR, 2012). For example, Ghana’s 2016 REDD+ strategy prioritizes gender mainstreaming to ensure that negative impacts on women are eliminated. Also, proposed REDD+ benefit-sharing models were examined in relation to equity in the consultancy report. According to an FC official, communities have to be incentivized and:

“given the assurance that such a programme would also yield them economic benefits as well as environmental benefits that would go to favour them”.

However, another interviewee (Consultant D) questioned the goals achievable under Ghana’s REDD+ regime:

"If carbon sequestration will bring in carbon revenues, does that also ensure poverty reduction? So I believe this is where some of the vulnerability aspects of smallholders will come in and perhaps the strategy will also have to see how best to accommodate and find solutions".

The goal to reduce emissions via REDD+ is rooted explicitly in policies that aim to ensure no-harm is done in the socio-economic lives of the local forest dwellers. This equity goal is a baseline for the measurement of REDD+ achievements in Ghana.

What then is the equity goal and why that goal in the Ghana REDD+ process? In pursuing the objective to reduce forest emissions, the equity goal is to safeguard and also improve the welfare of the various REDD+ stakeholders across the nation. In so doing, the goal serves as a benchmark against which the Ghanaian state can measure its progress in pursuit of REDD+.

6.4.3 Who is treated as a subject of equity?

FWP (2012) seeks to establish a sector that is sustainable and provides continuous benefits for present and future generations. In order to achieve collective ownership and successfully reduce emissions, the R-PP plans to ensure improved understanding of REDD+, including the roles/responsibilities and opportunities REDD+ offers to each stakeholder group (FC, 2010). The R-PP considers the immediate stakeholder groups to be the government, private sector, development partners and civil society, with a focus on forest fringe communities. In the peculiar case of Ghana, chiefs are mentioned as a stakeholder group. These chiefs are recognized by the 1992 Constitution of Ghana as formal institutions, and considered to be key leaders in framing REDD+ policy, actions and measures, as they control lands on behalf of their communities (FC, 2010). This suggests that chiefs wield certain influences that affect the equity considerations of REDD+. Some fieldwork respondents corroborated the findings of the R-PP, expressing views that:

"The FC... are the managers of these projects so they cannot be overlooked. Traditional authorities... because of their role and relationship to resources... you need their consent before you can subject a land area which is forested for REDD projects. Farmers in off-reserve areas, we will need them to invest in maintenance of existing tree resources and even planting new ones. Communities fringing forests have some roles that they play particularly the protection and giving them an incentive so they avoid illegal logging and mining. And the last one is the local government agencies" (Consultant F, 2014).

Equity is relevant at national, regional, district and community levels, as resources are meant for public benefit at all scales, but particularly for the poor and disadvantaged in local forest fringe communities. The R-PP promotes the global safeguards stipulated in Paragraph 71 of 'Decision 1/CP.16' of the COP 16 in Cancun for indigenous peoples and local communities (UNFCCC, 2016). Having identified the subjects of equity in Ghana's REDD+ process, considerations include providing capacity enhancement, proper engagement and maximizing the benefits that accrue to these stakeholders. Special consideration is also intended for local rights, gender and vulnerable groups (landless, migrants without proper land documents, physically challenged farmers) by the R-PP. At the national level, the FC REDD+ Unit reportedly goes:

"...out of the way to look for who has been left out and bring them on-board. So as we go along, we get to know other groups that have not been part of the process and we bring them on board" (FC official A, 2014).

One purpose of SESA is to ensure that various social and gender equity goals are built into the REDD+ strategy options. It categorically states the intention to limit female discrimination by having express REDD+ benefits sharing arrangements for jointly implemented projects (Sal Consult, 2014). Spousal equity is at least in theory, intrinsic to the REDD+ process. Prior to Ghana's SESA process, IUCN championed gender concerns vis-à-vis equity. They led the discourse on gender in

REDD+, organized meetings and workshops, and finally came up with a gender roadmap for the REDD+ process. This elevated the focus on gender and led to the establishment of a REDD+ gender desk officer at the FC.

Furthermore, in accordance with FCPF guidelines, special consideration is “given to livelihoods, rights, cultural heritage, gender, vulnerable groups, governance, capacity building and biodiversity” (Sal Consult, 2014; p.2). This narrows the scale at which equity subjects are considered. Economic needs are taken into consideration with specific priority for communities heavily dependent on forest resources such as cocoa farmers (Sal Consult, 2014). This is further evident in Ghana’s development and pursuit of a REDD+ cocoa carbon jurisdictional programme. The push for alternative livelihoods by SESA for REDD+ communities includes animal rearing, aquaculture, bee keeping, non-farm business and other farm businesses that require irrigation and technological support. SESA calls for monitoring of alternative livelihood systems to make sure that incomes are sustainable.

This sub-section examined the Ghana REDD+ process premised on the question of who counts as a subject of equity? As laid out above, the national process highlights a focus on all forest stakeholders and the government in practice has, over the years, worked to include relevant stakeholders. It has been well established that communities and the heterogeneity (e.g. gender; culture) of these groups, that set them apart or bring them together, are a priority.

6.5 Content

6.5.1 *Procedural equity*

Procedural equity is about the fairness of the REDD+ political process, which enmeshes stakeholder inclusion, networks, information and knowledge exchange.

The Ghana REDD+ R-PP calls for the engagement of the major stakeholder groups “affected by, involved in implementation of, or otherwise interested in REDD+ regardless of sector” (p.26). Nuesiri (2015) discusses a similar approach of

participation pursued by the UN-REDD programme, which is based on an “all-affected” principle. He intimates that without setting clear boundary conditions, a process of engagement that relies on the principle would be ineffective and impossible to monitor and evaluate vis-à-vis its objectives. What then can the Ghana process define as boundary conditions for its national policy level REDD+ engagement?

The need for information and adequate time to process the information and make decisions are key principles pushed by the R-PP for the development of effective REDD+ strategies. The FC, as the lead agency in Ghana's REDD+ process, has partnerships (formal and informal) with some CSOs in order to develop new knowledge among stakeholders. For instance, one CSO official indicated that they:

“actually worked with the FC in raising awareness about REDD... some of our resources were put into raising awareness about what REDD is, about what it is going to entail. So we went through and contributed to the development of the consultation and participation of the R-PP”.

Another interviewee expressed the informal relationship between FC and his CSO as symbiotic; whilst the NGO has resources, which the government lacks to develop certain aspects of REDD+, the government has the political mandate to materialize REDD+ activities that are outside the NGO's remit. Examples of such relationships are the FC and Nature Conservation Research Centre's (NCRC) work on carbon infrastructure, which culminated in a national carbon map (Consultant F, 2014). There is also an IUCN-FC co-produced gender roadmap, and FC-Tropenbos Ghana partnership on general REDD+ research. These...

“...informal relationships between the REDD+ Secretariat and many NGOs... has been one of the very fruitful foundation of sharing resources between the REDD+ Secretariat and the NGOs... they are able to shape up the discussion such that whatever is being done by the NGO is in line with the national discussion and also meeting the NGOs own objectives”(EPA official A, 2014).

Some CSOs active in knowledge generation in REDD+ in Ghana spearhead areas of REDD+ interest through their own programmes as opposed to working reactively to government processes. These well-financed organizations, like IUCN, make impacts in the REDD+ forests and land use sector, and have relatively easier access to government officials and agencies that can influence processes or push new paths of REDD+ development than new/small actors, especially those at community level. For instance, according to CSO Official C....

"if you are not very strong organization that has links to government...your input into anything they discuss might not be taken into consideration. You have to be an IUCN or a loud mouth NCRC... or Forest Watch Ghana before you can get your inputs recognized by the government".

Other interviewees recounted that the state, in running REDD+, did not create space for civil society inclusion. What was clear however, between the CSOs that felt engaged and those that did not, was the difference in how the organizations approach the process. Some CSOs create space for engagement whilst others wait to be invited. For instance, one interviewee mentioned how pro-active they were as a CSO in pushing for space to participate in the Ghana REDD+ process and facilitate community engagement. Nuesiri (2015) made a similar assertion that the active efforts of NGOs in Cross River State played a part in their inclusion in Nigeria's REDD+ design. An FC official stated that NGOs provide various information and knowledge exchange platforms, thereby supporting the foregoing claim. Conversely, another CSO interviewee said:

"it could also be because maybe, {we} as an organization have not really focused a lot in recent times on the climate discussion... one of our weaknesses {is} that we have focused too much on FLEGT to the neglect of REDD".

Some NGOs that are not part of the NRWG play more powerful roles in knowledge mediation and steering REDD+ in Ghana than other organizations on the NRWG.

NGOs such as IUCN, NCRC, Civic Response, and Arocha are notable CSOs that have been responsible for knowledge transfer to actors within the wider forest and climate change sector. On the other hand:

"...the private sector doesn't even understand how to get involved in this [readiness] phase. They see it as a big risk, they don't understand what the actual return is" (Conservation NGO official B, 2014).

Knowledge exchange, information sharing and discussions between the timber industry and other stakeholders are lacking, unless such networking is spearheaded by the FC. Private sector (timber industry) access to REDD+ information and knowledge is therefore largely limited to that transferred by the FC. Another arm of the private sector, the carbon investors, in the initial stages, had a major role in the Ghana REDD+ process due to the 'learning by doing' approach that the FC was then pursuing. Third party organizations/investors were selected to pilot 7 REDD+ schemes to generate lessons that would feed into up-scaling decisions and approaches of the national REDD+ process. In 2015, the pilots were scrapped in pursuit of a jurisdictional approach that covers larger landscapes and a multitude of land uses (FC official A, 2016).

Ghana's REDD+ process is majorly structured around committees with various decision-making roles such as reviewing consultancy reports and drafting strategies. The committees comprise stakeholders who represent key REDD+ stakeholder groups identified in the initial phase of the R-PP formulation in 2009 by the FC. Some interviewees stated that members of these committees had REDD+ knowledge and information that they could not pass on to their respective constituencies because of limited resources (Consultant G, 2014). The high costs of local community inclusion in national decision-making processes is highlighted by Špirić et al. (2016) in their study of Mexico as an impeding factor to participation. This factor impacts the representational approach to consultation, as members of the committees do not have effective national level discussions with feedback from their wider stakeholder groups.

Aside from the committees and sub-committees, the government embarks on mass awareness raising, stakeholder consultations and targeted consultations. REDD+ consultations have been carried out across the ten administrative regions of Ghana, categorized into northern, middle-belt and southern zones (FC, 2010). Despite efforts to increase nationwide awareness and improve stakeholder engagement, which has led to the development of a REDD+ communication strategy by the FC, consultation is reportedly more skewed towards the national level (CSO official D, 2014). The REDD+ process has demanded more expert and targeted consultations on particular areas of REDD+ development. Ghana's interest in receiving payments for cocoa carbon under REDD+ means organizations such as the Cocoa Research Institute of Ghana, COCOBOD and Tutton are taken into consideration by the state in REDD+ decision-making.

Donors are key power players in the Ghana REDD+ implementation process chiefly due to their control of financial resources. For example, the World Bank donated the main readiness fund of US\$8.6 million for Ghana. This places the bank in an important position regarding the fund's use, and approving REDD+ activities for further fund access.

"That's part of the criticism of the finance that comes from the FCPF and the others. It dictates to you [recipient countries] where the money should go and they don't really take into consideration the things you would like to do with the money {and this} can create imbalance" (Consultant A, 2014).

The process of designing REDD+ is focused at the national level, with other stakeholder groups at sub-national level yet to be included. This finding mirrors that of Nuesiri's (2015) study, which found that local government authorities in Nigeria were excluded from the design of Nigeria-REDD+. Though stakeholder engagement in the Ghana process seems messy, the FC has progressed efforts to promote meaningful equitable engagement in REDD+.

6.5.2 Distributive equity

Distributive equity examines the costs, risks and benefits of both monetary and non-monetary allocations to various stakeholders based on REDD+ policy decisions and actions.

Ghana's REDD+ R-PP mentions creating an equitable benefit sharing system as part of the success factors of an effective REDD+ implementation programme. It states that stakeholders who engage their efforts towards REDD+ should realize benefits (FC, 2010). In the report (2014; p.23) of the commissioned benefit-sharing consultancy, the approach is to view benefits as "compensation for opportunity costs, funding for productive activities and REDD+ rent". The majority of stakeholders engaged in the benefits sharing study preferred an individual payment scheme to a fund-based scheme. In the Ghana R-PP, the forms of benefits considered fall within direct cash payments and non-cash benefits.

Workable benefit sharing systems are expected to generate alternative incomes and livelihoods for forest communities. In this regard, the Ghana R-PP further pushes for assessment of the financial mechanisms needed to distribute any accruing revenue from REDD+. The commissioned study on benefit sharing for REDD+ examines four main pre-existing benefit sharing regimes in the forest sector: the Constitutional Timber Revenue benefits sharing, Community Resource Management Area (CREMA), Modified Taungya System (MTS) and Commercial Plantation benefits sharing (see Dumenu et al. (2014) for full analysis). The report weighs the aforementioned benefit sharing mechanisms against various elements, including equity, as summarized in Table 5.1 here.

Table 6.1: Equity of existing benefits sharing as captured in the government report

Benefit sharing mechanism	Equity perspective
Constitutional timber revenue benefit sharing	This is inequitable as some stakeholders are left out of the arrangement. These include farmers, forest communities and land owners who are not 'Stools'.
Modified Taungya System benefits sharing	This is assessed to be equitable as it includes all relevant stakeholders engaged in plantation development and forest management.
Commercial Plantation revenue sharing	Within the forest 'reserve', there is equity as all stakeholders relevant to the process are allocated benefits. However, there is inequity with respect to the 'off-reserve' areas because the state and the communities are excluded from benefits sharing.
CREMA benefits sharing	Equitable as it includes all relevant stakeholders.

Despite the recommendations of the commissioned study on benefit sharing models under REDD+, there is no explicitly agreed benefit-sharing framework for REDD+ in Ghana at the time of writing, and this makes it unclear what the equitability of the system will be.

In 2014, under SESA, an identification and distribution of possible costs, risks, trade-offs and benefits was undertaken with respect to the then proposed REDD+ strategies. In general, SESA views REDD+ as an opportunity to improve the livelihoods of farmers, landowners and local communities. However, it also identifies risks to people such as charcoal producers and those dependent on wood fuel for energy, in the case that REDD+ leads to radical change in energy policy (FC, 2010). Furthermore, SESA classifies as part of the risks, inequitable carbon benefit

distribution and capacity inequity between national level stakeholders and local decentralized stakeholders. In addition, further risks to equity identified include lack of transparency and accountability, elite capture of benefits and marginalization of women, the poor and the voiceless. Even in its early stages of implementation, some of these risks have reportedly manifested in countries such as Uganda, Kenya, and Tanzania. Some authors have highlighted cases of individual REDD+ projects and other carbon offset forestry projects that have violently evicted a number of people (Cavanagh et al., 2015); denied rights and access (Lyons and Westoby, 2014; Asiyanbi, 2016); prosecuted or fined for 'forest offences' (Asiyanbi, 2016); provided inequitable benefits (Bayrak and Marafa, 2016); and marginalized communities in decision-making (Beymer-Farris and Bassett, 2012). The Ghana SESA report calls for risks to be minimized in large part, via institutional frameworks that promote equity, including the establishment of grievance redress mechanisms.

The Ghana R-PP notes, from engaging stakeholders, that there are clear differences in expectations of the benefits and risks associated with REDD+. An interview with a key REDD+ actor from the private sector indicates that stakeholders in the group initially perceived the risk that REDD+ would hamper industries' access to raw material supply (timber). However, industry's perception of this risk ceased when the government assured industry that REDD+ would not affect their business or stake in forests, but rather benefit them as a new channel through which to make extra income.

Costs associated with REDD+ include investments in systems and technology for establishing emission baselines, monitoring, reporting and verification of carbon, and a benefits sharing framework, among other things. The FC has used funds from donors to meet the costs of some of these requirements and create an enabling environment. Some of these costs have also been borne by NGOs such as NCRC and IUCN. The private sector has refrained from bearing REDD+ readiness costs.

There is still a lot to be done in the Ghana REDD+ process in relation to establishing an equitable benefit-sharing framework that considers risks, costs and opportunities.

6.5.3 *Contextual equity*

Contextual equity is about capabilities, access and power, as dictated by policies, laws and strategies.

There is reason to believe that Ghana's interest in the REDD+ policy mechanism is driven by the opportunity to improve its forest cover and revive its forest economy, as revenue from timber is set to decline. The 2012 FWP is oriented towards financing the forest sector through novel schemes. For instance, the policy views carbon to be valuable as a sustainable form of financing for Ghana's forests, and this interest is rooted in the economic gains to be earned from forests. Forest policy in Ghana has been retrofitted to suit existing programmes within the forestry sector, and REDD+ is no exception.

Stakeholder concerns expressed in the field interviews include the idea that REDD+ revenues and investment inflows into Ghana are no match for traditional forestry investments and revenues:

"If we add all the REDD investments that have come into the country, and the amount of money that the traditional investment of revenues that the forestry sector itself handles, you'll see that REDD is peanuts... to what extent would REDD be able to facilitate transformation in the forestry sector if REDD investment is not matching up the traditional investment revenue from forestry"(EPA official A, 2014).

The fear is that certain actors, who make money from the forest sector, will continue to control the forestry space and pursue revenue via commercial logging (Consultant F, 2014), which may compel the government to implement REDD+ on community lands as they collude in creaming off the economic gains from industrial logging on other lands such as protected areas. This is reflected in a statement by private sector interviewee A:

"We have also expressed our concern about the implications of

REDD as far as the industry is concerned and we have been assured [by FC] of our stake in there and also has made it clear to us that it's not going to be at the detriment of we being in business".

The situation is dire, as people in positions of power, such as District Chief Executives (DCE), already use these positions to intimidate locals in less powerful positions. For example, a DCE asked the police to arrest a local forest community dweller because the latter made a statement at a meeting about how the DCE was giving forest reserves to mining companies (CSO official E, 2014).

Operational difficulties around land rights and access to resources are key issues for Ghana's REDD+ process. Drawing on the R-PP and the Benefit Sharing Consultancy Report, the contextual elements impacting the creation of an equitable system of benefits sharing under REDD+ include unclear land/tree tenure, limited transparency and accountability in the management of benefits sharing, and undefined conflict resolution mechanisms. In addition, in some areas in Ghana, men usually have dominant access to land for production while women face limited access and rather depend on the men economically (Sal Consult, 2014). Ghana's land tenure is pluralistic and complex (Dumenu et al., 2014). The tenurial complexity of bundles of rights under customary law plus undocumented land rights pose risks to equity for REDD+ implementation. Certainly in the case of Ghana where REDD+ implementation is focused on the cocoa-growing landscape, tenure poses risks to farmers (usually migrants) who have entered into some form of share-cropping arrangements with land owners, which is not secure in many ways (Isyaku et al., 2017). Further key observations have been raised by Isyaku et al. (2017) on challenges linked to tenure, despite the introduction of tree registration approaches to improve tenure for farmers. Because of the share-cropping arrangements, the owner of the land on which the farmer has planted the registered tree can claim the same tree as the farmer, and the Paramount Chief who oversees all traditional lands in his area, can also lay claim to the same tree (Isyaku et al., 2017).

The new dimension of carbon tenure adds to the conundrum. A number of key interviewees expressed the opinion that REDD+ has been overburdened with

discussions around carbon. With the initial focus on carbon, the REDD+ process was heavily science-laden with prioritized activities including instituting carbon monitoring, reporting and verification systems, setting emission baselines, among other things. For instance, the 2012 FWP on developing public institutions and civil society capacities to engage in responding to threats and risks of climate change seemingly prioritizes enacting the “necessary legislations to guide allocation of carbon rights and related matters” and supporting “training and education in forest resource management at district levels in carbon rights allocation” (p.21). In dealing with timber trees, the physical attributes of the resource make it relatable to communities in terms of their governance, management, sales and price. Carbon, on the other hand, has a characteristic of invisibility, which hampers the ability of locals to effectively engage in governance, sale and pricing, which are regulated at a global level.

Ghana's constitution vests all minerals and naturally occurring trees in the President as the Head of State to hold in trust for the people of Ghana. If carbon is regarded as part of trees, then it would be tied into state ownership of timber trees considered a naturally occurring economic resource (Dumenu et al., 2014). Under Ghana's REDD+ process, it is proposed that forest carbon could be treated as separate from the trees or biomass in which it is stored. In this case, the laws governing natural resources would not be applicable to the resource as one vested in the state (Dumenu et al., 2014). There is advocacy to reform ownership of naturally occurring trees to be vested in persons with management, exclusion and alienation rights to trees and land, and treating carbon as tied to the trees and soil in order to ensure equity. Land (including natural resources) and access issues impact the enabling environment for REDD+ implementation and benefit sharing. The rights the government has over trees disincentivizes farmers to keep naturally regenerating trees on their land.

The benefits distribution, as specified in the constitution, is also inequitable given that it is not, largely, shared among all parties. Government organizations (FC and OASL) are given preference to take the first shares of forest revenue, and the remainder is treated as one hundred percent of the revenue, which is then shared

in proportion to the remaining stakeholders. The constitution skews the benefits to the government and further raises questions of transparency and accountability within the process, because the wording of the basis for the traditional authority and 'Stool' shares are vague.

Chieftaincy, together with traditional councils as established by customary law, is a strong institution in Ghana recognized by the constitution in article 270(1) (Sal Consult, 2014). Chiefs, therefore, as landholders, have very important stature within the land use-REDD+ nexus. Some interviewees regarded the role of chiefs in REDD+ to be problematic and insisted that the chiefs had been given too much power in the process. Other interviewees called for chiefs to be roped in more closely in championing the objectives of REDD+ so they would not engage in activities that interfere disadvantageously with REDD+.

The field interviews revealed some government offices were territorial about their mandates and unwilling to work with other offices or other sectors. This subtle struggle for power and control exists, for example, between the Ministry of Environment, Science, Technology and Innovation and the MLNR, as alluded to by some interviewees, but more strongly by the official from the Ministry of Agriculture. Bastakoti and Davidsen (2017) found similar results in their observation and documentary review of Nepal's REDD+ policy arena. Moreover, not all ministries in Ghana are aware of REDD+, and for ministries who engage in the REDD+ space, ministers attend meetings and make statements which are not necessarily from a place of knowledge or commitment but intended for political gain (Conservation NGO official B, 2014). Policies and regulations are still segmented in silos, and need to be coordinated as REDD+ affects, and is affected by, sectors beyond the forest sector. This cross-sectoral engagement is made no easier by being based on existing poor organizational coordination. A case in point is the Forest Preservation Programme (FPP) that was handled by another office in the FC and did not in any way collaborate or liaise with the designated FC REDD+ Unit in its implementation. The Japanese government sponsored the FPP to generate forest cover data for Ghana. According to a key government informant, the maps generated are of minimal use to the REDD+ Unit.

6.6 Discussion

Ghana's priorities for its natural resources are evidently linked to economic growth and development, with forests having fuelled the nation's development. This role of forests in economic development is threatened by the decreasing forest cover, which means less timber to be exploited and sold. Thus the country has positioned itself to take advantage of new initiatives and sources of forest finance such as REDD+ and other results-based payments. This strategic positioning on the non-consumptive values of Ghana's forest resources is effectively the direction that the revised 2012 FWP seeks to achieve.

Equity has clearly been a focus in the Ghana REDD+ readiness process as far as documents like the R-PP; SESA; and benefits sharing consultancy report are concerned. Equity has been mainly defined by these documents, given the minimal guidance on equity parameters by the UNFCCC (Ituarte-Lima et al., 2014). Despite a commitment at policy level to achieve equitable REDD+, it is, in practice, not clear whether the implementation arrangements are leading to its achievement, or the extent of the predictability of the on-ground equity impacts (FC, 2010). Based on analysis of stakeholder insights and documents, the study shows that the government of Ghana is focused on the financial and economic gains from opportunities such as REDD+ but with little advancement in dealing with equity vis-à-vis existing policy gaps and weaknesses.

REDD+ impacts vary across stakeholder groups, as interests in forests are diverse (Agrawal and Gibson, 1999). The legitimacy of REDD+ therefore rests in part on the equity implications of the mechanism's instituted policies, actions and measures for each stakeholder group. This is an insight that only people within each stakeholder category can provide through their participation and feedback to the FC as the lead authority on REDD+. The challenge in Ghana is that there is no institutionalized process of stakeholder engagement, making the government convened stakeholder meetings the main platform for submitting views, a process without which some stakeholders would be disadvantaged in influencing REDD+ decisions. This raises an equity concern. Within the civil society sector, well

resourced and already connected organizations create their own spaces of engagement and make inputs into the national process, while the relatively less well resourced and least connected organizations, including community-based organizations, are at a disadvantage. The prioritized commercialization of the land and natural resource sector preceding Ghana's REDD+ process, dictates, to some extent, the power distribution amongst REDD+ stakeholders which impacts procedural and distributive equity (Nathan and Pasgaard, 2017). A limitation of this study lies in its inability to analyze what Špirić et al. (2016; p.2) call 'output legitimacy' – "the level of actors' acceptance of adopted decisions and the outcomes of their implementation". There is also abundant room for further progress in determining how an institutionalized system is best placed to promote participatory equity, and its monitoring and evaluation.

"Knowledge is generated through interaction" (Ponte and Cheyns, 2013; p.3) which makes managing a process of stakeholder interaction essential to propelling the achievement of REDD+ objectives (Saxena, 2011). However, it seems there is no real depth to the opportunity for stakeholders to voice their interests or concerns, or shape the decisions made. These limited forms of participation, restrict stakeholders' knowledge and therefore power in the process (Gaventa and Cornwall, 2006). Having balanced knowledge transfer between stakeholder groups, and within groups, needs careful consideration. Stakeholder 'consultation and participation' seems to be a term used only loosely in Ghana's REDD+ governance. In practice, the process is one of stakeholder representation, as seen in the NRWG and the myriad of newly established decision-making committees. The voices that are expressed belong to various stakeholder groups, but are often limited to individual decisions and views, as opposed to a reflection of the collective voices of stakeholder groups. Suiseeya (2016) more recently argues that REDD+ debates are too focused on relatively simple visions of either distributive or procedural justice, and pay too little attention to the core recognitional justice concerns of REDD+. Complexifying the concepts of justice in the debates on REDD+, she suggests, can illuminate the possibilities for a diversity of alternative perspectives to generate new institutional design ideas for REDD+.

Under REDD+, unlike traditional forest management, there is an increasing trend for privatizing development ideas that the state is ordinarily expected to lead on. Ghana's government uses experts to assist in the REDD+ policy mechanism via commissioned consultancies. This allows for the creation and flow of ideas and knowledge. Several questions remain unanswered about what impact the background and world-view of commissioned consultants have, and how they direct global environmental governance initiatives such as REDD+. In the face of failed consultancies, this matters, because of the huge finances pumped into such consultancies, when funding for REDD+ is uncertain and insufficient (International Sustainability Unit, 2012). With regard to equity, the backgrounds of consultants are essential to how they understand and construct the knowledge that leads to prescriptions for localizing REDD+ policies and actions.

The REDD+ benefit-sharing proposal addresses costs and risks as well as benefits. Benefits are seen as key to achieving a successful REDD+ mechanism, as they are expected to sustain stakeholder effort and interest. Despite this, Ghana's readiness process has not been able to establish what the expected risks and benefits are for each stakeholder group. However, as initial steps, the readiness process has examined the equity of possible benefit sharing models primarily by focusing on whether all relevant stakeholders are captured as beneficiaries. This study maintains that being a recognized beneficiary does not guarantee equitable distribution of benefits. Rather, a deeper level of analysis is warranted at policy level to identify equitable distribution amongst actors.

REDD+ poses risks to local community livelihoods dependent on forests, as it demands a change in the manner in which they relate to the resource (Leggett and Lovell, 2012). On the other hand, the immediacy of everyday survival for forest dependent local communities, threatens the degree to which REDD+, as a relatively long-term source of income, is attractive to them. Discussions about REDD+ need to be held within the greater framework of sustainability, which means considering the interface forests have with other sectors, including agriculture, community development, energy, and water. In addition, spatial differences created by the myriad of ethnic groups, livelihoods, cultures and norms across the

country, necessitate SESA being carried out for specific REDD+ areas. Issues that may have been lost in the wider SESA process at the strategic national level can then be captured. Within the context of broader conceptualizations of justice in REDD+ McDermott et al. (2013) accommodate social equality by focusing on relational aspects (Fraser, 2001) rather than on the aspect known as 'recognition of difference', i.e. cultural identity, values, and politics of difference (Fraser, 2001). McDermott et al. (2013) adopt a material focus to justice as set out in pre-valued set of standards (procedural, distributive and contextual) to eliminate unjustified disparities in opportunities of those involved (Fraser, 2001). The standards that are applied within their framework help to pinpoint disparities between what is morally thought of as fair among varying views of the actors and what is considered 'good'.

Traditional forestry in Ghana has, since the early 1900s, been about scientific forestry, relying on measurements and data to ensure sustainable supply of forest products and a permanent forest estate (Hansen and Lund, 2017). Though REDD+ relies on measurements, data and figures, its demands differ because of what is measured, i.e. carbon (Stephan, 2013). REDD+ therefore requires new knowledge generation and capacity building (Bumpus and Liverman, 2011). Such knowledge requirements of new methodologies require capacity building and time. Furthermore, stakeholders that do not have the resources to build capacity, or contribute to the new knowledge needed, do not remain relevant to the REDD+ process. The technical nature of REDD+ makes it largely removed from the understanding and involvement of the locals. For example, with timber exploitation, physical trees are sold and taking stock is straightforward, whereas, in contrast, REDD+ requires the establishment of baselines of a non-visible, non-physical 'commodity' (carbon), and measuring and validating sequestered carbon.

Informal relationships have emerged around REDD+ concerning research, knowledge creation, establishing and implementing protocols, and technical know-how. This is quite different to traditional forestry where informal relationships influence access to concessions and timber trees (Hansen et al., 2009). Resource sharing is a key characteristic of the informal relationships between FC and NGOs in REDD+. Such relationships between FC and others, can engender a kind of

bottom-up feedback loop, or entrench power in the hands of a few who engage in the process to drive their own agenda. There is no doubt that NGOs, especially those international in nature, are essential to REDD+ because of the resources they wield, their political connectedness and control over technology and knowledge (Newell et al., 2012). The dilemma however, is how they exercise this power.

The policy and strategy narratives around REDD+ account for and promote equity concerns as reflected in, for instance, the adoption of safeguards, and the Forest and Wildlife Policy of 2012, which considers inter-generational equity. However, implementation typically demonstrates that economic prioritization is in contention with achieving equity for all stakeholders, natural resources and the environment.

6.7 Conclusion

In conclusion, the government of Ghana is, on paper, pursuing an equitable outcome with respect to benefits and ensuring that all actors, especially local forest communities, are subjects of the equity it seeks to achieve through REDD+. Nevertheless, in practice, REDD+ is much messier in achieving desired equitable processes and outcomes. The study shows procedural (including stakeholder knowledge and capacity) and contextual (political economy/economic interests and forces) limitations, which impact the achievement of distributive equity. Part of achieving equitable REDD+ requires processes that bring new knowledge to a wider set of REDD+ actors, beyond the representative approach currently adopted.

In this paper, McDermott et al. (2013) 'equity framework' provides a useful lens through which to understand the outcomes of the mediation of REDD+ at the national level in Ghana. Its value lies in further monitoring Ghana's progress, as the first generation of implementation projects kick off. McDermott et al's (2013) framework has been good in showcasing how remnants of Ghana's colonial laws and policies create an uneven playing field, which impedes distributive and procedural equity at the local level under a REDD+ regime. In addition, this study has shown that REDD+ knowledge in Ghana distributes power through deepening stakeholder capacity to make informed decisions and contributions. However, the

framework does not adequately highlight the issue of 'knowledge' and its critical role in determining the distribution of power within any (environment/REDD+) governance process. Knowledge and capacity may give a wider set of relevant stakeholders a 'voice-at-the-table'. Even though having a voice in the REDD+ process can ensure stakeholders' relevance, incentivize continued engagement and contribute to the achievement of equity, this is largely dictated by the existing contextual elements. Therefore, although national REDD+ processes may formulate decent policies and strategies, a critical foundation to achieving equity, is addressing limiting contextual factors (usually historical) in other policies, laws, capabilities, access and power.

CHAPTER SEVEN: INSTITUTIONALISING REDD+ ACROSS SCALES IN GHANA

7.1 Introduction

Payments for ecosystem services, Clean Development Mechanism, and more recently, Reduced Emissions from Deforestation and Forest Degradation (REDD+), are novel environmental technologies that have given new value and meaning to standing forests. The new and convincing scientific knowledge that agriculture, forests and land use change, account for approximately 30% of global greenhouse gas (GHG) emissions compared to 25% from the energy sector (IPCC, 2007), make it imperative to get forests to function more as sinks than sources. REDD+ carbon forests can be ensured through either one or a combination of two or more components from the full suite of: reducing deforestation; reducing forest degradation; practicing sustainable forest management; conservation; and enhancement of forest carbon stocks (REDD+).

Despite REDD+'s emergence at the international level, the primacy of REDD+ policy formulation, strategy development and implementation sits at the scale of national government. The mechanism's objective as framed by the United Nations Framework Convention on Climate Change (UNFCCC), is principally focused on carbon emission reduction, with a reference in the 2015 Paris Agreement to the essence of non-carbon benefits. Scholars have paved the way to explain the uneven development of carbon forests and varied impacts in terms of local and national mediation, through frameworks of political ecology (Brown et al., 2004; Bumpus, 2009) and materialities of commodification of nature inspired by the work of Castree (2003) and others. These frameworks help to explain missing linkages between global structures and local agency, and elements of why carbon payments do not always reach the poor. However, there has been little examination of how the local multi-scalar political and relational aspects of knowledge, politics and institutions connect REDD+ governance to the understanding and values produced in the local community (subjective perspectives on change) and how global mechanisms for governing nature are institutionalised at the local level.

The aim of this chapter is to examine how REDD+ is institutionalised through cross-scale and within scale institutional practices of REDD+ from the national to the local level through negotiated processes. The research poses the following questions:

- How is REDD+ knowledge produced and mediated across scales in Ghana?
- Where does power lie in Ghana's REDD+ knowledge, regulatory and institutional framework?
- What new subjectivities are being formed by Ghana's REDD+ framework?

The chapter uses the third concept of the REDD+ localization analysis which is subjectivity within Agrawal's (2005a) environmentality framework to examine a national to local focus where it is believed that climate actions could assist existing development efforts to eradicate poverty, but which are local sites of governance, where local ecologies, access to resources, issues of property, values and justice are affected by new environmental technologies (Bryant, 1998; Bee, 2016; Okereke and Dooley, 2010; Agrawal and Lemos, 2009; Lee et al., 2014).

7.2 Cross-scale governance and institutional set-up

REDD+ as a climate solution is a multi-level and multi-actor initiative (Brockhaus and Angelsen, 2012) with implications for the complex human-environment relationships that already exist. Considering the objective for which REDD+ was created, and the implications for the myriad interests of multiple actors at multiple levels, its governance undoubtedly involves linkages that require appropriate cross-scale and cross-level governance arrangements. Cross-scale approaches are ideal ways of dealing with the complexity around ecosystems and the intersecting social systems that complicate the governance of resources at various levels (Berkes, 2002; Crona and Bodin, 2012).

The emergence of modern environmental governance regimes, such as REDD+, increasingly require vertical institutional interactions from international through national to rural, and horizontal institutional interactions at each of these scales.

Though institutions may be multi-scalar and multi-level, they may not have the characteristic cross-scalar and cross-level interactions of environmental governance (Cash et al., 2006). Recognising the cross-scale dynamics associated with socio-ecological systems, considering the proper scale at which actions need to be handled, is vital for enacting public policies that are not misguided and natural resource management systems that serve the desired purpose (Markelova and Mwangi, 2012).

According to Adger et al. (2006), compounding the emergence of modern environmental governance regimes is the neoliberal pathway that many have followed. The environment (water, forests, species etcetera) has been given new value through the creation of markets and payments as incentives for conservation. Environmental markets, which are usually global, impact the relationship that local community dwellers and direct resource users, have with the resource in question (Cabello and Gilbertson, 2012; Cadman et al., 2016). Tying locals to the international environmental markets are expert institutions and individuals who are most often remote from the resource but also benefit in this new financialisation of nature (Adger et al., 2006). Markets for nature initiatives are designed differently, and therefore engage different actor types and actor numbers. Globalisation of environmental issues has therefore increased the scope for cross-scale linkages and multiplied the effects that each scale has on the other in environmental governance. The case is made that to function effectively, bottom-up initiatives must have support from external agencies (Markelova and Mwangi, 2012).

Cross-scale linkages are provided via the use of nested, polycentric and collaborative approaches (Wyborn, 2015) to managing natural resource use by a myriad of actors (Bodin and Crona, 2009). Polycentric systems are fashioned on decision-making authority that is based at multiple, autonomous nodes. The original notion behind polycentricism is the ability to self-organise (Wyborn, 2015; Ostrom, 1990). Using approaches under polycentric systems allows governance to occur across scales and promotes the engagement of those affected (Wyborn, 2015; Morrison et al., 2017). Despite all the benefits that polycentricism brings to

environmental management, recent work by Sunderlin et al. (2015) intimates that there are limitations to using polycentric governance approach for REDD+ in the absence of a binding international agreement.

Other scholars, such as Berkes (2002) mention co-management as a form of institution, which promotes cross-scale interaction. This involves the exchange of information, discourse and knowledge creation, all of which are usually facilitated through networks. Wyborn (2015) further maintains that a well-functioning cross-scale governance system must include linkages across scales and within levels that stimulate collaboration, trust and information sharing while allowing decision making at various scales to adequately capture the differing social and ecological contexts. The use of multi-stakeholder bodies; social movement networks; policy communities; institutions oriented for development, empowerment and co-management; institutions that promote citizen science; and research and management approaches (Berkes, 2002; Crona and Bodin, 2012; Tengo and Heland, 2012) all count as enabling factors that promote cross-scale linkages and interactions. Also, multi-stakeholder bodies serve a means of cross-scale linkage in negotiation of interests, views and knowledge exchange, and conflict resolution (Berkes, 2002); there is overwhelming evidence of the use of multi-stakeholder bodies in various REDD+ implementing states (Saeed et al., 2017).

Nevertheless, some cross-scale linkages for resource management systems may have winners and losers “on the basis of the exercise of power through domination, resistance and co-operation” (Adger et al., 2006; p.1). The set-up and maintenance costs of cross-scale linkages are a determining factor of who remains advantaged and who does not. According to scholarship by Adger et al. (2006), high costs lead to inequalities in the symmetry of information and the knowledge that actors possess. Those who can afford to invest in obtaining information then possess more power than others and therefore have more influence in the governance system (Adger et al., 2006; Young, 2002). Such a situation leads to the breakdown of communication across scales and levels; for example, REDD+ discussions in Indonesia are reportedly limited in cross-scale and cross-sectoral

(level) communication and therefore a stumbling block to the transformation that REDD+ ought to achieve (Moeliono et al., 2014).

REDD+ confronts and is confronted by, factors of ecological, social, cultural, institutional, economic and political complexities, and all of which need careful consideration (Markelova and Mwangi, 2012). REDD+ may therefore work at one scale but have different negative effects at another scale. It is therefore key that interventions are discussed with the various scales in mind including the different actors and sectors at each scale. Each scale involved will entail different processes and actors (Markelova and Mwangi, 2012). In examining the cross-cutting governance and institutional setup of the REDD+ process in Ghana, this study uses aspects of the REDD+ localisation analysis framework to discuss, and make sense of, the empirical research findings.

7.3 Lens and methods

This chapter applies cross-scale elements to examine the institutionalization of REDD+ with respect to “the knowledge, politics, institutions and subjectivities that come to be linked together with the emergence of the environment as a domain that requires regulation and protection” (Agrawal, 2005a; p.226). We make use of the environmentality concept of the REDD+ localisation analysis as the specific lens for analysing environmental politics, i.e. a way to examine new institutions – while attending to ecological practice underpinning, negotiation and the conflicts generated. This lens allows us to examine how REDD+ results in a new set of questions in environmental governance and climate policy.

7.3.1 Knowledge and power in shaping subjects in carbon forests

Formation of new expert knowledge and the nature of power are at the core of efforts to regulate social practice, the types of institutions and regulations that emerge from political relations, and finally, the behaviours that regulation seeks to change, processes of self-formation and struggles between expert or authority-based regulation and situated practice. Knowledge here means more than just

scientific knowledge, it refers to understandings as constructed by communities (Eriksen et al., 2015), to fully understand the role that these play in REDD+ (Bryant, 1998).

The formation of knowledge also arises from discursive practices (both written and spoken) that ensue between stakeholders engaged in a governance process (Winkel, 2012). The meanings that are given to social or physical events create a perception of what reality is at a certain time and location (Winkel, 2012). The people who are able to engage in, and shape this discourse possess a power that those who do not engage lose out on, and therefore are marginalised, having to accept what is framed for them as the reality. Information, knowledge and the control of both, impacts the power dynamics among actors. Power and knowledge directly imply each other. Knowledge gives power, and power produces knowledge (Winkel, 2012), and both determine the production of environmental interventions (Bryant, 1998). Power is present in all social actions and is dynamic spatially and temporally and therefore not static or located within a society (Winkel, 2012).

There are assumptions and gaps in understanding of the fit between internationally conceived policy mechanisms like REDD+, and how independent states at their national level mediate this knowledge and the power dynamics produced in the process of going from national to local (as set out in Chapter 2, section 2.1).

7.3.2 Dispersal of regulation through the state in carbon forests

In relating forests to the phenomenon of global climate change, there is evidence that in response to the threat of rising GHG emissions there has been the creation and allocation of carbon quotas as a form of regulation (Agrawal, 2005a). This has led to the production of carbon forests by means of the production of new information through the strategic and commercial needs of carbon investors (driven by the commercial and compliance needs of companies), followed by institutional changes such as the establishment of new institutions (e.g. national

REDD+ committees) and the training of a new cadre of carbon-forest experts as guardians of local environments. However, CO₂ emissions continue to rise and in some cases local people are seen as 'ill informed' about the benefits of forest carbon sequestration or are blamed for the loss of important ecosystems (Dooley et al., 2011; Holmgren, 2013).

A triad of political institutions are involved in the altering of knowledge about carbon forests, resulting in new institutions at the national, sub-national and village/forest levels that are normalised within the context of carbon practices, negotiations and conflicts. Institutional regulation and ecological practices are interlinked with knowledge forms, connected to expert knowledge, through statistics and numbers and that shape practice (and uphold expert authority). Although it is reported by Agrawal (2005a; p.127) in his study that "some forms of environmental regulation were invented afresh in response to the new powers community decision makers gained", there are gaps in our understanding of how REDD+ carbon forests have influenced change in local regulatory practices and behaviours (further addressed in detail in Chapters 7 and 8).

In light of the pressures that forests face from the multitude drivers, and in ensuring that REDD+ is additional, permanent and does not face leakages, regulatory regimes to restrict forest exploitation become apparent. Regulations promote certain positive and productive practices and also deter practices that negate or work against the objectives to be achieved. Part of the regulatory practice is ensuring that when rules are violated, they can be detected (Agrawal, 2005b) and dealt with. In light of this, enforcement mechanisms such as monitoring, conflict resolution and sanctions for violations are employed by either state or local forest management groups. According to work by various scholars (e.g. Ostrom, 1990; Baland and Plateau, 1996; Agrawal, 2005a), regulation is a critical element in natural resource governance at the local level. Regulatory practices become modified, freshly invented, or drawn from other spheres or social interaction for REDD+, to ensure conformation to emission reduction objectives. The regulatory community dictates the production of subjectivities as it shapes people to be a certain way or rather causes people to resist the regulations

(Agrawal, 2005a). In addition, subjectivities are formed as people widely involved in the regulatory practices, develop deeper concerns that shape their thinking and way of engaging with natural resources.

Other institutional elements that impact the management of natural resources are tenure and rights as contained in laws and regulations. Tenure dictates who has access, who controls the resources, and who can make decisions regarding the resource. It therefore eliminates those that do not have tenurial rights from exercising any power over the resources in question (Sunderlin et al., 2014; Omura, 2008).

7.3.3 The making of environmental subjects in carbon forests

How people come to care for the environment (or not) and why they care (or not) are legitimate issues to examine in the light of novel internationally conceived mechanisms, such as REDD+, that are implemented on local lands and forests. Agrawal (2005a) warns that the practices and thoughts of those who come to care about the environment may not always result in environmental conservation. The creation of environmental subjects - those who care about the environment - can be seen as a result of changes in community institutions over time in relation to REDD+ management, regulation and narratives. Subjects can also be seen as those who engage in environmental protection for financial incentives. As noted by Agrawal, "the desire to protect commonly owned or managed trees and forests, even with the recognition that such protection could enhance one's material self-interest, subscribes to environmental subjectivities" (Agrawal, 2005a; p.165).

How engagement has been achieved can be explained through exploring governmentality of locality, the history of state forest services and foreign engagement in local areas, and the use of technology and science to link forest services with communities. Participation is an important component of popular agency - which is important in order to better understand the linkage between global institutions and local governance and politics. Popular agency is about recognizing the capacities of people as active claim-making agents (Hickey and

Mohan, 2004). Robbins (2006) points to a forest project in Chiapas, Mexico where participatory approaches to carbon farming are considered a success or a minimum indicator of how a fair and sustainable approach to climate change ought to be pursued. In other words, where there exist efforts towards progressive and empowering market opportunities, for a wide range of local producers, this is an acceptable way of avoiding the 'colonial present' by allowing farmers to access global carbon markets. This is based on an understanding of sustainable livelihoods and rights-based approaches, where the capacities of people are taken into consideration.

Agrawal (2005a) found that the transfer of land to community ownership leads to changes in the degree of concern that villagers have for the forests. New policies give control of resources to communities, causes them to exercise their agency in decision-making and address their interests. Subjectivities may therefore emerge when people feel they have some form of control. Other subjectivities are formed when there are local platforms, organisations or institutions that facilitate villagers' engagement in natural resource management. For example, in Agrawal's (2005a) Kumaon study, villagers became more interested in forest protection when they had and were part of forest councils.

7.3.4 Sites and methods

This chapter adopted a qualitative multi-sited case study approach to allow generalisation from specifics (Yin, 2014). The advantage of a case study approach is that it allowed use of mixed social science methods in the forms of observation, focus groups, walk-and-talk, community mapping and photo elicitation. In the first instance, the study adopted a criterion sampling approach to identify the relevant policy-level stakeholders engaged in Ghana's REDD+ process. This was done with the help of official REDD+ documents and reports and buttressed the identification process with the 5 years experiential knowledge of the researcher (Reed et al., 2009).

The study adopted a snowball sampling approach in conducting the semi-structured interviews at national level. This first fieldwork carried out from July to

October 2014, had a total of 30 key REDD+ stakeholder interviewees. The second fieldwork was carried out in February and March of 2016. This was mainly in two cocoa forest communities (Kamaso and Attobrakrom) in the Western Region of Ghana, with 5 policy level (mostly mop-up) interviews in the capital city, Accra. At the community level, 31 semi-structured interviews were held with cocoa farmers and community members. Focus groups with a total of 60 participants in Attobrakrom and Kamaso were held separately in categories of adult male (35 years and above), adult female (35 years and above), youth male (18-34 years) and youth female (18-34 years).

Empirical data was triangulated with documentary analysis (Readiness-Preparation Proposal, Forest and Wildlife Policy), email correspondence and review of literature. Based on findings from the field, the study profiled 31 key stakeholders in the Ghana national REDD+ policy process, and used “Survey Monkey” to design a weight-ranking survey of stakeholder influence, and stakeholder importance in driving the policy process. This method was selected to assess the actor relationships underpinning the dispersal of knowledge and the mediation of regulation. The weight-ranking scale was from 1 (not at all important/not at all influential) to 10 (extremely important/extremely influential). The weight ranking approach enriched this study’s insight into how each actor placed against other actors with respect to how influential and important they are perceived to be in the Ghana REDD+ process. From the total 31 respondents, each representing the profiled organisations in the survey, 19 completed the survey. The study used excel to plot both the stakeholder influence and importance, based on the weighted average generated.

The survey also asked respondents to categorise the profiled policy level actors according to their organisation’s engagement with each actor. The categories of engagement were “always; most often; sometimes; rarely; never”. In analysing the data, each category was scored as indicated in Table 7.1 below.

Table 7.1: Weights applied to degree of engagement

Category of engagement	Weight applied
Never engage	0
Rarely engage	1-2
Sometimes engage	3-4
Most often engage	5-6
Always engage	7-8

The weighted data for each policy actor engagement was entered into the social network analysis software, Gephi 0.9.1. The study then mapped out actor relationships between the various stakeholders using the 'Fruchterman Reingold' layout. In the network mapping (Figure 7.1 below), nodes of shades of green represent stakeholders; the higher the degree of engagement an actor has, the darker the shade of green and vice versa. Connecting yellow lines show the engagement between actors; the more engagements actors have, the denser the connecting lines.

7.4 Results

7.4.1 REDD+ knowledge and power across and within scales in Ghana

This section presents results on the formation of new expert knowledge under the contemporary environmental technology, REDD+, which seeks to reduce emissions from the forest sector. The analysis focuses on the nature of power, which is at the core of efforts in regulating social practice, the types of institutions and the regulations that have emerged out of political relations in Ghana's REDD+ process.

7.4.1.1 The Forestry Commission as key conduit of REDD+ knowledge

Forming knowledge on REDD+ has mostly revolved around forest cover loss, land use changes, reference emission levels/baselines and monitoring, reporting and verification systems. With the UNFCCC serving as a platform for linkages between international negotiations and national policies and actions, state government

representatives in official negotiations have been at the forefront of REDD+ discussions. The head of the Ghana Forestry Commission (FC) REDD+ Unit, and a state-contracted independent consultant from a local Ghanaian legal firm, represent Ghana on REDD+ at the UNFCCC negotiations.

Ghana has been through a long national process of REDD+ design and development involving a range of national actors (see Chapter 7). As the lead in Ghana's REDD+ process, the FC REDD+ Unit is a key actor serving as the conduit for knowledge transfer generated at the international level to the national. International decisions inform Ghana's REDD+ processes, strategies and decisions. Furthermore, the state commissions studies and research to bridge information gaps needed to shape the direction, design, and localisation of REDD+ in Ghana (as shown in Chapter 7). This includes facilitating data generation and institutions to detect the big issues (forest cover loss, land use changes, reference emission levels/baselines and develop MRV systems).

Another route for REDD+ knowledge production is through the assistance of other organisations to the state, mainly civil society. According to one CSO interviewee, in the past the FC did not need as many studies in traditional forest management as they did under REDD+ and so they required significant assistance from a range of stakeholders. The peculiar role in information and knowledge production by non-state actors in REDD+ was further captured in another CSO interviewee's account:

"We have intentionally and openly tried to play a role of a good partner and creating opportunities and engagements and trying to grow the understanding of the FC REDD personnel".

Various NGOs provide platforms for information, knowledge exchange, and learning (FC official). Per a private sector interviewee, this is important since REDD+:

“Needs a lot of knowledge. It needs a completely fresh approach to forests, which involves out of the box thinking. So this is something that has to be taught”.

The FC acts as a conduit for disseminating information and knowledge through multi-stakeholder groups particularly via the National REDD+ Working Group (NRWG). The FC organises several important workshops and stakeholder meetings to share information and build REDD+ awareness as part of its REDD+ readiness phase. These workshops try to pull together other government sectors such as agriculture, energy and finance but face challenges in pursuing cross-sectoral engagement in REDD+.

“Some ministries tend to think that their particular ministry is over and above another ministry” (CRIG official).

7.4.1.2 Where the knowledge and power nexus lies

In using policy/social network analysis to map engagements and exchange of information between key national stakeholders (Figure 7.2), this study further demonstrates that the FC is a major focal point for REDD+ information and knowledge exchange. Some existing relationships between the FC and other actors such as Civic Response, a CSO, are a result of the latter inviting the former to give REDD+ country updates or respond to specific REDD+ concerns at workshops and meetings (CSO official). In addition to the FC, other actors such as IUCN, NCRC, FORIG and Civic Response all play key roles in information exchange and the knowledge network.

Very limited exchange seems to take place among private sector organizations or between private sector actors and civil society at the national level. Noticeably, many of the REDD+ stakeholders do not have exchanges with the Ministry of Food and Agriculture. There are very few interactions or information exchanges by Sal Consult, Solidaridad West Africa, HATOF, Ghana Timber Association, WWF, and the National Forestry Forum.

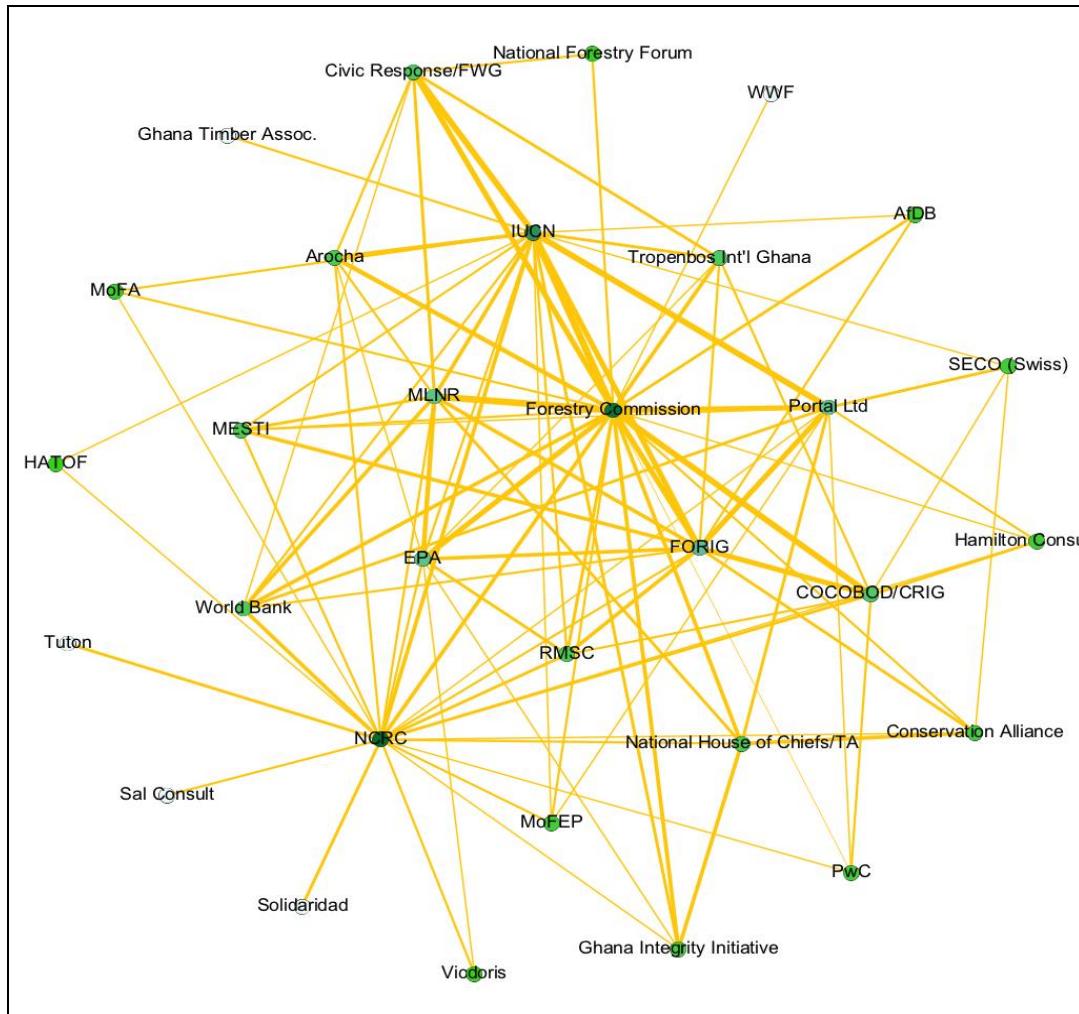


Figure. 7.1: Information/policy network amongst REDD+ stakeholders in Ghana
(source: Author, 2017)

The respondents indicated the stakeholders they considered important to the REDD+ process and those that were influential in driving the process (Figure 7.2). The state authorities, with FC in the lead, were all ranked highly in the most influential and most important quadrant. Ranked as least influential and least important from the government sector was the Ministry of Food and Agriculture. This corresponds to the evidence in Figure 7.1 that MoFA plays a limited role in knowledge exchange in the Ghana REDD+ process. In the donor category, the most influential and important actor was the World Bank whilst the Swiss Embassy, though considered important was least influential. With the World Bank as the main donor for Ghana's REDD+ process, control of financial resources was seen as

key to the power an actor wields including its influence over other actors within decision-making processes.

“...the big power lies with the donor and the government for REDD readiness because everybody is looking for the money.so the power play it is the donors especially the World Bank when it comes to FCPF money so they are the ones that decide” (CSO Official).

Regarding CSO actors, IUCN is the most influential and most important to the Ghana REDD+ process while HATOF ranks last in the actor group. The private sector actors are clustered around same levels of importance and influence. Finally, the consultants, though key in the production of knowledge in the Ghana process, are not ranked as well as other actor groups. Considered least important and least influential in that actor group and of all national level REDD+ stakeholders in Ghana, is the private consultant group, Pricewater House Coopers.

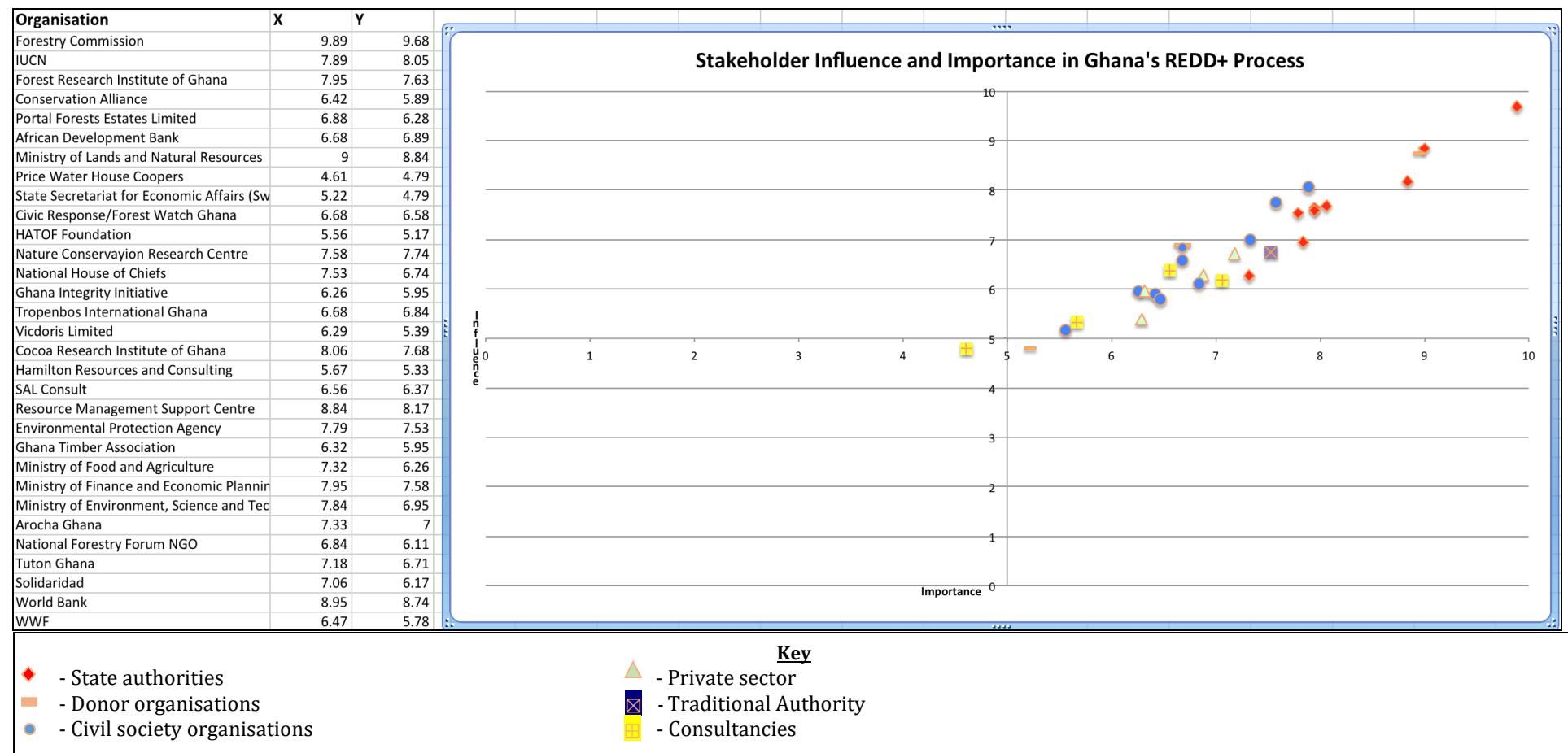


Figure 7.2: Stakeholder influence and importance in Ghana's REDD+ policy process

According to an FC official, engagement is promoted between the FC and government sectors, CSOs, private sector, businesses, and traditional authorities but there is limited information and knowledge transfer to the local community actors (FC official). Nevertheless, the REDD+ Unit has continued with awareness campaigns aiming to percolate knowledge to community level to increase REDD+ awareness and understanding. Aside from building community knowledge of REDD+, the FC intends to garner knowledge on the expectations of local communities for REDD+ programmes, including the World Bank Emission Reductions Programme (ERP). In engaging with local communities, the FC has sought to establish improved knowledge of how communities could be galvanised and mobilised to fully participate in REDD+ (FC official).

REDD+ in Ghana has recently been steered towards jurisdictional implementation. Ghana has therefore prioritised its REDD+ process through a REDD+ Cocoa Carbon Programme. This is largely because of the importance of the cocoa sector in contributing to deforestation and as a high economic exchange earner for the country. The REDD+ Unit forged new alliances and partnerships with the Cocoa Research Institute of Ghana and COCOBOD to run projects that promote shade-tree cocoa as opposed to sun-seeking varieties that the farmers cultivate by clearing forests. Per the fieldwork findings, knowledge from initial IUCN landscape projects played a major role in the state's choice of priority areas under the jurisdictional approach (CSO official). In line with this new approach, a private sector interviewee stated that:

"we talk about blending forestry and agro-forestry with normal food farming. This requires a totally new approach, totally new learning skills and management of this mixed model and that is not going to happen overnight. People will actually have to be taught and I don't see that happening".

In addition, the CRIG interviewee iterated that for the Ghana REDD+ cocoa landscape approach to enhance carbon, it must do so through the promotion and dissemination of information and knowledge on practices of cocoa production.

According to some interviewees, the actors to creating awareness and building community capacity must be knowledgeable and possess the capability to build the capacity required.

Using IUCN's REDD+ project as a proxy (see Chapters 8 and 9) to explore REDD+ implementation in the cocoa forest community, this study infers that findings would be similar to state implementation in these communities. IUCN, in its REDD+ work over the years found that, at the community level, stakeholders had various degrees of understanding of the issues of REDD+ as it was a challenge to engage everybody equally. It may be difficult to engage all community members because at the community level, there exists power play mainly between political and community actors who have clashing interests such as the power struggle over the control of resources including information and knowledge (EPA official).

7.4.1.3 Knowledge asymmetry in REDD+ process

In mediating REDD+, the FC practices selective sharing and is careful in the managing of the information it disseminates to the locals forest communities:

"What we (REDD+ Unit) have always been very cautious about is to go around telling people there is some REDD financing that is going to come to them as direct cash payments".

A CSO interviewee raised a similar point that farmers in the communities do not have information on the real benefits they can enjoy from REDD+ because there are many issues that government, CSOs and national level authorities working on REDD+ do not understand. For one private sector actor, this impedes implementation as he is unsure what shape REDD+ would finally take in Ghana. He stated that activities under REDD+ follow a learning-by-doing approach.

With many actors working to produce, co-produce, and improve knowledge for a REDD+ regime in Ghana, REDD+ keeps evolving. For some stakeholders, keeping up with REDD+ has therefore been a challenge and impacts their ability to engage

in its mediation. According to an official from the FC, this knowledge production and co-production is critical for REDD+ implementation in Ghana, because ideas emerge and get incorporated into national strategies, policies and designs. According to an interviewee from the donor community:

"REDD used to be a bonafide property of the forestry sector of the country but REDD+ has expanded...and I think people from different walks of life have acquired various knowledge".

A high level ministerial official mentioned that there was national commitment to REDD+ but the challenge was limited knowledge of new terminologies and methodologies. Workshops were therefore being organised for policy makers and parliamentarians to build their REDD+ knowledge. According to a REDD+ consultant, no single actor is in "control" of REDD+ knowledge but rather all stakeholders are learning, including the FC, by bringing in experts to teach and present on verified carbon reduction, voluntary carbon markets and carbon trading. It was mentioned by many interviewees that the REDD+ process includes lot of 'experts' contributing to REDD+ knowledge.

Perspectives expressed in the fieldwork include regional and district level FC offices having limited REDD+ engagement at policy level and relatively limited knowledge (CSO official). At national level, the technical agencies are more engaged and possess more REDD+ knowledge than high-level policy makers:

"Forestry Commission stands tall in that aspect of information and capacity. However, none of the high level people have ever participated for any significant amount of time, in any sort of training on REDD. So they have not benefitted from all this dialogue, discussion, debate and discourses" (CSO official).

One CSO interviewee expressed a contrary view making a case that the situation had changed and:

“...the leaders in the REDD space now actually fully understand the big picture and understand all the pieces required to achieve sort of the ultimate aims of REDD”.

Where other sector ministries and agencies have been involved, the shortfall is certain:

“...key individuals that keep getting invited to REDD+. For example, I am sure that there is one particular person from MoFA, MoFEP, that keep coming and some other range of ministries that have a representative but whether the concept goes beyond one individual and whether there is organisational buy-in or understanding on how it feeds into their agenda is uncertain”

7.4.2 Institutional and regulatory context of REDD+ across and within scales in Ghana

This section examines how institutions, whether formal or informal (see Chapter 6) mediate REDD+. Institutions alter knowledge about carbon forests and influence outcomes. New institutions may form at national, sub-national or village/forest level as new regimes emerge and become normalised within the context of carbon practices.

7.4.2.1 Setting up REDD+ institutional framework

At the time of writing, the Ghana REDD+ process was focused on producing the Ghana Emissions Reduction Programme (ERP) Document and the Readiness Package, for submission to the World Bank Carbon Fund participants. The Carbon Fund participants determine the feasibility and practicality of the ERP in generating the expected carbon reductions. Ghana's ERP is known as the Cocoa

Forest Landscape REDD+ Programme. The FC set up a drafting team comprising technical experts from various institutions including COCOBOD, the Cocoa Research Institute (CRIG), FC, FORIG, the Ministry of Finance and Economic Planning, the Ministry of Natural Resources and strong private sector involvement (FC Official). To facilitate the progress of the ERPD, consultants working on reference emission levels, emission reduction programme implementation plan, the feedback and grievance redress mechanism, resource tenure assessment, and the safeguards information system were required to have input. The ERP has 6 pillars: Institutional coordination; policy review; climate smart cocoa practices; risk assurance; land use planning; and data management.

Dealing with cocoa farming as a main driver of deforestation, the state is working towards public-private institutional engagements, with roles for civil society, donors, traditional authorities and communities. The FC recognised in the Ghana ER Project Idea Note (ERPIN) that implementing this programme across a landscape, requires arrangements that are cross-sectoral, cross-scalar, multi-institutional and multi-stakeholder. As part of the institutional set-up, an ERP steering committee would be set up and linked to the NRWG. According to the ERPIN, a programmatic landscape strategy is essential due to the lack of coordination and planning among agencies, companies and governance bodies across the cocoa landscape. In addition, limited access to information, economic and agronomic resources, and prevailing inequitable tree-tenure regimes affects farmers' decision making and fails to incentivise economic trees on-farm. Both factors underlie cocoa farming being a deforestation driver. According to two interviewees from different FC Units:

"What we are trying to do with the ERP is to ensure that there is coordination and that there is connectivity amongst all these various initiatives happening. There is Olam International doing their own sustainability activities that would feed into this, there is Touton doing their own thing... all the various actors in this field, Solidaridad, a whole lot of actors in the field. The implementation plan would help

operate in a more coordinated manner, rather than separate disjointed manner”.

“Again there are a number of issues that need to be addressed because our tree tenure, land tenure in this country does not serve as enough incentive for people to want to plant trees so you need to actually sensitise and conscientise people that things have changed and therefore people plant trees and own them”.

As part of promoting an enabling policy environment for REDD+, and emerging new carbon economies concerning land use in Ghana, the FC, under the MLNR reviewed the 1992 Forest and Wildlife Policy (FWP). The current policy recognises the role of the forests in addressing climate change and the opportunity for income through financial carbon markets. The FWP review invited submissions from various stakeholder groups in Ghana, over several months of dialogue.

7.4.2.2 New structures and institutions

Despite being a relatively low GHG emitting country, Ghana has committed to low carbon growth in addressing climate change. The government instituted a National Climate Change Policy in 2014. The land use sector is one of the key areas identified under the policy. The National Climate Change Committee (NCCC) under the Ministry of Environment, Science, Technology and Innovation spearheaded the policy development. The EPA is a key member of the NCCC and also sits on the NRWG; an arrangement that allows the NRWG to be informed and benefit from the larger national climate change discussions and directives. The FC, which runs the NRWG, also has membership on the NCCC to promote synergistic goals.

The FC and EPA work across departments for cross-sectoral coordination within REDD+ (Figure 7.3). The various units in FC such as the Voluntary Partnership Agreement (VPA) and the office in charge of Community Resource Management Areas (CREMA), all work together to promote a holistic approach to reducing emissions from the forest sector whilst improving collaborative community

management of natural resources and safeguarding the economic benefits that trees provide. Due to poor personal relationships between key heads of some departments, coordination is sometimes a challenge. At the time of writing, certain organisational heads were no longer in authority and efforts were being made to build coordination into systems. According to one FC official:

"In the past, it wasn't the best because we were working each one to his own but now we are closing the gap. There are things we do; we have scheduled meetings for synergistic planning of our activities ahead of the year so that we don't duplicate efforts and it's not just with FIP but VPA too. Now we have VPA also represented on the NRWG and the REDD+ secretariat on the MSIC. If you put in place systems and structures, you let it work and then it would reduce the dominance of personalities which sometimes discounter productivities".

In conceptualising the institutional layout of the REDD+ process in Ghana as portrayed in Figure 7.3, the Environment and Natural Resources Advisory Council (ENRAC) which is at the cabinet level, is the highest level of cross-ministerial, cross-sectoral, and cross-institutional engagement. Despite all the various multi-stakeholder platforms, there have been reports of ministries remaining territorial:

"I sensed that there was some kind of rivalry there because the Ministry of Environment thinks that REDD+ should be housed in their ministry and so that kind of relationship that should exist is not forthcoming" (consultant).

"There is a challenge of REDD+ at the ministerial level. You know that inter-sectoral division, you have MESTI handling an aspect, they handle adaptation aspect and then MLNR handling mitigation... when it comes to funds going to sectors, you realise this is where you have divisions so these

are some of the issues they have to look at" (CSO interviewee).

Nevertheless, arrangements that promote cross-level interactions also have advantages in Ghana's REDD+ process. As captured in one of the interviews:

"My role first of all is to ensure that policies in relation to REDD+ are consistent with the food and agriculture sector policies and that whatever is being done will not have a negative impact on the food and agriculture sector. Most importantly, to ensure synergy between the REDD+ and the food and agriculture sector activities" (MOFA interviewee).

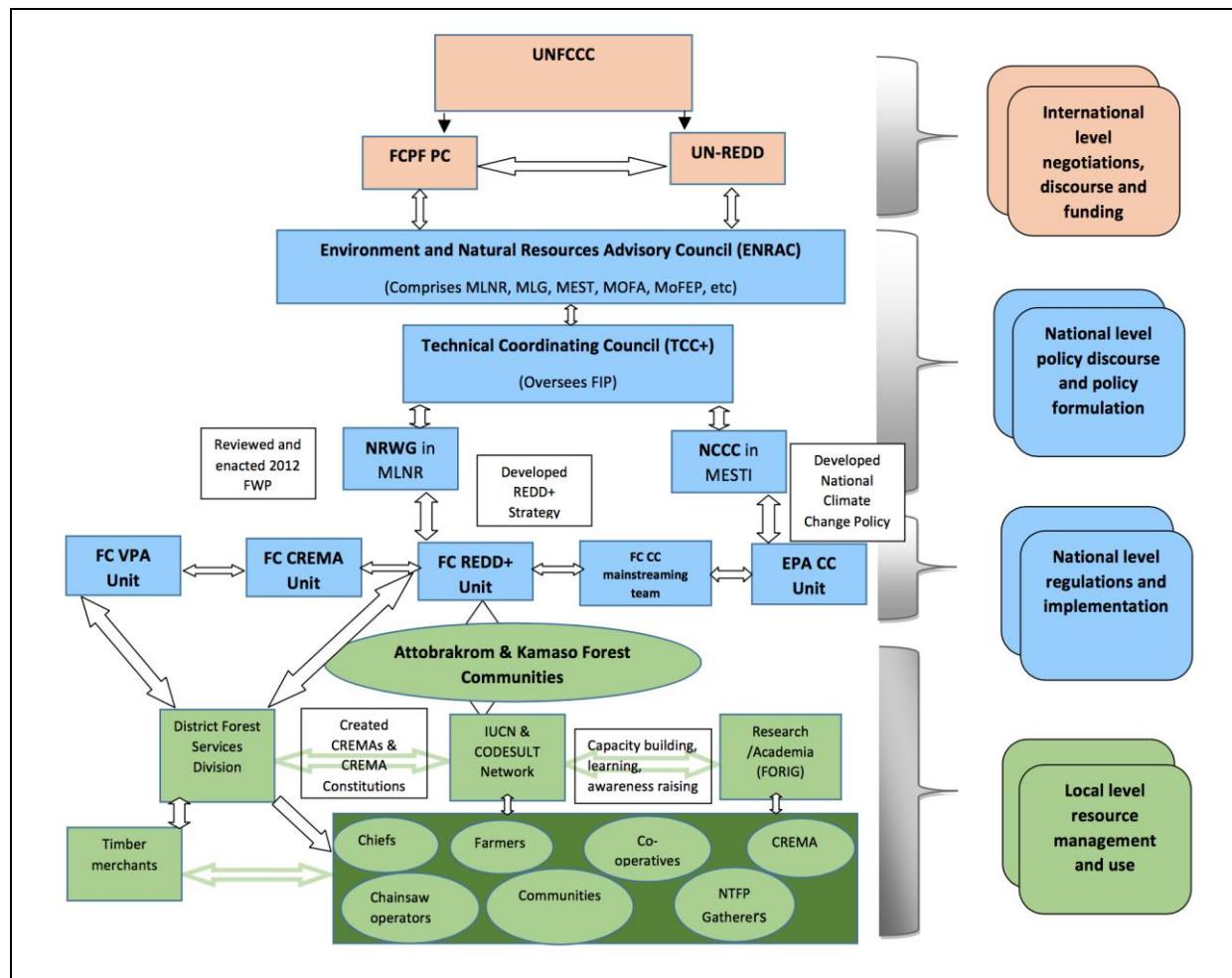


Figure 7.3: Institutional and regulatory frameworks of Ghana REDD+ (source: Author, 2017)

After a reportedly failed consultancy commissioned for the Ghana REDD+ Strategy, the FC constituted a multi-stakeholder ‘Expert Review Team’ drawn from government, private sector and civil society institutions. According to an official from the FC, there were 12 people on the team who worked in conjunction with the REDD+ Secretariat and the process involved various iterations and extensive community level engagements (mostly farmer groups), scaling up to the regional level and finally to the national level where the strategy was validated. As part of the institutional framework, the FC adopted the FCPF Readiness Assessment Framework for self-assessment of the Ghana REDD+ process.

Ghana has a decentralised system of governance and so the FC has regional and district offices across the country. These lower rungs of government take directions from the headquarters in Accra. In addition, there are local government structures (i.e. District Assemblies) that have specific mandates to oversee and spearhead development and resource management of designated areas. Fieldwork found that these District Assemblies were not involved in the REDD+ process. The FC claims to be making use of institutional structures at the regional and district levels, and conducting training of trainers for some selected local staff:

“They [decentralised staff] are always in touch with the people so they are there to give us [FC] all these feedback and then we work on them and then even as they are doing their capacity is being built, they can also address some of the issues at that level so we are going to use our institutional structure as a commission” (FC official).

There was a contrasting account by a CSO interviewee on the use of decentralised institutions by the FC:

“...nationally we know you have the FC or MLNR leading the process. At the regional level, you don’t see that activity...district level is non-existent... those who lead at the national level, they go back to lead at the regional level,

they go back to lead at the district level and that should not be because they have institutions that are in place...when you go to some of the forest district offices, the head personnel doesn't even know about REDD+".

In regulating its role in REDD+ mediation, the FC commissioned a consultant to produce a national communication strategy to facilitate efforts to reach stakeholders at varying scales. According to FC officials, major transformational change would not be achieved if the focus were not on the community level. According to the head of the REDD+ Unit, the FC's communication efforts and community engagement activities allow the REDD+ message to penetrate to community level. A cross-section of interviewees contradicted this assertion including a baseline study carried out by a CSO in communities initially earmarked by the state for REDD+ pilots.

As part of the communication strategy the FC introduced the REDDeye campaign, which focuses on attracting the youth. The rural youth are identified as a category of forest dwellers engaging in forest degradation activities. The REDDeye campaign is intended to create awareness of behaviours degrading natural resources. The campaign is organised by the FC in partnership with both local and international NGOs, and the private sector (FC official). Other aspects of the communication strategy include the REDD+ Digest and the REDD+ Road Show. The REDD+ Digest is a publication that provides REDD+ information for stakeholders and interested citizens. The REDD+ Road Show is the main vehicle for the FC's REDD+ awareness creation across the country. The communication strategy is to sustain efforts and promote institutional continuity. Every year, the FC organises a National REDD+ Forum to draw attention to, and improve knowledge of, REDD+ at various scales and levels. The forum, according to a FC interviewee is held across various regions, not just in the capital.

7.4.2.3 Building on local institutions

In Ghana, CREMA is regarded as a mechanism for promoting community participation in natural resource management and its potential for applicability to

the Ghana REDD+ programme has been hailed. An official in the FC CREMA Unit iterated that in areas where the ERP is to be implemented, the plan is to use the CREMA approach including farmers' cooperatives:

"CREMA provides a very strong, very solid governance and management platform that helps in mobilisation of people. It helps in bringing people together to sensitise them and about certain issues and they have local structures so some of these structures are internally driven. Once you get the ground-swell of people from within the CREMA, who appreciate and they themselves are selling the message, it's much better".

In FC, there is a CREMA unit within the Wildlife Division. CREMA is implemented in the off reserve forest areas. The introduction of CREMAs for REDD+, has given impetus to the concept of including forests within CREMA. This fosters the linkages between the Wildlife Division and the Forest Services Division in their work mandates. The FC is actively pursuing the CREMA concept based on the tenurial peculiarities in Ghana. Though in most instances, communities request external support to set up a CREMA, there are instances where CREMAs are developed ex-situ and communities are sensitised to the functions, benefits and costs (District FC official). Irrespective of CREMAs being designed ex-situ or in-situ, they require Ecosystems Analysis Management (EsAM). EsAM requires a visit to the site of interest to examine the habitat, the soil type and suitability to appropriately decide what animals would find the area conducive, what interventions to put in place, the activities to embark on and the kind of zoning to be delineated. All this comes together in a management plan (District FC official).

IUCN, through their work in the case study communities, identified gaps that needed to be addressed with the CREMA. Gaps included the CREMA structure and its failure to promote accountability and representation; overdue elections; and knowledge of CREMA among a select few. IUCN embarked on an action learning process with CREMA members and identified issues to tackle to restore the

functional potential of the CREMA. IUCN facilitated and supported the CREMA in the case study area to develop a 5-year action plan. The process involved a series of multi-stakeholder processes to get the CREMA constituents involved in the decision-making. One of the first actions of the plan was to review the CREMA constitution, which is the CREMA's backbone. The review captured the need for elections, and to modify stipulations and make them relevant for modern times. At the time of the fieldwork, the CREMA was working to get bye-laws reviewed and gazetted.

IUCN, in working with communities, plans to build a well-structured CREMA leadership and management system (Figure 7.4) by building up the Community Resource Management Committees (CRMC). CRMCs usually consist of members from 4-5 small communities. IUCN is building the leadership groups for each small community with members of the CRMC. This approach builds the technical capacity of more members at the community level.

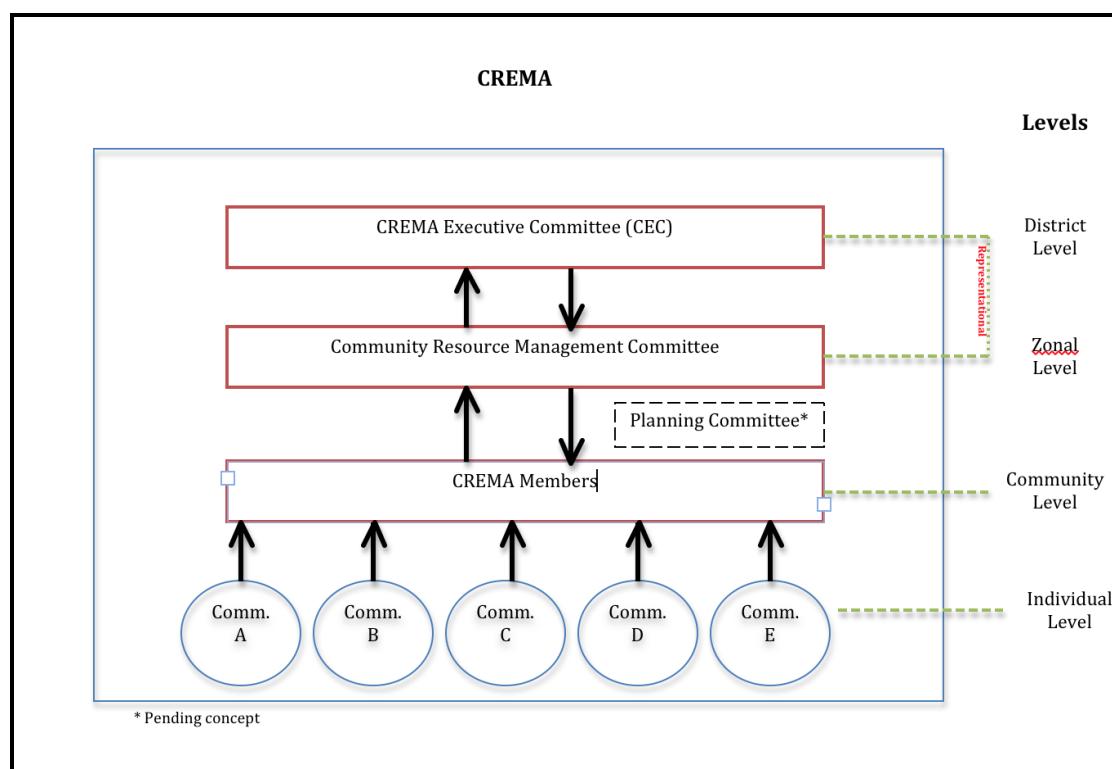


Figure 7.4: CREMA institutional arrangements (source: Author, 2017)

The field interviews indicate that, due to limited finance, CREMAs crumble when

the external facilitators supporting them pull out. Some CREMAs have started to raise money through members' payments of registration fees and monthly membership dues. The quality of leadership in each CREMA member community is responsible, to a degree, for how the CREMA is run without external support; the IUCN personnel pointed out that Attobrakrom CREMA leaders were relatively more effective than those in Kamaso. IUCN undertook an evaluation exercise, which highlighted, among other gaps, the focused engagement with CREMA executives, more so than with the wider CREMA membership. At the time of the fieldwork, the organisation was working to rectify this, including introducing sub-committees (possibly to be called Planning Committees) at village level and working with these to build up to the highest level of CREMA Executive committee as shown in figure 7.4.

CREMA, as a collective action institution reduces transaction costs in relation to finance and time. This becomes important when the financial benefits of REDD+ materialise. Visiting small farm holdings with sparse tree distributions to allocate funds and share benefits is not feasible (FC official). According to the interview findings, CREMA is practical because of the scale of operationalisation. In anticipation of benefits, the state has conducted various processes of developing a scheme for benefit sharing:

"The proposed formulae or scheme for benefits sharing has not been negotiated because any scheme that is arrived at, would have to be negotiated, would have to be validated by the stakeholders themselves or the expected beneficiaries themselves and that is going to take a bit of time to do and it would have to be conducted very carefully so it doesn't lead to any negative backlashes or potential for conflict...However government can use some of the REDD+ finance to provide them with agro-inputs, pest control, fertilisers...government would have to pay for extension officers to go there and support farmers who adopt the climate smart practices" (FC official).

Both the FC and IUCN REDD+ project engage traditional authorities in the mediation of REDD+. At the policy level, the National House of Chiefs sends a representative to REDD+ meetings and workshops. The chieftaincy institution, from the highest level of paramountcy to the lowest level of 'Odikro'/sub-chief, have been recognised to be of importance to REDD+. However, policy deliberations and strategy design focuses on paramount chiefs with limited engagements with the local communities they rule.

7.4.3 Formation of REDD+ environmentalities in Ghana

This section examines subjectivities forming under Ghana's REDD+ framework based on the politics of REDD+. The REDD+ narratives and institutions lead to the formation of environmental identities for different actors at the national and local level. This thesis sets out the narratives existing in Ghana, the interests and identities of actors and how these are streamlined in a national REDD+ mechanism.

7.4.3.1 Narratives on REDD+ carbon forests

The Ghanaian state via the FC plays a major and active role in the forestry economy by rolling out key policies and processes including the 2012 Forest and Wildlife Policy, the 2016 REDD+ Strategy, and the creation of multi-stakeholder decision-making platforms. The state established social forestry initiatives mainly using CREMA and other collaborative forest management practices such as the Modified Taungya System. In examining potential formations of environmental identities in carbon forests in Ghana, deriving from new technologies like REDD+, it is important to consider each scale and actor type.

The state is committed to low carbon development and therefore REDD+ serves as a way to meet this objective by salvaging forest cover and the declining economic gains that forests provide to the nation. According to an interviewee from the FC, the state desires transformational change by influencing behaviour via REDD+. However, the challenge of getting people to care about the forests and its wildlife is

that:

“...there is a certain perception out there that the FC doesn’t even care about the environment, and for me that is very unfair and most unfortunate notion and I don’t think even the facts on the ground support it”.

Influencing behaviours and attitudes under a REDD+ regime is not limited to the forest dwellers but also sometimes very powerful lobbyists in countries and the buy-in of the executive arm of government which is the highest body in the land (consultant interviewee). According to some interviewees, the challenge is that high-level policy figures do not care about REDD+. Political figures talk about REDD+ merely on political grounds with no real care or commitment to improving forest cover and addressing climate change:

“Within the Ministry of Lands and Natural Resources, I think they understand it but not in a lot of depth. But I don’t know if they really care about it on a deep level either” (CSO official).

In the initial stages of REDD+ in Ghana, the narrative was constructed around carbon finance payments, which led to high expectations among such interests. Campaigns against a carbon-centric approach targeted at the FC by some NGOs led to a streamlined and holistic narrative of REDD+ that considered economic, social and environmental aspects of REDD+:

“Initially, it was too much of the carbon aspect but even they [FC] themselves have now realised that... they have toned down on the carbon and they really building up on linking it to livelihoods and that’s why I think the first ER programme is linked to cocoa so you see we are getting there gradually. So I think that the mentality is changing more towards having a more holistic view at the linkages between the

livelihoods and carbon aspect and the fact that those two need to work together or else you won't get success".

"For them to link REDD straight away to money makes me very uncomfortable... everybody talks about money".

7.4.3.2 Varied interests in REDD+

There are many new actors in the forest-climate sector that have expressed interest or joined in REDD+ governance. This includes actors such as financial institutions. According to an interview with a CSO official:

"So many people who wouldn't even care about the environment now come, oh so the carbon finance... but these are people who are not really in the environmental sector anyway, they are more like business people who have just heard about carbon finance and they are interested and want to know about it and stuff".

Findings indicate that the CSOs/NGOs interviewed work on REDD+ because of their interests in community socio-economic life (including poverty reduction), environmental integrity and/or carbon finance. The research draws an example from two NGOs; one focused on how to use REDD+ to improve forest governance and community livelihoods, and the other on how they can save carbon for finance:

"I disagree with [name withheld] saying REDD is not about carbon... how can you say REDD is not about carbon, because it is about carbon, you may not care about the carbon" (NGO actor).

The private sector (timber merchants and carbon investors) cared about REDD+ due to the opportunity to earn (extra) income from carbon finance. Traditional authorities were more interested in the benefits they would derive than roles and responsibilities (CSO official). In the experience shared by one conservation NGO,

traditional authorities in a different region of Ghana, travelled 3-4 hours to their offices based in Accra, demanding their share of non-existent REDD+ money:

“...this place was inundated by queen mother and the traditional authority that we have collected money, somebody said they have given us money for REDD and they are coming for theirs”

In addition to CREMAS, the state is looking at ways through which farmer cooperatives can be used to contribute to REDD+ governance and implementation. The state seeks to make partners out of local actors and this is supported by donor funds like the Forest Investment Programme and the design that new environmental mechanisms are taking on. In working to get forest communities to care about REDD+, one FC official said communication should be truthful and factual.

Fieldwork findings in Attobrakrom and Kamaso show that some level of environmental identity already exists owing to the length of time that IUCN has worked on promoting forest conservation in the study areas:

“...even though they are farmers working on cocoa, naturally they are also interested in making sure that the environment is safe, the farms are ecologically healthy and that productivity is high”.

However, according to accounts by a private sector actor in a different pilot in the transition belt of Ghana, though the forests form an element of thought for the communities, it is not critical enough to dictating their actions. The interviewee stated that:

“...they [the community] are saying that they themselves want to protect the forests but it's just that they are poor

and the easiest thing to do is cut down a tree and burn it for money and you can't fault them".

7.4.3.3 Strategies and practices for aligning interests

Interviewees from the FC and IUCN shared strategies for involving communities in REDD+. For instance, the official from the FC stated that participatory monitoring, reporting and verification (MRV) would be a good approach with which to engage communities. However, he cautioned that the technical experts are struggling with the new technology and so although having communities undertake MRV is laudable, its realisation would take some time require a lot of investment in capacity building in communities. According to an IUCN interviewee:

"You just have to be innovative about it; identify areas where that communalities can be drawn and then also identify things that definitely the communities would think are very important for them to be able to contribute some kind of.... is it labour, time, whatever it is for the common good of the community. And then once the community sees the benefits coming in to them also as a community rather than just to individuals, then you are more inclined towards your permanence because if it's just you and the communities are not seeing any benefits or they are not part of the process, then your condition of permanence, you might not be able to achieve it".

According to some actors from CSO and the FC, cocoa farmers understand the relationship between their economic security and environmental quality. For example:

"They will tell you that our yields have declined and they will always relate it to the changing environment.... the environmental degradation, the deforestation that is happening around. So they understand very well the

relationship between their economic well-being and the health of the environment... they understand the relationship between the physical and then the biological or the bio-physical" (FC official).

IUCN employed a 'self-introspective approach' in its project sites to get communities to understand and relate to REDD+. As part of the process, IUCN identified existing community knowledge on climate change and traditional understandings of human-environment dynamics specific to their localities. IUCN combined the traditional knowledge with their expert knowledge (informed by research) to improve the REDD+ process:

"So it's capitalising on their experiences, knowledge, adding that scientific linkage for them to...for their knowledge to be improved scientifically. And based on that they themselves begin to understand and see themselves both as part of the problem and also as solution to the problem, I think that's the approach we use".

According to IUCN, communities need to be on board for REDD+ to be successful in achieving its objectives and this involves a REDD+ design that considers livelihoods. Having worked for years in the communities, the experiential learning shared by the IUCN interviewee was that:

"Reality on the ground... is, nobody cares about carbon; what they think about first is their livelihood. I mean people would not eat carbon".

According to IUCN staff, breaking down REDD+ language into simple terms, and explaining its relation to cultural, social, environmental and economic components of the life of the local forest communities/farmers, would help in building their understanding and for them to draw links with their livelihoods (which is what they most value) and contribute to addressing deforestation and degradation

drivers. A challenge for external facilitators working with local forest communities is the short-term expectations of donors funding projects:

“From experience, I realise that it’s not a one day thing, it takes a while... it takes a lot of patience but the challenge with organisations like us is most of the support that we are giving is project based and donors want to see results really quickly but these things if you really want to do them well and see the outcomes, they take time. Because even this 5 year action plan that we did, the project ends next year which is way before the 5 years”.

7.5 Discussion

7.5.1 *Governmentality of knowledge and power*

The international agendas e.g. UNCCD, UNFCCC and Kyoto Protocol, SDGs and other development aspirations are linked with ecological and climate change challenges. According to the literature, low carbon transition in development has three aspects: the transfer of climate risk management and systematic use of climate information in decision making; contributions to strategies such as change in agricultural practice (adaptation); and sequestering carbon (mitigation) (Hansen et al., 2013; Egeru, 2016).

REDD+ forests have been created through the application of scientific forestry narratives, climate science, forest mapping and statistics (baselines, reference emission levels, MRV). While traditional forest expertise focuses on either the production element of forest management or on the biodiversity/composition of the tree landscape; REDD+ relies heavily on information/knowledge generated through research (including consultancy studies), data and statistics, to legitimise government adoption of a new environmental technology for governing forests. This is similar to the findings of Agrawal (2005a; p.21) in Kumaon, where “new regulatory regimes of forest control were based on even greater usurpation of expert authority, claims to scientific knowledge, and the launching of what many

scholars have termed ‘scientific forestry’’. Regarding knowledge – science competes with ethical rules and traditional observations, with reliance on quantitative data and figures that require periodic measurements (Berkes, 2002; Bryant, 1998).

The discourse on forests and their value has been re-tuned through REDD+ from forests as resources to be exploited for economic value to one where they are valuable as standing forests that store carbon (Brockhaus and Angelsen, 2012). The core reliance of REDD+ on figures and data has created a niche for people and organisations referred to as ‘experts’. This has created value for, and bestowed power on, such experts to affect what knowledge is generated and regarded as legitimate in informing REDD+ designs and decisions, which impacts various actors’ interests. One group of such experts are the consultants that the FC commissioned for the REDD+ process. Consultants, both individuals and organisations, play a key role in knowledge generation, data production, data interpretation and the analysis and legitimising of information in the Ghana REDD+ space.

The FC as the formal body negotiating at the UNFCCC, spearheads and controls (new) REDD+ knowledge and decisions and therefore is powerful in moulding, altering, sharing or withholding all, or part of, the information from other REDD+ stakeholders. We see in Ghana that the state shares knowledge through multi-stakeholder platforms but does so more at the national level than the local level. This may however change as projects kick off, on the ground.

REDD+ discourse has recently stirred up arguments about projects being more successful when implemented at jurisdictional levels (regional/landscape) than at small-scale (Fishbein and Lee, 2015). Therefore, Ghana is pursuing a jurisdictional REDD+ cocoa carbon programme. The jurisdictional approach is expected to have a mosaic of land uses, multiple stakeholders, reduce MRV costs and a reduced probability of leakage. By relying on figures from both the forest and cocoa sector to show forest cover decline, the contribution of cocoa farming to that decline, cocoa yield and economic returns, the government effectively legitimises its power

in the decision to embark on a jurisdictional REDD+ cocoa carbon programme. There are accounts of modern scientific forestry in colonial Asia being result of the objective to ensure long-term commercial timber production that benefits the state economically (Winkel, 2012). This is a similar pathway that REDD+ is taking, with the state's interests in the economic gains to be made from carbon credits and a sustainable cocoa sector.

Inherent in its process of engagement, is the mediation of knowledge that REDD+ requires a concerted effort from the various stakeholders and various sectors including agriculture. Ghana's REDD+ process evidently shows the important role CSOs play in contributing to information/knowledge. Despite the state's access to knowledge at the international level, there are cases where CSOs with expertise have contributed to building the capacity of state officials. Access to information/knowledge by state officials does not, in some cases, equal understanding or the power to effectively utilise such knowledge appropriately.

CSOs and NGOs build knowledge of other actors in Ghana's REDD+ process. This empowers actors and gives them the ability to participate in discussions and decision-making. Without the requisite information, actors tend to feel powerless to contribute or negotiate their interests (Atela et al., 2016). Information on REDD+, including the understanding and interpretation of it shapes and influences the concept (Moeliono et al., 2014). "In the REDD+ world, information is a currency and a source of power. The collection and sharing of data and information are the nuts and bolts of the REDD+ mechanism, which is under development" (Brockhaus and Angelsen, 2012; p.26). REDD+ management would benefit from stakeholders building symmetrical knowledge from exchanges; negotiating trade-offs; agreeing on common objectives, strategies, and policy direction; and the common understanding of rules and practices (Bodin and Crona, 2009). There is a need to create a balance in knowledge transfer to all the various segments of society.

Governmentality of the environment through new technologies like REDD+ involves a range of powerful actors shaping, guiding or affecting the conduct of individuals or groups of people (Bulley, 2013). We see across the Ghanaian

process, that actors can initiate action yet also be subject to others in power (Winkel, 2012). This is a derivative of the institutional scale at which an actor is engaging, including spatial and temporal scales. The issue of power is therefore fluid based on the discursive domain that an actor participates in (Winkel, 2012). Aside from the politics of information and how it is used, or not, there is a technical dimension of stakeholders' capacity to access, process, produce, and provide information pertinent to REDD+ (Brockhaus and Angelsen, 2012).

New actors entering the REDD+ process gain power and have influence in shaping policy and decision-making (Schroeder and Lovell, 2012). This changes the dynamics of power relations existing among "older" participating stakeholders and new power relationships are created between existing stakeholders and new actors that join the process. How much information and knowledge they possess, and their capacity to access, produce, understand, and provide information also counts in how much agency they can assert. Power in Ghana's REDD+ process varies from oppressive and negative (e.g. the state withholding information) to positive and enabling (e.g. CSOs training FC officials on aspects of REDD+).

Prioritising cocoa for REDD+, raises interesting questions of the implications this approach has for farmers, and much more for those who do not cultivate cocoa. Through the REDD+ cocoa carbon programme, the state impacts local institutions by centralised decision-making and management, due to the expert knowledge required; new approaches to cocoa farming; shifts in knowledge systems; a rise in market dependency; and a nationalisation of resources e.g. carbon (Berkes, 2002).

7.5.2 Evidence of the regulatory community as a conduit of knowledge/power

In Ghana, the formation of the NRWG, multi-stakeholder meetings and expert committees, is evidence that the government has in principle created structures to facilitate the mediation of knowledge and distribute power to the stakeholders in the REDD+ process. However, discourse, information and knowledge exchange are limited between stakeholder groups, which arrests, to an extent, the enhancement of the capacity that newly co-produced REDD+ knowledge can create. There is no

evidence that stakeholder representatives of the various stakeholder groups in the NRWG act appropriately as conduits that mediate REDD+ knowledge to their respective constituencies. This implies few individuals act as stakeholder representatives, controlling knowledge of REDD+ and relatively more powerful to influence the process than other members of the larger stakeholder group.

Ghana, in pursuing a landscape approach to REDD+, seeks to improve institutional coordination and planning so that policies across sectors such as energy and agriculture can be aligned within REDD+. The regulatory environment and institutions framed to pursue the REDD+ cocoa carbon landscape programme capture economic opportunities from both cocoa and forest sectors through increased yield and carbon payments. New relationships for engagement have been created within the REDD+ process for example the FC and COCOBOD. Though both sectors deal with land use, they did not have a history of working together to streamline actions and achieve their objectives. These new relationships represent channels of information sharing and knowledge building.

FC in organising workshops and trainings for stakeholders builds capacity for implementation, which creates knowledge that feeds back into shaping the REDD+ idea in the Ghanaian context. However, the inability to transfer knowledge from traditional authorities to communities within their jurisdiction is evidence of the failings of the institutional and regulatory setup for mediating REDD+. Furthermore, in pursuing awareness campaigns such as the REDD+ Roadshow, the FC is using what Meijers et al. (2016) refer to as 'reproductive learning'. Reproductive learning only gives information, and no matter how accurate or scientifically sound, it is not compelling enough to change existing identifications and behaviour. However, as in the IUCN case, they provide opportunities for individuals to formulate solutions *vis-à-vis* their experiences and, more importantly, engage in collaborative exchanges about how the solutions developed by them hold meaning to them and their community. This allows information to be internalised and transformed into knowledge and therefore brings people to care about the environment and change their behaviours accordingly (Meijers et al., 2016).

Experience of the co-management approach of bridging the national and local arrangements for REDD+ through cross-scale institutional designs, including CREMA, is limited (Young, 2002), and it is difficult to say what factors cause success or failure. CREMA represents a collaborative approach that links the state and communities; the state, NGOs and the community; or NGOs and the community. CREMA is low hanging fruit for the state in its institutional arrangements to mediate REDD+. There are also cross-level linkages, especially between communities that are a part of the CREMA. CREMA requires real community collective action and unity both intra-community and inter-community.

A key factor in local forest management is external facilitators, such as IUCN, mobilising and building the capacity of community members to have the requisite information, knowledge and understanding to collectively manage resources (Bodin and Crona, 2009). This also holds as an essential step for the REDD+ process. For continuity, external facilitators supporting CREMA in communities, must work towards developing exit strategies that promote community self-sufficiency in running CREMA and further employing this for REDD+ (Berkes, 2002).

Evidence from the fieldwork suggests that farmers and forest users' decision-making is partly driven by economic and policy constraints. Tree tenure is one of the main institutional bottlenecks impacting the decisions that forest communities make. The current tenure system does not favour or provide access to farmers for naturally occurring trees, and so they engage in acts to get rid of such trees on their land. When communities have tenure, they have the power to make decisions, access, control, use, and benefit from the resources and are likely to sustainably manage them (Sunderlin et al., 2015; St-Laurent et al., 2013; Awono et al., 2014).

The FC's express support for use of the CREMA concept for REDD+ portrays a commitment to a collaborative approach to REDD+ implementation. Using CREMA represents a regulatory institution that would likely promote the use of both scientific and traditional knowledge, and protect the rights of local forest

communities under a REDD+ regime (Young, 2002). In addition, the cultural setting of the case study communities and, in large part, rural Ghana, is one of a communal people, which can benefit the state in using CREMA for REDD+. The government, in mediating REDD+ through multi-stakeholder platforms, decentralised centres and collaborative management, is engaging in cross-scale interactions that seek to empower and develop stakeholders (Berkes, 2002).

7.5.3 Formation of REDD+ environmental identities

While much of the world's population lives on the margins of development, communities manifest capabilities for both social and institutional development and environmental protection. Examples of rehabilitation exist in many parts of the world, e.g. the greening of the Sahel and China engaging in reforestation on an unprecedented scale. However, the debate about deforestation and land degradation is contentious, e.g. see the causes of degradation and desertification in Sahel or land rehabilitation in northern Kenya show that addressing the processes effectively requires both biophysical and human considerations (Olukoye and Kinyamario, 2009). In other words, some form of community-based participation is important to promote environmentally responsive behaviour in a world where most humans do not act according to pro-environmental values (Meijers et al., 2016).

The trade-offs between development and environment objectives (World Development, 1998) are of concern for REDD+ success on the ground. For example, where a credit-constrained landowner receives credit for good behaviour on one parcel of land, which could provide the income needed to begin harmful carbon emission activity on another piece of land (Jack et al., 2008). REDD+ also risks creating perverse incentives where communities are, on the one hand, offered economic alternatives through markets e.g. indigenous land titles or new agricultural technologies, while on the other, they are expected to remain, or become, 'stewards of nature'. Penna-Firme and Brondizio (2007) show the trade-offs between new green development initiatives and community development in high forest areas of Brazil, and point out that while there are many benefits for the communities, excluded communities risk being kept under economic constraints,

since traditional populations are not expected to develop strong market links or high consumption rates; in other words, to change the material conditions which attest, as cultural markers, to their identity.

Becoming environmental subjects through carbon forest projects requires evidence of change. Jarvis et al. (2011) suggest that behavioural change is a result of linking the right institutions, instruments and scientific outputs. Typically, there are barriers to behavioural change as a climate response (IPCC, 2007), which include uncertainty about outcomes of decisions, cognitive problems, differing perceptions, providing compelling incentives and building institutional capacity (Jarvis et al., 2011). The nature of the subjects formed under the Ghana REDD+ process is mixed. Firstly, there is an exact positioning of man's interaction with nature to protect it based on a deeper human-nature connection ('pachamama'/ethics of care). Secondly, there is that which is linked to neoliberal environmental structures, where some stakeholders at the national level are interested based on economic reasons.

The buy-in of some stakeholders (usually financial institutions) to the REDD+ programme in Ghana seems to be linked to the promise and expectation of REDD+ primarily as an economic tool. Most of the national level actors who care about REDD+ for the economic gains are new to the process and joined mainly because of the financial rewards. There is reason to believe that the environmental objectives of REDD+ are secondary concerns for these actors. The buy-in of some community stakeholders to REDD+ is linked to the opportunities REDD+ presents for improving their material wealth, and even though they may participate in REDD+, it may not be a critical domain of thought to the extent that it shapes how they relate to the environment. The pull factors of financial poverty coupled with narratives of 'good foreign money' as per neoliberal conservation projects around the world, is responsible for creating a certain form of environmental identity, as shown in this study.

The research shows that the type and level of knowledge that stakeholders possess of REDD+ plays a key part in the transition to REDD+ identity formation.

Therefore, at the community level, existing organised traditional forestry platforms like the CREMA, when used for REDD+, would foster a collective sense of capacity, build confidence and create REDD+ subjects. The CREMA framework allows communities, individuals and groups to obtain rights to manage wildlife within their local areas for economic and livelihood benefits (Asare et al., 2013) but also non-material values such as culture (Robinson and Sasu, 2013). CREMAs are increasingly being extended to the tree management aspects of forestry including REDD+ (Robinson and Sasu, 2013). Using CREMAs for REDD+, it is hoped, gives communities and farmers the ability to make decisions relevant to their local areas, and in tandem reduce forest emissions.

External facilitators such as IUCN work in concert with district government officials and national FC officials in forest communities. However, there are inefficiencies in the dialogue, which results in a myriad of varying REDD+ understandings, and impacts subject-making. Asymmetry in REDD+ engagement and discussion in local forest communities impedes the creation of REDD+ subjects. Furthermore, in mediating knowledge and power through regulatory institutions, those being regulated, mostly local forest communities, can produce resistance. Such resistance may be subtle, as found in this study, or overt as Leach (2008) points out in her case studies of tropical forests in West Africa and the Caribbean. The emergence of REDD+ subjects involves a complexity around local residents' understanding of the relationship they have with their forests (and the environment at large) and the means by which they came to such understandings. This opens questions of how some farmers come to care about REDD+ and others do not (see Chapter 9).

The FC, in trying to achieve efficiency in their pursuit of REDD+, are working towards the buy-in and participation of farmers and community dwellers. However the status quo is to steer local forest communities towards already established visions and decisions. There are different ideologies of what REDD+ is, and these translate into priorities and strategies for action (Brockhaus and Angelsen, 2012) and possibly the type of subject created. A case in point is the observed changes in the Ghanaian government's pursuit of REDD+ from an initial

carbon-focus, to one of cocoa farming as a livelihood. Another case in point is IUCN's insistence on establishing enabling social and governance arrangements whilst NCRC is more skewed towards enabling conditions that facilitate carbon counting and payments.

7.6 Conclusion

This chapter advances scholarship on Foucauldian development within environmental studies of the production of subjectivities linked to the discourses, practices and policies of new environmental programmes. The mediation of REDD+ by the government through formal and informal institutions and regulations, produces a new kind of people that care about forests. This chapter sets out to ambitiously examine the political and relational aspects of knowledge, politics and institutions that lead to the formation of subjectivities through REDD+ examples from the national level to the local level, and show how REDD+ mechanism is institutionalised.

REDD+ is of a character where knowledge is continually produced by actors and in some instances co-produced between actors and directed towards policy formulation, policy change, strategy development or refinement. Through acclaimed community empowerment, the state and organisations such as IUCN try to shape people in communities to think and act in a specified way to achieve the results they want from REDD+. This is similar to Bulley's (2013) finding that the UK government's Community Resilience Programme was used to diffuse techniques and tactics that shaped people through a discourse of community empowerment.

At the level of the communities, the narrative has changed from one of less regard for forests, to one that sees the value of standing forests for farming, payments, environmental integrity and ecosystem services. Through this chapter, new ways of people's understanding of the environment are engendered, and new ways in which the environment is objectified. The problem of climate change and the advent of REDD+, as part of the solution, challenge the understanding of nature,

and the corresponding deep-rooted past practices with a new kind of subjective association to look after it.

The cross-scale dynamics of human-environment systems are essential to propel effective public policy and resource management systems. Data generation and management features in the uptake of REDD+ for forest management. The data, figures and tools for establishing baselines emissions and monitoring, reporting and verification protocols are not accessible to all stakeholders, especially local forest communities. Just as Agrawal (2005a) stated in his work on India, transformations in knowledge, politics, institutions and subjectivities are vital to emerging environmental technologies such as REDD+.

While this chapter addresses the cross-scale aspects of how and why REDD+ is institutionalised through knowledge, regulation and identity formation, it also raises questions about how local institutions shape and are shaped by REDD+, and what the impacts of REDD+ are in local communities. Clearly the chapter has identified some of the reasons why locals do not engage with REDD+, but those people who do chose to engage with REDD+ lead us to ask why they care, what changes in their values and behaviours have taken place, and how does that influence the shaping of REDD+? These questions are left as the subject of further study in the ensuing chapters.

CHAPTER EIGHT: COMMUNITY INSTITUTIONS AND BARRIERS TO REDD+ IN GHANAIAN COCOA FOREST COMMUNITIES

8.1 Introduction

Global forest governance regimes include policies, actions, and measures to curb atmospheric greenhouse gas (GHG) emissions. Over the next century, significant climate impacts on forests are certain to disrupt the ecological and socio-economic services they provide (Brown and Sonwa, 2015). With climate change impacts expected to hit Africa particularly hard, based on a combination of factors including the high dependence of the populace on climate-dependent natural resources (Brown and Sonwa, 2015), decisions on tropical forest management are critical. In the face of uncertain climatic impacts, the life cycles of forests are threatened both spatially and temporally (Dale et al., 2000), putting local forest communities at significantly adverse risk (Agrawal and Perrin, 2008). Changes in resource availability, droughts, floods, forest fires, and reductions in services that forests provide like watershed protection, lead to adverse lifestyle impacts, and possibly social unrest and migration (Spittlehouse and Stewart, 2003). Increasing forest resilience is therefore essential to the ecological and socio-economic functions they provide.

Millar et al. (2007) outline adaptive strategies (including resistance, resilience and response options) and mitigation strategies that sequester carbon and reduce overall GHG emissions. There is complexity in governing forests as a source of livelihood vis-à-vis their role as innovative, cost-effective and efficient means by which 17-20% of GHGs can be mitigated (Boucher et al., 2014). Using forests for climate change mitigation, through efforts that pay countries for changing their business as usual management approaches, involves practices that promote conservation; sustainable management of forests; enhancement of forest carbon stocks; reduced deforestation; and degradation, all of which are collectively referred to as REDD+. REDD+ aims to reduce emissions, conserve biodiversity, and reduce poverty (Ngendakumana et al., 2014; Peras et al., 2015).

There is an increasing use of community-based approaches for REDD+, as evidenced in Philippines (Peras et al., 2015), Tanzania (Caplow et al., 2014; Dokken et al., 2014), Indonesia (Intarini et al., 2014) and Cameroon (Awono et al., 2014). Although local forest communities are important to REDD+ as protectors of forests, there is still a dearth of knowledge about how REDD+ shapes, and is shaped by, local forest community actors and institutions, and the barriers that impede the uptake of REDD+ at local community level. Local forest communities are conceptualised as socially and geographically defined areas of people that live near and/or depend on forests, bound by shared values.

In Brown and Sonwa's (2015) work on rural communities in Cameroon, they indicate a need for better understanding of local group composition in forest communities and how they relate to the exchange of knowledge for climate adaptation. Literature shows that establishing an understanding of the impacts of REDD+ on communities is poorly understood in the context of West Africa (Saeed et al., 2017). This research therefore explores the perspectives of farmers from two Ghanaian cocoa-forest communities on how local community institutions shape, and are shaped by, REDD+ and what institutional barriers impede the uptake of REDD+.

8.2 Institutions

Approaches to forest governance are effected through formal and informal institutions, which are norms and behaviours that humans use to organise and shape their means of engagement, behaviour and expectations, at both social and individual levels (Agrawal and Perrin, 2008). The definition of institution in this study is adopted from Ostrom's (2005) broad definition of institutions being complex but essentially formed to facilitate organised forms of repetitive and structured interaction by humans (Brown and Sonwa, 2015). Institutions include the organisations, associations, rules, norms and laws that regulate social interaction and practice (Somorin et al., 2014). Particular combinations of rules are responsible for the emerging outcomes and actions of the people in the environment where the rules are operational (Ostrom 2005). In looking at

organisations as part of institutions, this thesis adopts the typology of Agrawal and Perrin (2008): public (elected or appointed state functions), civic (membership oriented) and private (business/market driven) sectors. These organisations that mediate environmental schemes and projects are either external facilitators (usually coming from outside the community to provide expert support) or internal (organisations created in the community).

8.2.1 Institutions and Collective action

Over the years, forest management has evolved in some places from strict protectionism of no access for local communities to a diverse mix of collaborative management (Sandbrook et al., 2010; Brown et al., 2002). These collaborative approaches reduce social costs and improve local livelihoods and conservation objectives (Thondhlana et al., 2015; Brown et al., 2002). Collaborative approaches require local decision-making institutions to be crafted to enhance the 'collective' element of collective action.

According to 'good' governance and commons literature, the essentials of collective action include, but are not limited to, trust, transparency, accountability, established rights/tenure, participation, rules, coordination, social justice, empowerment, monitoring, and sanctions for violations (See Ostrom, 1990; Dietz et al., 2003; Lebel et al., 2006). Therefore, collaborative governance of natural resource management is often treated by conservation agencies as a highly desirable means by which local economic development and poverty alleviation can be achieved (Thondhlana et al., 2015).

Agrawal (2005a) also makes a case in his study of Kumaon that institutional setups that promote community engagement and 'practice' contribute to environmental management by bridging the gap that exists between power and imagination. For instance, the formation of forest councils (management and decision making platforms) increased participation and engagement in the communities with these councils, compared to those that did not. Communities with locals participating through councils experienced increased monitoring of forest resources. This, according to Agrawal (2005a), played a role over time and instilled a desire in the

locals to be good stewards of their resources and the environment. People come to feel a sense of ownership, power and belief that dictates their relationship with the environment. The inclusion of local groups leads to buy-in and ensures success in achieving locally appropriate outcomes. Thus, schemes such as REDD+ should consider institutions that allow a set of alternative framing principles for an integrated, relational, agency based and equitable joint framing of climate change and poverty (Lawson and St. Clair, 2009). Institutions hold influence over the livelihoods of communities and in the light of climate change the extent to which they are made vulnerable (Brown and Sonwa, 2015; Agrawal and Perrin, 2008). In forest communities across the globe, there is reliance on forests for aspects of livelihoods – that is the capabilities, material elements and social assets that facilitate living (Agrawal and Perrin, 2008). This nexus between livelihoods and forest resources implies that community institutions “thereby facilitate or impede individual and collective responses, ultimately shaping the outcomes of responses” (Brown and Sonwa, 2015; p.1).

The heterogeneity within communities, the varying interests of people, and the power associated with certain leadership positions in the community, cannot be ignored in the role they play over successful collective action in reducing poverty or developing local economies (Mahanty et al., 2006; Di Gregorio et al., 2008). In some instances, public, private and civic experts have assumed community homogeneity and relied on that to pursue initiatives under which collaborative approaches have emerged or been formed (Thondhlana et al., 2015). Several scholars have written about community heterogeneity and its impact on community forest management and collective action (e.g. Hiraldo and Tanner, 2011; Lau and Scales, 2016; Varughese and Ostrom, 2001). This, however, is not the focus of this chapter but it is recognised that as people participate they form experiences that over time inform their thoughts and beliefs (Agrawal, 2005a). These thoughts and beliefs dictate the actions people engage in and therefore lead to the formation of environmental subjects who care for the environment and impact on its sustainability and resilience (see Chapter 8 on subjectivity).

Despite the complexity of community heterogeneity, understanding what institutions are at play, “how and why they are crafted and sustained, and what

consequences they generate in diverse settings" (Ostrom, 2005a; p.3) can advance the relationship that humans have with the environment. Local social institutions, according to Crane (2013), are means through which agrarian societies adapt to change without totally losing their social coherence or cultural continuity. In pursuing climate change mitigation via REDD+, a solution that relies on local collective resources and actions, there is a two-way effect: external interventions such as REDD+ impact local institutions, and local institutions affect the mediation of such external interventions. This two-way interaction can reinforce or undermine the institutions in question (Brown and Sonwa, 2015) and determine the impacts realised at the local level (see Chapter 8).

8.3 Research questions and approach

This chapter is guided by the following overarching research questions:

- How do actors and institutions in Attobrakrom and Kamaso shape and are shaped by REDD+?
- What institutional barriers impede uptake of REDD+ in cocoa-forest communities?

8.3.1 Methods

This qualitative research adopts an exploratory case study design (Yin, 2014) as few empirical studies have established realities of REDD+ at the community level (Saeed et al., 2017). A case study is best for making in-depth enquiries into how and why certain situations occur, and to engage with the issues (Yin, 2014). Undertaking a case study is key in examining community REDD+ involvement and its impacts in the real world, given that different variables (e.g. proximity to forest reserve) exist from one community to another. This study adopts a focus on cocoa growing forest areas (Attobrakrom and Kamaso) where it is believed that REDD+ could assist existing development efforts to eradicate poverty, yet there are local sites of governance of rural institutions, where local ecologies, access to resources, issues of property, values and justice affect, and are affected by, REDD+.

IUCN facilitated the introduction of the researchers to community village champions, who in turn facilitated community entry. Various data collection techniques were adopted to reduce bias and verify information through triangulation. Focus groups were one of the many forms of data collection adopted in both communities (Carson, 2001). A total of 60 participants, comprising 28 males and 32 females, were engaged in the discussions. Participants were selected based on voluntary self-nomination. Rural women, who are mostly caretakers of the home and rely most often on forests for livelihoods, reportedly do not express their views when in the company of men due to socio-cultural norms (Di Gregorio et al., 2008). Therefore, to ensure the best results of the focus groups, the women were separated from the men. In addition, each gender was divided along generational lines into 'mature' (35 years and above) and 'youth' (18-34 years). The research design allowed a maximum of 8 participants per focus group category to foster greater interaction as larger groups might force some participants to not engage. Focus groups explicitly helped interaction among the participants to generate information that might otherwise not emerge from one-on-one interviews (Carson et al., 2001). All focus groups were conducted in the local language, Twi.

Semi-structured interviews were carried out in both communities. Thirty-one interviews were held with residents of the communities. Interviewees were chosen based on a mix of random and purposive sampling. As a farming community, adopting only random sampling was difficult because every day is a farming day, except Tuesday, which is also traditionally observed as market day. Market days serve as opportunities for farmers to trade in wares, and purchase items they need. The interviews were audio recorded, transcribed and thematised using QSR Nvivo software before analysis was carried out. Project documents, reports, legal texts and strategy documents were also reviewed.

8.3.2 Case study: Geographical and socio-political context of Attobrakrom and Kamaso

With limited REDD+ projects being implemented in Ghana, the selection of study sites was influenced by factors including the Ghanaian government's policy

strategy of jurisdictional REDD+ cocoa carbon, where both communities are located; and them both being sites of IUCN's REDD+ project. According to one school of thought, property rights dictate the difference in rules that exist from one place to another (Ostrom, 2005). Actions differ in relation to rules that apply to government forests, private forest estates, community forests or open access forest resources. In places such as Ghana, with plural property rights attached to one resource like land or forests, the rules vary for each right, creating complexities (Ngendakumana et al., 2013).

As shown in Figure 8.1 below, Attobrakrom and Kamaso are in the Western region of Ghana – where much of Ghana's remaining forests stand. The sites are in the Wassa Amenfi West District situated about 22km from Asankragwa, the district capital. Though both communities have off-reserve forests (stool/clan/community owned), Kamaso shares a boundary with the Mamire Forest Reserve while Attobrakrom does not share a boundary with any forest reserve (state owned and managed) in the district.

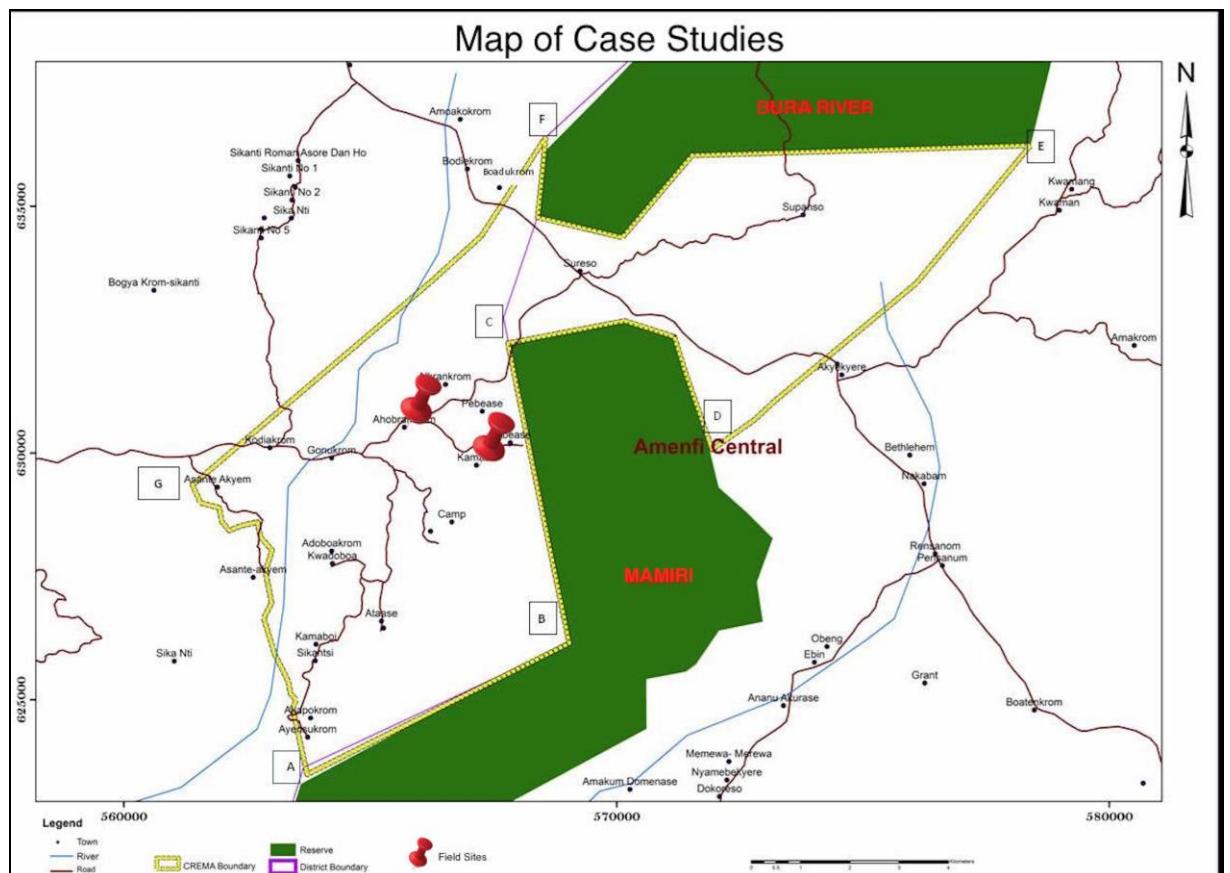


Figure 8.1: Location of case study communities (Source: IUCN, Ghana)

Cocoa cultivation is the single major source of income for the residents of the two communities. Most farmers adopted slash and burn method in earlier years, and this has played a significant role in the deforestation and degradation of off-reserve forests in the area. Lands used by cocoa farmers in the study sites, fall within the following customary sharecropping systems:

- Abusa – This system divides net proceeds from cocoa sales in shares of one-third to the caretaker (usually a migrant) and two-thirds to the landowner. The landowner maintains supervisory and decision making roles.
- Abunu – The net proceeds are divided equally between the tenant and the landowner. Under this system, the tenant receives no rewards in the first years of the cocoa's maturity but is responsible for establishing the farm, and for all activities and decisions on the farm. The tenant can plant food crops for subsistence.
- Modified Abunu – This has all the elements of 'Abunu' described above but differs in that usufruct rights in one-half of the cultivated land transfer to the tenant when the cocoa matures. According to IUCN (2014), the Modified Abunu system is the prevalent system in the district.

Both communities are part of Community Resource Management Areas (CREMAs). CREMAs are geographically defined areas, which consist of two or more communities, which as a unit, agree to put in place legal and constitutional mandates on how they will sustainably manage natural resources (IUCN, 2016). CREMA started as a way of fostering community management of wildlife but has recently spread to cover forest conservation and has been one focus of Ghana's REDD+ process. The concept allows communities and the state forest authorities to work together in the sustainable management of forest resources. There is a Community Resource Management Committee (CRMC) at each village level, with its own executive membership that steers the group (see Chapter 7). CRMCs, when aggregated, form CREMA.

The REDD+ mechanism was introduced in Attobrakrom and Kamaso by IUCN-Ghana in 2009 after they implemented a “Landscape and Livelihood Study” project. Under the REDD+ project, which was in its third phase at the time of the study, IUCN sought to build governance at the landscape level and bridge the gap between local level institutions and national policy formulation. IUCN has been spearheading community sensitisation in Attobrakrom and Kamaso on climate change, REDD+, benefit sharing, etc. As part of the project, IUCN has collated ideas and findings that it is testing for experiential learning to contribute to building up REDD+ policy in Ghana.

As part of culture and tradition in some parts of Ghana, there is a paramount chief ('Omanhene') who has divisional chiefs ('Ohene') below him and at the lowest level, the sub-chiefs ('Odikro') of minor settlements. The 'Ohene' appoints the 'Odikro'. As chiefs are the custodians of land, their establishment is important in land distribution and conflict resolution in the district. The case study communities under the leadership of the sub-chiefs undertake decisions concerning their community development. Paramount chiefs have the authority to determine land use and management decisions that can override 'Odikros' (Awuni, 2013). All chiefs have a council of elders who assist in administrative functions (Sambian, 2012). The state uses the local district assembly and other decentralised offices, such as the district forest services division, to govern, regulate and implement its development programmes at the local level. The REDD+ Unit itself has no district office.

8.4 Findings

In this section, the chapter presents the results gathered from the field in Ghana's cocoa forest communities and discusses these findings in relation to the actors engaged in the REDD+ process; decision making approaches; regulations, monitoring and sanctions that exist; and the barriers that affect REDD+ in achieving emission reductions and enhanced livelihoods.

8.4.1 REDD+ actors and governance platforms in Attobrakrom and Kamaso

REDD+ education, decision-making and implementation arrangements in Attobrakrom and Kamaso are spearheaded by IUCN. According to some interviewees, the assistance from IUCN and their funding partners, DANIDA, is instrumental in working with them in the management of their natural resources. In undertaking its REDD+ work in the case study areas, IUCN partners with FC officials from both Accra and Asankragwa offices to work on certain REDD+ activities. For instance, the CREMA officer in Accra worked with IUCN to facilitate community meetings, discussions and consultations to produce a CREMA constitution. Aside from IUCN's partnership with FC officials, community respondents regard the FC as a key player in REDD+ because it is the legally mandated authority that oversees management of the country's forests. In Attobrakrom and Kamaso, the Wassa Amenfi District Forest Services Division exercises this mandate. One of the prominent REDD+ roles of the district forest office is the nursing and provision of seedlings that farmers need for their tree planting activities under REDD+.

IUCN also has a local NGO partner, CODESULT, in Asankragwa that supports engagement with the forest communities on REDD+. Other actors engaging periodically with IUCN on the project include the Cocoa Research Institute of Ghana, the District Assembly, the paramount chief, sub-chiefs and other traditional authorities. IUCN has created a district level multi-stakeholder platform comprising civic, public and private stakeholders (i.e. government authorities (district forestry office), communities (farmers, CREMAs), and NGOs (Codesult)). Most respondents referred to the IUCN staff, government officials and other local community members of the CREMA leading on REDD+ as the 'REDD people'.

In using the CREMA as the main vehicle for the REDD+ intervention, IUCN mostly engages the CREMA (CRMC at village level) executives, which has led to their recognition as REDD+ leaders (i.e. those driving the REDD+ process). The chiefs, by their traditional role as custodians of community lands are regarded as key actors for the REDD+ process.

“Based on REDD+, the people with power and leading it are the CREMA executives especially the chairman and secretary. So these people are the ones leading. Aside from the executives, sometimes the chiefs and elders also lead in the process because they are the ones that the lands belong to and so they are able to lead. They also have meetings to consider things that can be of benefit to us because we as we sit here, we have no power/authority”.

When asked about institutions running REDD+ in the communities, most farmers failed to mention CREMA or its role in REDD+ until the research team prompted them. This did not reflect the same level of regard for the role of CREMA in REDD+ as expressed by the public and civic organisations interviewed. Community respondents confined discussions on CREMA to the executives, without reference to its larger membership. Interestingly some CREMA (CRMC at village level) executives displayed limited sense of ownership in their narratives as they referred to CREMA as though they were not members.

Researcher: Who is engaged in REDD+ in the community?

Farmer: Please it is the CREMA people... they are the ones who make announcements and promote it.

Researcher: But I do understand you are a CREMA executive?

Farmer: Oh yes, I am the secretary.

There are individuals who, as go-betweens, facilitate IUCN's REDD+ work in the communities. For example, in Kamaso, this is the CRMC Organiser (also the FC forest guard), CREMA Executive Committee (CEC) Chairman, and Assemblyman. While in Attobrakrom this is the CRMC Secretary and Chairman (also the 'Odikro'). These community representatives are regarded as the ones who drive and wield power to influence the process. In Kamaso, the majority considered the 'Odikro' to have the power to influence the REDD+ process but at the time of the research they felt he was not exercising this power. The 'Odikro', in his interview, corroborated

that he was not playing any key role in the community's REDD+ process, but rather trusted the CRMC Organiser's efforts in pushing REDD+, as he was the most knowledgeable in the community on the mechanism. The case was different in Attobrakrom, where the 'Odikro' was a key actor and had, together with other farmers, formed a co-operative, which he chaired. According to the 'Odikro', the co-operative was formed upon realisation of the need for farmers to mobilise and engage on REDD+ through activities such as alternative livelihood schemes. He mentioned that even though some of them are in the CREMA, and the co-operative functions alongside it, the co-operative is specific for farmers in Attobrakrom whereas the CREMA is an extensive group covering communities in the district.

Prior to REDD+, rural individuals engaged in, and key to, forest management in both communities automatically became leaders of REDD+ community processes upon its introduction. For example, in Kamaso, the current CRMC organiser, before his official position, used to challenge timber merchants and contractors who failed to honour payments or pay requisite compensations when they destroyed farmers' property or felled trees. Therefore, when the REDD+ programme was introduced into the community, IUCN and the district forest office considered him key to representing the community and assisting in the mediation of the REDD+ project. According to the CRMC organiser, his knowledge of forest management was due to prior engagements in workshops and training by the FC.

"...they realised that I was the one who could do the work here and so anyone who came from outside the community, unless they came to me as the first point of call... when they go to forestry, they direct them to me and so that is how they (FC) added me to the Forest Monitoring Team".

Prior to REDD+ in the communities, a former Assemblyman and his family had been promoting community forest management. The family was responsible for the introduction of CREMA in the community landscapes studied (see Chapter 8). After some years working with the communities on forest management, the family established and registered NGO 'X' to coordinate activities. According to the

interviewees, the NGO captured project funds meant for the communities for forest management. The communities under the CREMA platform dissolved the working relationship with NGO 'X'. IUCN assisted the CREMA members to produce a new constitution to guide the CREMA as an institution that manages and takes decisions concerning their forest resources. This includes the management of any finance the CREMA receives. Therefore, even though some still regard the family and NGO 'X' as instrumental leaders in the whole paradigm shift from deforestation to increasing tree cover, they are not considered key to the local REDD+ process.

8.4.2 REDD+ information sharing, decision-making and implementation in Attobrakrom and Kamaso

One of the main activities of the IUCN REDD+ project is the provision of information to communities. Usually, announcements are made on the communities' public information systems, inviting residents to meetings at specific dates and times. Community meetings on REDD+ are held as and when needed, and the majority are facilitated by IUCN with the help of CREMA executives who mobilise the farmers. According to one interviewee:

"We have not created a group here that is able to meet and hold discussions and make decisions on REDD+ unless some people have come in like the way you have before they meet with us and ask us about it".

CREMA serves as a vehicle for mobilising farmers on REDD+, and through interaction, learn and share the processes that entail across communities. This facilitates tight-knit exchange of knowledge on REDD+ and its benefits and serves to interest other farmers in joining in the implementation of REDD+ mainly through tree planting. Some participants felt that when community meetings are organised, there is freedom in sharing views and opinions on the issues under discussion. According to the district forestry officer, sharing information and allowing communities to engage through CREMA is essential for REDD+.

“Several projects have been introduced and with the help of community participation, some survived. Others didn’t survive because the community didn’t accept it. Bringing the communities on board every project is a benchmark for a successful project. I think when it is decentralised to the point that the community feel the sense of ownership and benefit, that is good”.

The multi-stakeholder platform (identified in section 4.1) formed by IUCN is used to build actor capacity, create awareness, and discuss forest management and the REDD+ mechanism. Membership at this level is representational. In Attobrakrom, one interviewee recounted the value they place on the assistance they get from IUCN.

“We cannot have all the knowledge... the knowledge is with individuals and so when it gets to a certain time, you will need someone’s help in knowledge. There is someone who is not versed knowledge-wise, then he may have the strength to assist in some way... sometimes it is finance related”.

IUCN builds capacity and facilitates discussion, especially on governance issues such as tenure and benefit sharing. The CEC chairperson mentioned that the government had not yet approached the community to solicit views on the possible design of the benefit sharing mechanism. However, IUCN had invited representatives from the communities to discuss their views on the design of a benefit distribution mechanism. IUCN aimed to present the collated views to the FC during national level policy deliberations on the REDD+ benefit sharing system.

In reference to the contents on decision-making, not just the process, one interviewee stated that:

“They combine theirs with ours and so they get our knowledge and we get their knowledge... that is how it works. The school ones that they have been taught and learnt, they

come and teach us and then we also teach them ours and then we use those to make decisions”.

So for example, the Cocoa Research Institute of Ghana in partnership with IUCN provides the information that for every acre of cocoa farmland, there should be at most 18 trees. According to farmers, they lacked this information about the threshold of trees that ensure cocoa flourishes and does not negatively impact the land. This has changed farmers' decisions about farm management. As a strategy to influence the farmers not yet sold on the essence of REDD+, some CREMA executives, including the CRMC Organiser in Kamaso and the CREMA Chairman in Attobrakrom, use their farmland as experiential examples. They have planted trees on their farmlands as per the directives given by IUCN and they encourage farmers to go to their land to see the flourishing state of their cocoa farms. According to some interviewees, visiting these farms proved an effective way to connect their understanding of why they need to increase tree cover on their land and in the community.

Attobrakrom CRMC seemed more organised in arranging meetings for its members and keeping records of discussions than Kamaso civic leaders. The CRMC keeps a record of visitors who come in to interact with the community on forest resources and REDD+. IUCN works with the CREMAs to improve its governing body by instituting a system where democratic elections are held to rotate executives. Currently, the same individuals have occupied the leadership positions for years. IUCN facilitated CREMA's efforts to draw up constitutions, bye-laws and a 5-year operational plan that cover, for example, financial management and benefit sharing under CREMA. A review of the CREMA constitution revealed that its benefit sharing design is for land owners and users, and “in the case of trees on cocoa farms, landowners and the CREMA shall be entitled to five per cent and two per cent respectively, of earnings from harvesting of the trees” (2015; 22). In Attobrakrom the CRMC opened a bank account for the deposit of all monies that the CREMA receives or generates via membership dues. According to the CRMC Secretary, no money can be withdrawn from the account without the signature of both signatories.

Sometimes REDD+ meetings are held outside the communities in the district capital, Asankragwa. Invitations to meetings in Asankragwa are sent to the community via letters requesting a specific number of community representatives to be in attendance. For such remote meetings, community representatives are openly voted for at community gatherings by a democratic show of hands. Those selected are considered capable to engage in the process to the community's benefit. When no community meeting is held to select representatives to the meeting in the district capital, the CRMC and CREMA executives are usually the ones who go to the meetings. When representatives attend REDD+ meetings held outside the communities, community gatherings are organised to give updates and feedback.

“They make an announcement and then the one who went to listen to the education and returned, then informs us... that is to the whole community”.

Sometimes, when it is the CRMC executives who attend the meetings, they make house-to-house calls to disseminate information from the meetings to community members. In addition, churches and mosques are instrumental platforms for sharing REDD+ information in Attobrakrom. Once information is shared either through the religious platforms or via house-to-house calls, a community meeting is arranged and held later for the community to discuss and share concerns.

The Attobrakrom CREMA Secretary, during a FGD, mentioned that to manage community expectations and avoid conflicts, the CREMA executives do not divulge full information especially that which pertains to financial payments and carbon credits. He stated:

“What has made us not fully divulge all that is that if you give the person assurance that there is some money coming and that doesn't materialise, this my brother here will come to your house and throw bullets at me that I went and came and

said that... (money will accrue)... maybe he has some work he was going to use the land for but he ceased waiting for the carbon credit and it also has not materialised".

Other participants insisted that divulging full information on REDD+ especially regarding the possibility of money accruing is key to giving community members the "*energy to engage in the initiative*". One interviewee further mentioned that it was important for farmers to have full information including the market price of a ton of carbon, and the amount of carbon sequestered by farmers as this would build their capacity to be positioned to resist elite capture when benefits materialised.

It was reported in Kamaso that farmers and landowners are sometimes handpicked for REDD+ meetings, implying that people without land, in this case predominantly young people, do not participate in meetings or discussions held outside the community. According to some field participants in Attobrakrom, there is a registry of farmers who have expressed interest in implementing REDD+, so there are instances when community meetings on REDD+ have been held exclusively for community members in the registry.

The findings indicate that in both Kamaso and Attobrakrom the 'Odikro' (sub-chiefs) and their council of elders meet to take decisions on community issues. Any decisions, rules or concerns that emerge behind these closed-door deliberations are relayed through public community gatherings. The community members are given the opportunity to discuss and raise any issues at such meetings. In Kamaso, participants mentioned that some of the rules (treated in section 4.3) banning destructive forest activities emanated through this institutional mode of traditional chieftaincy governance. The communities consider decisions by the 'Odikro' and his council of elders to be legitimate and enforceable.

"The chief is there for the community so even if the chief and his elders take decisions and decree rules, then they are speaking for the community".

The majority of the farmer respondents, some of whom were not members of either the CREMA or any other groups (e.g. the Farmers' Co-operative in Attobrakrom), were engaged in the REDD+ process of planting trees with their cocoa and conserving off-reserve forests. In Kamaso, this included actions to conserve the Mamire Forest reserve such as clearing overgrown boundary lines to help the distinct demarcation of the state forest and the Kamaso community boundaries.

8.4.3 Regulations, monitoring and sanctions

The district forestry office manages forest reserves in the district including the Mamire Forest reserve using prohibitive measures. According to the respondents, the fear of getting apprehended by the state and arraigned in court for breaking forest regulations deters villagers from conducting illegal activity in the forest reserves. The state forestry office as part of its mandate is responsible for granting entry into the protected forests for the collection of non-timber forest products (NTFPs) for non-commercial use. The district forestry office has a forest monitoring team for the Mamire forest reserve. One of the guards appointed as part of the forest monitoring team lives in Kamaso. This guard is also a CRMC executive. The guard is entrusted with issuing community members permissions to enter the forests to take NTFPs, monitoring the items that villagers extract from the reserve and assisting in maintaining the delineated boundaries between the forests and community lands by weeding. When asked if he keeps records of who enters the forest and the items extracted, he replied in the negative. However, he did acknowledge that he is required to keep such records to help monitor the frequency of access of community members and quantity of NTFPs taken.

The district forestry office is responsible for inspecting and verifying farmers' claims of trees they have planted on their lands and subsequently issuing the farmers with tree ownership certificates (containing the farmer's name, species and quantity planted and a picture of the farmer) (see Appendix H). Farmers believe registering their trees and receiving certificates that prove their ownership rights, confers power to control, and have authority over the use of the trees. The

farmers regard the certificates as a means by which they can protect their interests and efforts and the resources channelled into nurturing the trees. They regard the power the certificates give them as essential in excluding outsiders, especially those given permissions by the state to fell timber trees.

“Once you have the certificate, they cannot worry you... no problem”.

“...if you want to come and cut some trees, you approach the CREMA and we give you say Kofi (this person) or say this tree, then you write a letter to our offices that this is what is going on. Then the CREMA executives have a meeting with you and make arrangements because you cannot come in here and do what you like without the CREMA”.

In Kamaso, the ‘Odikro’ and council of elders have introduced traditional rules forbidding bush burning as a hunting technique especially during the dry season. In addition, there are rules that forbid cutting down trees in the forests. For off-reserve forest violations, offenders are requested to appear before the chief and council of elders to explain their actions. The traditional leaders reprimand offenders accordingly and levy sanctions. Where the violation is of the forest reserve, the forest guard, ‘Odikro’ and council of elders transfer the case to the district forestry office. At the Kamaso youth male FGD, participants said that the introduction of REDD+ has strengthened existing government regulations that forbid...

“...enter{ing} the forest and cutting trees, hunting or engaging in activities in the forest”.

Based on farmers’ heightened awareness of environmental sustainability under IUCN’s REDD+ process and other projects that preceded REDD+, regulations are monitored and CREMA members report violations to the FC. This collaborative approach helps shape the resource integrity of the communities. In line with this,

the FC, in drawing up a management plan for forests, assigns a role to the CREMA to monitor the forest resource and give day-to-day status reports on the resource.

"When we were doing the Management Plan, we assigned a role to the CREMA people. The role we assigned was that they were supposed to help us to monitor... to protect as well".

"Some of the people give us anonymous information which are working... communities monitor... the CREMA people they monitor. They give us information. Farmers monitor, give us information".

The monitoring done by the communities is all voluntary and not incentivised in any way. In Attobrakrom, a fire committee is formed usually in the dry seasons to monitor farmers' use of fire on their farms, and deter hunters from using fire to catch game. These fire committees are disbanded at the end of the dry season when weather conditions are not as favourable for fires, and reconvened when the wet season ends. Similarly in Kamaso:

"There are committees that oversee the forests and do not allow people to enter for illegal activities, but it is voluntary and without pay".

In investigating sanctions meted out to offenders by the state forestry office, the study discovered that, usually, the equipment and tools used are confiscated. The offenders are taken away by the district forestry office and fined or jailed. Some farmers are sceptical about how the state deals with illegal cases once they take the offenders away.

"As for them (forestry office) when they arrest you, they take you to their place and so we do not know what they do to them... whether they will take a bribe or whatever they will do, over here we don't know. Those who use the chainsaw, a lot have been arrested over here. Some of them when they are arrested, their chainsaws are confiscated but when they go,

then the chainsaws are given back to them and so if it is a bribe they take or what they do... I have no idea".

8.4.4 Institutional barriers impeding REDD+ in Attobrakrom and Kamaso

In light of the current REDD+ design in Kamaso and Attobrakrom, the research explores the institutional barriers to uptake of REDD+ to achieve the mechanism's objectives. Since cocoa is the commodity around which Ghana's REDD+ process is fashioned, and is also the dominant livelihood of the communities studied, we present barriers using the classification of capital that contributes to the security of livelihood assets (Mahanty et al., 2006; Di Gregorio et al., 2008): financial, natural and physical, human, social and political. This a useful approach to understanding how IUCN's approach to reducing emissions, which mirrors the state's plans with its jurisdictional REDD+ cocoa-carbon programme, is performing in reducing emissions while enhancing and securing farmers' livelihoods.

Financial capital: According to farmers, the ability to access seedlings for planting is a major constraint to engaging in REDD+, due to limited finance available for their purchase. Financial constraints also affect farmers' abilities to carry out management practices on planted trees. According to the farmers, the trees require key agricultural practices such as weeding, irrigation and disease-treatment.

"There was no money to also secure the seedlings. In this community that we have decided to plant trees, our finance is limited and so sometimes when it gets to a certain stage, we have no money to weed around the trees".

In addition, the CREMA and the 'Odikro' with his council of elders have limited finance to self-mobilise or increase participation in REDD+ processes. This affects capacity building through education and awareness raising programmes. They therefore have to rely on external support to hold meetings and workshops that bring those interested in REDD+ together. Without external intervention, the

CREMAs do not have the requisite resources to facilitate REDD+ activities. However, IUCN has been planning approaches that promote sustenance of the CREMA once the organisation exits from the communities.

"There are several costs. You know it's a voluntary sort of thing so the moment you bring people together and form a committee, people would have to spend their time to mobilise their people, and go for meetings, that's a cost"

Natural and physical capital: A recurring theme across all focus groups and interviews was the challenge of land availability for planting trees under REDD+. Firstly, there is no contiguous parcel of land for either community to pursue a collective community-wide project. Secondly, farmers mentioned that the physical supply of land is limited and therefore they face competition for the numbers of trees that can occupy the farmlands relative to the cocoa trees. For those farmers who have already planted cocoa and do not have extra land to plant other trees on, this becomes a challenge, which sets them apart from their peers because even though they are willing to implement REDD+, it does not translate into the ability to do so. According to some field participants, planting more trees on the farmland means sacrificing the number of cocoa trees or other crops that can be planted on the same land and vice versa. According to one interviewee:

"The fact that my land is not big and I do not have any place for the trees, is why I am not involved in the initiative. They say we should plant trees, the land that you thought you could use to grow cassava and plantain so that you get some to eat, they have introduced that we should use it to plant trees. So now if we plant trees, that means we cannot plant food on the land.... maybe your land is one acre and you have used it to plant the trees and there is no more in supply".

Land ownership arrangements also count as a factor impeding farmers from planting trees as part of REDD+. Not all farmers own the land that they work on. According to the official in the district forestry office, some farmers with

sharecropping arrangements who are interested in REDD+ raise questions about what it means for their rights to the trees they plant as they mature:

"Some of our workshops, people ask, I am working on someone's land and we are using the Abunu system which means at the end of the cocoa season, we divide it into 2 or into 3, the landowner takes this, and I take that. So in this case if I plant the trees, am I going to be the one to own it or the landowner is going to be the one to own it?"

Land ownership, rights, and access are usually based on sharecropping arrangements in both communities. Both men and women can own land or engage in sharecropping arrangements with landowners. Decision-making regarding land use is therefore dependent on the arrangement, but is usually within the purview of the landowner.

Another aspect of this issue is that those farmers who are migrant settlers are more likely to relocate when cocoa farming is not lucrative. When such farmers plant and register trees as theirs but then emigrate, the landowner is left with the land and trees on his land but without the requisite documents to claim the trees as his, and therefore no way to benefit in monetary terms.

Specific to Kamaso, farmers, CREMA executives and the forest guard all mentioned the lack of a mobile telecommunication network in the community. According to the respondents, this impedes locals from immediately contacting forestry officials to report forest illegalities or fire outbreaks, especially in the Mamire Forest Reserve. To have access to telecommunication networks, residents must leave the community and climb to higher ground, where the signal is still weak. The time expended in going the distance to place the call to the district forestry office and the reaction time for authorities to appear in the communities is enough for the perpetrators to have completed their activity or the fire to significantly damage the forest.

Human capital: The findings reveal that elderly-aged farmers are sometimes physically incapable (mainly strength related) of putting in the required work of tending the trees. The workload increases if tree planting is combined with cocoa farming. This worsens for farmers who have had the labour advantage of their children but the children have left for senior high schools (boarding) or tertiary education. Farmers mentioned labour for clearing weeds, irrigating trees and general management, plus the associated costs, as challenges they face.

Social and political capital: The limited formal education of some farmers had caused them suspicion in the initial stages of receiving the information on the problem of atmospheric carbon concentration. The use of English as the official working language was mentioned as a constraint in the process of dealing with the FC:

“...when you get there, it is English you are going to speak and we do not speak or understand English... then the issue becomes tougher. We don’t understand or speak English and over there it is English you will speak and so it has made us even afraid to go there”.

Some farmers had paid for the issuance of certificates to show the trees on their farm belonged to them but had not yet received the documents. There were reports of payments made, to the tune of 10 Ghana Cedis, without the certificates materialising, and farmers being asked to register afresh, but this time having to pay 20 Ghana Cedis. The documents for this new registration had also not been issued at the time of the fieldwork. This issue of delayed certificates affects how some farmers engage in activities under the REDD+ scheme:

“It seems to be futile the actions that one is engaged in... this meeting you have come for, I am certain that if they made the announcement that it is the REDD people who are coming, like no one will attend”.

IUCN staff recounted governance challenges including accountability and representation that affect the way in which CREMA functions for forest and natural resource management.

8.5 Discussion

8.5.1 REDD+ actors and governance platforms in Attobrakrom and Kamaso

Institutions are responsible for guiding and shaping stakeholder interactions and behaviour. This is regarded as highly important in a collaborative approach to management (Crona and Bodin, 2012). The REDD+ process in Kamaso and Attobrakrom functions using power through both authority (hierarchy) and trust (networks) to steer farmers towards desired beliefs, habits and actions. The governance system in place seems to determine the actors leading on REDD+ in these communities. For instance, findings did not show private sector engagement in the communities and this could be linked to the absence of carbon markets, as a governance system.

Leadership is essentially one of the factors that affect the success of natural resource management and governance (Crona and Bodin, 2012), therefore the local institutions mediating REDD+ in the communities have a bearing on its performance vis-à-vis its objectives (Agrawal and Perrin, 2008). Key REDD+ actors include IUCN and the state district forest office; individuals in positions of authority (e.g. sub-chiefs); and local community representatives working as REDD+ contacts between IUCN and the communities.

IUCN's implementation of REDD+ in Kamaso and Attobrakrom fosters avenues through which national level policies and strategies materialise at the local level and serve to bridge the knowledge of the local level implementation of policy (Newton et al. 2015). IUCN works with other actors comprising public and civic organisations in the implementation of REDD+. Evidence shows that each actor facilitates different roles (Dietz et al., 2003), which contribute to the regulation of social interaction and practice vis-à-vis forest protection for reduced emissions

under REDD+. For example, while CRIG is important in the knowledge around cocoa cultivation technologies that are environmentally friendly, CREMA, as a local governance platform, is key in mobilising farmers' engagement in the REDD+ process (Baruah, 2013). IUCNs use of diverse stakeholders presents the process with various views, knowledge and interests that govern how REDD+ strategies of action in the cocoa-forest region are constructed (Somorin et al. 2014; Corbera and Schroeder, 2011; Brockhaus and Angelsen, 2012).

This group of actors working together in Kamaso and Attobrakrom communities constitute a new social group which some farmers tend to refer to as the 'REDD' people'. This corresponds to findings by Agrawal (2005a) that such new social groups impact social relationships, and forest management leads to a perception by villagers of 'rule makers and enforcers' on one hand, and 'rule breakers and followers' on the other. Despite these new social groups, the communities in this study were receptive to the conservation efforts by IUCN through REDD+ unlike Ngendakumana et al.'s (2013) findings from Cameroon in which severe conflicts between local forest dwellers and conservationists emerged because the former perceived conservation actions to serve the interests of the conservationists who were non-natives. There is recognition by the communities that external intervening organisations like IUCN are instrumental in farmers' involvement in REDD+, especially concerning knowledge building and financial assistance.

Individuals leading on previous forestry projects and initiatives such as CREMA, transitioned to lead on REDD+ upon its introduction. *A priori* power relationships and institutions, such as chieftaincy institutions, delineate who leads the REDD+ process and represents communities in meetings and in mediating REDD+ (Di Gregorio et al., 2008). Brockhaus and Angelsen (2012; p.22) in reference to path dependencies for REDD+, say, "what was, and what is, shapes what can be". Even though this raises concerns over the same people dominating the social processes, the respondents preferred the existing arrangements of who was in charge. This lends support to the work of Crane (2013; p.4) who discovered that "local social institutions are rarely fully transparent, democratic, or inclusive" but this does not take away from these institutions being socially legitimate or accountable.

To tackle forest illegalities and involve communities in management, CREMA was introduced as a local institution to push collaborative forest management to the fore of Ghanaian forestry. This was the earliest attempt of a modern state to transfer some management rights to communities. However, Baruah (2013) warns that this devolution was not political, as natural resources represent a bastion of national money making. CREMA represents the case study communities' early encounter with activities that improve their forest resources. IUCN's use of CREMA has been instrumental in bringing new knowledge to sustainable resource management through REDD+, a novel environmental technology. CREMA executives, as leaders of the institution, are credited by members of the community as leaders of the REDD+ process more than the wider CREMA membership.

The failure by some CREMA executives to identify as CREMA members and much less as executives who steer the group in forest management, is telling of its ineffectiveness. The majority farmers failed to mentally register CREMA's role in REDD+ in their communities and even some executives did not associate with it in their narratives, which implies CREMA is not a well functioning institution. According to Tengo and Heland (2012; p.39), "a well functioning institution should be common knowledge to those directly involved". Therefore, having locals as executives or members of a forest management council, committee or platform does not guarantee effective institutions for REDD+ implementation. In the specific case of the CREMAs in the communities studied, more capacity building is required for such platforms to improve their institutional role in contributing to the REDD+ implementation framework. Involving communities in forest management is a knowledge-intensive process that places heavy demands on NGOs (Brown et al., 2002).

The authority of chiefs (with their council of elders) as custodians of the lands and decision makers of the use to which lands can be put, makes their role key in REDD+. However, not all chiefs or councils of elders are key REDD+ influencers even though the respondents perceived such people as possessing the power. 'Power' that is not used to influence a process or the positions of other actors, remains mere 'capability' (Krott et al., 2014) – such actors at best retain a capacity

to act (Li, 2007). Certain individuals leading on REDD+ in the communities are the same people occupying traditional positions and also executives of CREMA. This implies that REDD+ is limited in its leadership to a select few. These select few have structured knowledge of REDD+ processes, the activities undertaken and those yet to be executed, which makes them relatively powerful in REDD+. Community representatives and positional heads can therefore dominate decisions at the expense of other forest community dwellers. The case of the former Assemblyman and his family's NGO 'X' is typical of the local elite capturing the resources of the community (Berkes, 2004). In this case, the communities resisted the inequitable distribution of assets and power resulting in a change in social relationships, interactions and power within the REDD+ regime.

The findings reveal that the knowledge and capacity an individual possesses, which enables the individual's participation in environmental politics, advantages inclusion in community REDD+ processes. Both public and civic agencies, in implementing their community intervention projects such as REDD+, seek out individuals that facilitate their objectives as project focal points. Such individuals are knowledgeable and can mobilise the forest community dwellers. For a community representative to act effectively as a leader, the person must be trusted and respected by the community (Tenbensel, 2005).

8.5.2 REDD+ information sharing, decision-making and implementation in Attobrakrom and Kamaso

REDD+ information sharing is organised publicly in many instances for the communities. The information that communities receive motivates them to support projects (Awung and Marchant, 2016). However, the capacity (finance and knowledge) is not at the level where communities can organise themselves to discuss and make decisions concerning REDD+. There is a high reliance on IUCN to assist the communities in managing their environment through REDD+. IUCN, in using CREMA as a collective governance institution for REDD+, does not only promote information sharing, decision-making and implementation, but ensures communities feel part of the project and contribute to its success. The communities trust IUCN and accept the information they are given on REDD+ to direct their

actions (Awung and Marchant, 2016). Farmers see this as being supported and enabled by IUCN to help themselves (Bulley, 2013). As IUCN works through the CREMA organising frequent meetings, the social networks of the communities are deepened and this increases the potential for trust (Dietz et al., 2003).

Despite efforts that include the general forest community dwellers in meetings, it is not always possible to have meetings of all stakeholders. According to Maarleveld and Dangbegnon (1999; p.278), “as the number of stakeholders in a managed resource system quite often exceeds what is feasible to bring together to negotiate resource use and management, the choice is often made to invite representatives of the various stakeholding groups”. However, there are consequences that arise. Representatives who attend these meetings build their capacity with every meeting. The capacity of the representatives (including CREMA executives) and the community at large becomes asymmetric and this limits the collective capacity for REDD+ implementation.

Access to meetings exposes representatives to dialogues, ideas and knowledge, and empowers their engagement in REDD+ (Susanti and Mayurdi, 2016). Therefore, meetings held outside the rural communities, limit the extent to which farmers are exposed to information. The meeting representatives also have the responsibility to make decisions and provide input into the process for the rest of the community. The challenge is that such decisions may not represent the collective decision of the community but rather the individual’s interests. For representational approaches to work well and impact management policy and practice, the stakeholder group must be organised, have taken a collective decision, given the heterogeneity, and be represented by individuals who are skilful in negotiating (Maarleveld and Dangbegnon, 1999). Providing feedback after attending meetings held away is not only essential in promoting the trust that fosters the success of networks, but allows farmers to take advantage of any potential opportunities (Persson and Prowse, 2017).

Although community leaders may have legitimate reasons to manage expectations and avoid conflict by withholding some information, this creates inequity in the

process and intentionally disempowers other actors, making them vulnerable to elite control and capture. Furthermore, inferring from natural resource management literature, knowledge is particularly important to REDD+ as it supports learning and adaptive environments (Lockwood et al., 2010). This study argues that key local leaders withholding information from the rest of the community creates social inequity and undermines REDD+ governance. Dietz et al. (2003) support this assertion and call for information about uncertainty to be disclosed as part of effective governance. As noted by Crane (2013), institutional landscapes (factors and mechanisms) that govern the changing environmental landscapes undergo changes in mediating the relationship both ways between people and the environment. Inequalities in actor knowledge can be a basis upon which elite actors are likely to capture REDD+ benefits when they materialise (Persson and Prowse, 2017). This is because “information and knowledge are key power resources” (Di Gregorio et al., 2008; p.27). More attention needs to be paid to empowerment and equity within the process (Berkes, 2004) as this serves, to an extent, as a basis for the equitable distribution of any benefits that accrue later under REDD+.

Formal traditional channels such as the chieftaincy institutions play a role in the making of strategic decisions on resource management and community governance issues in general. There is respect and recognition for traditional rulers and the traditional system in Ghana, and certainly in the forest communities. Decisions and regulations set by the chief and his advisors contribute to the management of the forests. The chief and his advisors are thought to make decisions in the best interests of the community.

Taking into consideration existing traditional knowledge and combining it with scientific knowledge is necessary for the creation of successful forest governance regimes (Andersson et al., 2014). By inference, this is an effective way to approach REDD+. IUCN, by its approach, builds REDD+ knowledge that specifically fits the context of the communities to improve forest cover. IUCN focuses on improving the bottom-up approach to REDD+ by facilitating farmers and forest peoples' views on REDD+ policy deliberations at the national level, in order to enrich the

dialogue with diverse views. It is important that local forest communities have a way to shape the REDD+ policy that is ultimately to be implemented on their lands, by them.

Aside from providing technical information and assisting farmers to change their approach to farming cocoa and thus improve the environment, local institutions devise innovative ways of shaping the minds of other farmers by using farms as experiential projects for others to join in the collective action. This strategy by some CRMC executives facilitates the work of IUCN and, in the longer run, the state. It also reduces the state's cost in building capacity of communities that fall within its jurisdictional REDD+ cocoa-carbon implementation area.

CRMC's in Kamaso and Attobrakrom perform differently. The executive leadership in Attobrakrom improve governance approaches through several practices including effective record keeping, and streamlining financial management by opening bank accounts. This is an asset for institutional memory and sustainability of the CRMC. Increasing the accountability, transparency and legitimacy of CREMA through democratic elections for executives, is one of IUCN's ways to improve community decision-making in natural resource management and REDD+.

Who decides what in relation to whom? Influencing strategic REDD+ policy is largely absent from communities and at best the opportunity to influence the process and design the mechanism rests with a few community members who are the elite, or persons in positions of authority. As channels for local level inputs into REDD+ policy development are lacking, investment in local institutional development would benefit the cocoa-forest communities (Brown et al., 2002). This is akin to the findings of Awung and Marchant (2016) that the major activities and roles carried out were manual labour, being members of committees, boundary demarcation and tree planting.

In Attobrakrom, the reliance on religious platforms as part of the institutions through which the community governs its REDD+ process offers opportunities for accessibility for community residents in terms of time and place (Maarleveld and

Dangbegnon, 1999). The role of religious bodies is essential as not all farmers and residents are available for public community meetings, especially since they are not on predetermined dates. Furthermore, those for whom religion is core to their life are more likely to value and become interested in REDD+ through those channels.

A range of meetings are used to shape people for REDD+. There are targeted meetings held for interested farmers and for landowners. The risk is that the landless are left out of the process with such targeted approaches. This can lead to a widening inequality between those with land and those without (Mbatu, 2016).

8.5.3 Regulations, monitoring and sanctions

Based on the REDD+ programme, there is an increase in rules from the chief and council of elders in Kamaso on the community's relationship with the trees and forest. The rules have been strengthened and become more relevant to promoting tree cover in the community and surrounding lands.

Despite the collaborative forest management approach introduced in 1994 under the then forest and wildlife policy, the fortress conservation approach is still used to protect government forests (Robinson and Sasu, 2013). The 'command and control' regime used for Mamire Forest Reserve is rooted in colonial forest management, which at the time appropriated resources based on better management and stewardship (Agrawal and Lemos, 2007). Fear of sanctions plays a major role in deterring those who live near the reserve from engaging in activities that destroy the forest. There is a clear delineation of community boundaries in Attobrakrom and Kamaso and this facilitates decision-making concerning land use, as there are no conflicts between the state forest and Kamaso land. There is a strong local regard for the FC and the forest laws, mainly shaped by the thinking that the FC's legal authority makes it powerful.

The state, in assigning roles to the CREMA in the management plan, relinquishes aspects of its responsibility that it considers can be handled by communities. Bulley (2013) argues that such responsibility being handed over is not about

empowerment per se but done to shape conformity. However, this chapter argues that even though the roles played by the CREMA in the management plan allow the state to shape, manage, direct and organise the mentality of the communities from a distance, it is also valuable to the district office because their labour force is augmented. Per Baruah (2013), CREMAs are an aspect of the state's strategy that addresses its staff shortages and the physical distance that impacts effective management of resources under pressure. Also, by hiring forest guards who live in the communities, the state manages to effect in practice its ability to control the vast Mamire Forest Reserve (Agrawal, 2005a). The forestry officers' knowledge about what acts villagers and other outsiders engage in, and the ability to monitor and deal with infractions have been promoted and enhanced by the group of community members who support the implementation of such regulations and regulatory strategies (Agrawal, 2005a) to preserve the forests under an emission reduction regime. It is difficult for one person to effectively monitor and record NTFP extraction by community members. The district forest office does not therefore have up-to-date records of NTFP extractions from Mamire.

The Chieftaincy institution plays a key role in issuing regulations to improve effective forest management. The regulations by the chiefs and elders do not only apply to off-reserve forests but reinforce those that exist for the Mamire Forest Reserve. Regulations define the rules that villagers must follow, for example hunting without fire. The rules set in communities are for preservation of the forests and therefore do not fall within Berkes' (2004) claim that the majority of local rules concern resource use, allocation and conflict management. To enforce these regulations, the monitoring of forest governance exposes conformity or defiance, and in the case of the latter, the levying of sanctions that dis-incentivise the continuation of recalcitrant acts that undermine forest cover improvement (Agrawal, 2005a). For violations relating to the forest reserve, the FC has jurisdiction and is therefore the body that levies sanctions on offenders. This study supports Andersson et al.'s (2014) argument that despite the important role monitoring plays in the conservation of forests, other governance factors, such as sanctions, contribute to better forest conditions.

It is not clear from the study what types of sanctions are meted out for offences. In the case of Agrawal's (2005a) Kumaon study, the forest councils used a range of sanctioning mechanisms – referred to in the collective property rights literature as “graduated sanctions” – but in the case of Kamaso and Attobrakrom the findings were limited to showcasing the types and levels of sanction tagged to offences. Deeper insight into how chiefs and their councils of elders, in governing off-reserve forest land in cocoa forest communities, come to decide on rules and penalties for offences and the factors used to determine offences is an opportunity for further study.

Registering the trees that farmers plant and recording the specie types and numbers provides data to the forestry district office, used to monitor forest cover change in the communities. At the same time, this registration and issuance of certificates serve as a mechanism by which social practices are reconfigured. The certificates help in collective resource management by providing tree tenure security and clarity and allowing farmers to exclude other external actors, which is a prerequisite for effective resource management (Sunderlin et al., 2014). Claims can also be monitored via the certificates. In the case of Kamaso and Attobrakrom where lands in off-reserve areas belong to the stool but are distributed under individual ownership, monitoring and sanctions help reduce free riding (Di Gregorio et al., 2008) as not all farmers engage in planting trees on their farms or engage in efforts for conservation of the Mamire Forest Reserve. For regulations to work under a REDD+ regime, as with any other natural resource governance regime, there are two important dimensions: first, the degree to which individuals that make up the community are constrained by the rules and cultural conventions; and second, the degree to which user group behaviour is shaped by loyalty and commitment to collective governance (Tenbensel, 2005). This is also valid for sustaining monitoring by the community members, given that the role is voluntary and not financially incentivised.

Monitoring activities by individual community members and CREMA members, sanctioning by the chieftaincy institutions and state forestry office, and the revered legal mandate that the state possesses, all combine to make REDD+ a powerful tool for shaping the actions and views of the resource users. Rule making, monitoring

and sanctioning in Kamaso and Attobrakrom prove to be important aspects of self-governance and REDD+ improving forest conditions.

8.5.4 Limits to REDD+, and REDD+ institutions in Attobrakrom and Kamaso

There are costs associated with the REDD+ process for farmers within the remit of securing seedlings to plant and embarking on tree management practices. Channelling resources to the purchase of seedlings and tree management, places extra demands on farmers and their livelihoods. This is a demonstrable gap in the institutional setup of the REDD+ policy mechanism as currently designed for cocoa forest communities. There are also costs related to the process of building participation in REDD+ (Persson and Prowse, 2017) that impede the inclusion of farmers and the sharing of information through formal networks. CREMA therefore needs sufficient resources to organise meetings and effective training of the farmers (Baruah, 2013).

The availability of land plays a major role in how farmers engage in tree planting activities under REDD+. The contest between using land for cocoa and for tree planting is a real issue some farmers deal with. Some farmers are faced with foregoing a part of their livelihood for planting trees under REDD+. The limited supply of land therefore restricts willingness to implement it.

Spatial complexities surrounding tree property rights between the state and the farmers, make REDD+ more complex than simply reducing trees to carbon dioxide equivalent figures under a carbon reduction payment mechanism (Rowe, 2015). Farmers with tree rights possess the right to exclude other actors including individuals external to the communities (Lyster, 2011). Arguments by some political scientists on the incentivising role that secure tenure (in this case, tree tenure) plays in community people's interest in forest conservation and REDD+ efforts, are demonstrated in this study's case sites (Kashwan, 2015). At the strategic policy level, the state must rethink the tree rights of farmers in the design of the REDD+ policy mechanism (Ngendakumana et al., 2013). Providing rights opens access to resources and reduces the vulnerability of farmers and forest

community dwellers (Di Gregorio et al., 2008).

The findings show it to be limiting when communities feel alienated by language. Community members who may be able to shape decisions, contribute to discourse or resist inequitable processes are intimidated by the use of English as the working language. This limits farmers' ability to efficiently participate and control administration of REDD+ (Di Gregorio et al., 2008). Such social conditions make the limitations of accountability and transparency endemic in resource governance (Di Gregorio et al., 2008). Language is therefore important in the role local institutions play in resource management, especially for new environmental technologies such as REDD+ that are crafted internationally.

Funding dependent organisations' projects are set to last for specified durations, and donors may direct funds to new areas of interest, which may impact the continuity of IUCN's work on REDD+.

8.6 Conclusion

Governing forest resources in Kamaso and Attobrakrom is a collaborative effort between state forest officials and community members including traditional authorities, forest guards, and organised community groups such as CREMA. Within this collaborative approach is the central role played by external facilitators such as IUCN. IUCN, through its REDD+ process at the local level, raises community capacity (knowledge, finance, technology) and facilitates the relationship between the state and the communities. Communities such as Attobrakrom and Kamaso that are mainly cocoa farmers are key to conservation approaches, including mechanisms such as REDD+ (Sunderland et al., 2008). The support and participation of these local farmers, including the centrality of their cocoa livelihoods and development to REDD+, is considered in the IUCN project.

Local institutions such as the CREMA and the chieftaincy play vital roles in mediating REDD+ in Attobrakrom and Kamaso. IUCN, in using the CREMA, the traditional authorities and some key community individuals at the local level, is building local capacity and attracting farmers to tree planting and forest

conservation. However, evidence shows that there is no visible, structured approach to REDD+ implementation in the communities. This is largely because the CREMA, which is the vehicle driving REDD+ in the communities, is embroiled in governance challenges such as limited participation, lack of finance, and poor capacity of the general membership. Cooperating through collective action is costly (Di Gregorio et al., 2008). CREMA as a traditional forest governance system is not adequate in its current shape in the case communities to deal with REDD+, which is tailored, to reducing GHG emissions. This supports work by Corbera and Schroeder (2011) and Aziz et al. (2015) on the inadequacy of traditional forest governance systems. CREMA has limited funding and a fragmented knowledge base, which impact its functionality (Koch, 2016; Kamelarczyk and Gamborg, 2014; Sandbrook et al., 2010).

The CREMA concept and traditional management system for forests and natural resources requires significant improvements, via reform, to function effectively, and more so for REDD+. These reforms include improvements to accountability and transparency, and systems that promote a greater sense of participation, ownership and collective action in CREMA (Cadman et al., 2017; Agrawal et al., 2011). Despite the challenges, REDD+ is shaping actions and, although not standardised, traditional rules to conserve and promote forest cover. It has resulted in altered forest use and cocoa cultivation techniques, which have embraced planting trees with cocoa trees on farms.

From the findings, this chapter concludes that there is local elite control in both communities, with few individuals occupying privileged positions leading on REDD+. According to Baruah (2013), elite capture and elite control are two different things, as the former relates to benefits and resources and the latter relates to processes of decision making and representation. Part of elite control is the abuse of leadership, as community representatives and CREMA executives withhold information from the rest of the community on the premise of managing expectations to avoid conflict. Not divulging all the information to the farmers reduces their ability to hold those in positions of power to account. This creates inequity as power is placed in the hands of local elites, and people occupying

positions of social authority remain more engaged than others. Elite capture of resources, which widens social and financial inequity (Newton et al., 2014) can easily follow from elite control.

Despite efforts for collaborative governance, collective action is undermined by limited tenurial rights in naturally regenerating trees and also by off-reserve land held separately by farmers who are at liberty to take independent action on the use to which they put their land.

REDD+ as a new technology (Thompson et al., 2011) has introduced and strengthened regulation, monitoring, sanctions and ways of managing forests. Local chieftaincy institutions in Kamaso and Attobrakrom have contributed to the rules that forge compliance for activities promoting forest cover change. The monitoring of regulations is mostly undertaken voluntarily by individuals or constituted monitoring committees. The sanctions issued for infractions require detailed study to ascertain what they are and how they are decided. Farmers have little influence on reshaping management practice or policy, but are more engaged in the aspects of being members of committees, attending meetings, planting trees, monitoring and reporting. Involvement in the monitoring of actions that are against regulations and awareness of collective decisions, play a role in how communities perceive the environment and change their practices (Agrawal, 2005a).

Having explored community institutions for REDD+ and the institutional barriers impeding the uptake of REDD+, this study has made connections and drawn empirical insight into global REDD+ policy development and resource management. Through the current functioning of the institutions examined, how then do some cocoa farmers come to care about REDD+ and others do not?

CHAPTER NINE: ENVIRONMENTAL SUBJECT FORMATION THROUGH REDD+ IN COCOA-FOREST COMMUNITIES IN GHANA

9.1 Introduction

Unsustainable use of the Earth's dwindling natural resources, coupled with climate change, requires governance efforts at various levels that contribute to efficient, equitable and effective use of resources (Adger et al., 2003). Economic development paradigms adopted by countries and businesses have been unable to internalize costs to the environment, resulting in environmental degradation (Jaffe et al., 2005). By protecting political and economic interests, states have failed under global environmental governance regimes to effectively address environmental and resource degradation. Nevertheless, new governance regimes are under consideration to address global climate change. The latest in the stream of governance mechanisms to reduce atmospheric greenhouse gas (GHG) concentrations is 'reduced emissions from deforestation and forest degradation, conservation, enhancement of forest carbon stocks and sustainable forests management' (REDD+). In using forests as part of the solution to climate change, some scholars argue that the participation of local forest communities and indigenous peoples who live in or near these forests is key to forest protection and management and achieving emission reduction objectives (Agrawal and Angelsen, 2009; Lawlor et al., 2013; Awung and Marchant, 2016).

Various governance mechanisms and approaches exist for including local forest communities in forest and natural resource management, for example regulatory and prohibitory mechanisms (Kaikkainen, 2002), payments for environmental services schemes (Tallis and Polasky, 2009; Castree, 2010) and partnerships and collaborative engagements (Blaikie, 2006). Communities may therefore contribute to environmental protection due to compulsion, compliance, or genuine care for the environment (Cepek, 2011). According to Fletcher (2010) who uses environmentality to analyze the governance of forest conservation, regulating human-environment interactions may take the form of neoliberal approaches (markets and incentives), disciplinary (pro-conservation norms and values),

sovereign (law and regulation enforcement) or truth (belief of human-nature relationship). New environmental technologies like REDD+ come with knowledge mediated by old, new, or reformed institutions (see Chapters 7 and 8). Therefore, understanding whether people come to care for the environment, how, and why they come to care, is integral to improving processes and institutions that engage forest communities to contribute to emission reduction objectives under REDD+.

For the REDD+ programme to meet its climate objectives, it is required under the rules of the United Nations Framework Convention on Climate Change to: have additionality (reduced emissions that would otherwise not have happened without the intervention), permanence (long-term viability of locked up carbon), and avoid any leakage (emissions displacement in other areas) (REDD: Protecting Climate, 2017). REDD+ results have to be measured, reported and verified against historical baselines or reference emission levels before any payments are made. The research therefore employs subjectivity (under the environmentality framework) to examine the ways cocoa farmers in the Ghanaian forest communities of Kamaso and Attobrakrom, through various channels, position themselves as subjects, or not, of the IUCN REDD+ programme.

9.2 Subjectivity

The ways in which people perceive, think and act in relation to caring for the environment constitutes subject making (McKee, 2009; Rutherford, 2007). Subjectivity in this chapter is adopted from Agrawal's (2005a) extensive forest work in Kumaon, well-detailed in his book 'Environmentality; technologies of government and the making of subjects'. Agrawal's Kumaon study considered the question: "When and for what reason do socially situated actors come to care for, act, and think of their actions in relation to something they define as the environment?" (Agrawal, 2005a: p.164). Understanding how people come to care for the environment, why they care and how this impacts the social, political and natural world is essential to inform approaches for better environmental outcomes under mechanisms such as REDD+. Subjectivity may change over temporal and spatial scales (Lau and Scales, 2016) making it critical to examine subjectivity in various contexts.

With regards to the environmentality of carbon forests, much research has been carried out around knowledge and institutions (Boyd, 2009; Peskett et al., 2008; Brown et al., 2011), political economy (e.g. Bumpus and Liverman, 2008; Newell, 2014), political ecology (Asiyanbi et al., 2017; Luttrell et al., 2014; Newell and Bumpus, 2012), and gender and feminism (Brown, 2011; Sultana, 2011). Much of Agrawal's work focuses on "how regulatory strategies associated with and resulting from community decision making help transform those who participate in government" (Agrawal, 2005b: p.162). While this work is important, there is a missing dimension around the emotions and connections that people have with the environment, and upon which their care for the environment is based. Recent research of people and the environment shows the emerging importance of culture and place, including ecosystem services and culture (e.g. Chan et al., 2012), climate change and culture (e.g. Adger et al., 2013; Carvalho and Burgess, 2005), and geographies of emotions (e.g. Wright, 2012).

Given the lack of focus on cultural aspects through the lens of environmentality, the research hypothesis is that, in some cases, the making of carbon forests may be influenced by people's context and values (culture) in ways that could impact the consequences of REDD+ for communities. Much of the existing REDD+ rhetoric points to a view of REDD+ as being harmful to communities, which has led to fragmented debates on the dangers of REDD+ (e.g. Benjaminsen, 2014; Astuti and McGregor, 2015; Larson and Petkova, 2011; Bolin and Tassa, 2012) on the other. This chapter uses the concept of subjectivity under the environmentality framework to understand the relationship cocoa-forest communities have with their forests and environment due to the introduction of REDD+. There is value in understanding the relationship between why people care, change their thinking and behaviours, and the role this plays in influencing the achievement of the REDD+ objectives of reducing emissions and promoting livelihoods. Despite the complexity underpinning why people care about REDD+, this chapter does so by examining community participation, motivation and connection to place. This study recognizes and pays careful attention to previously side-lined issues such as

local agency and techniques of self in environmental subject-making (Acciaioli, 2006; Cepek, 2011; Singh, 2013).

This chapter considers how various degrees of environmental care may be embodied by different local forest community dwellers (Agrawal, 2005a). Within the subject-making literature, it is recognized that actors have the power to resist, in an active manner, or not become subjects. Resistance derives from a place of self-knowledge and self-government (Manuel-Navarette and Pelling, 2015). In subject making, states and non-state actors may frame issues and actions to shape citizen behaviour in a way that meets the former's purpose – referred to as “conduct of conduct” in Foucault's governmentality. Individuals therefore become motivated to behave according to objectives of the state or non-state actor without coercion or force, but rather see the necessity of their actions to be in their self-interest (Astuti, 2016) – they ‘self-govern’. Research also shows that the emotive memories, connections and values that forest communities possess and experience daily contribute to the configuration and reconfiguration of their environmental subjectivities (Sultana, 2011).

9.2.1 Emotions, connections, and values

Experiences lead to emotions, which shape “individual and collective ways of thinking, engagements, expressions and relationships among humans and their environments” (González-Hidalgo and Zografos, 2017: p.63). Within a community, emotional relationships are constructed over values and culture, causing individual identities to transform or be created (Rose, 2000) and at the same time collective subjectivities arise (Singh, 2013). Singh (2013) makes a case that subjectivity should focus on emotions connected to natural resource management and that political and economic rationalities are insufficient to understand human action and behaviour.

Although emotions vary, from those seen as negative (e.g. fear, anger, sorrow) to those regarded as positive (e.g. joy, contentedness, pride), they all play a role in the ‘subjectivation’ of community dwellers, including shaping discourse. Studies using specific cases, such as Sultana (2011), have found that emotional pain, when

addressed, heightens the awareness of female agency; Gonzálo-Hidalgo and Zografos (2017) found that “negative” emotions were essential for local community dwellers to build their subjectivity on resistance in response to imposed land control; and Singh (2013) demonstrates that “positive” emotions like joy experienced from the enjoyment of ecosystem services (e.g. cool breeze) were partly responsible for the protection of forests.

Emotions in resource governance influence the practices that people adopt, thereby configuring human-environment relationships (Sultana, 2011) including forest community peoples’ engagement in forest protection initiatives such as REDD+. Connections, values and emotions are important in exploring REDD+ subjectivity in cocoa growing forest regions of Ghana to understand the embodied experiences, pertinent to case study sites and contexts. Cocoa farming in Ghana is one of the main deforestation drivers in the country and has been identified by the state as an intervention area under its REDD+ strategy. A study of subjectivities would not only deepen understanding and improve the success factors of REDD+ in achieving emission reductions, but also shed light on the social power relations in the environmental politics of these cocoa-growing areas.

9.3 Research approach

Despite some convincing scholarship on the importance of local forest communities in the implementation of REDD+ for emission reduction (Agrawal and Angelsen, 2009; Springate-Baginski and Woolenberg, 2010; Chhatre et al., 2012), there is still a dearth of knowledge from the local level of how REDD+ influences small landholder farmers to come to care for the environment, or not. This chapter is therefore guided by the overarching research question: Are REDD+ interventions creating (or not) subjects of REDD+? The following interrelated sub-questions are posed:

- How is REDD+ understood among the cocoa-forest communities of Attobrakrom and Kamaso?
- What changes in behaviours have been manifest since REDD+ was

introduced in Attobrakrom and Kamaso?

- Why do Attobrakrom and Kamaso cocoa-forest communities care (or not) about REDD+?

9.3.1 Methods

This qualitative and exploratory research on REDD+ uses the perceptions of local cocoa-forest communities to construct an understanding of subject making. The research relies on a range of participatory approaches to collect data in Attobrakrom and Kamaso in Ghana. The research employs focus groups discussions with adults (35 and above) and youth (18-34 years) as the main categories. Each age category is segregated by sex. In total, 8 focus group discussions are held with a total of 60 participants across Kamaso and Attobrakrom. At the end of every focus group, the research team asked participants to draw community maps depicting their understanding of the community layout showcasing what is important to them as community residents vis-à-vis the discussions held on forest protection for emission reduction, their livelihoods and the special meanings they attach to their communities.

In addition, the study employs transect walks, which involve walking along a cross-section of the communities, from one end to the other, with locals (Kar, 2005) whilst making observations, engaging in discussions, questioning and taking notes. As a technique, 'walk and talk' combines physical and human geography and contributes to understanding human-environment interactions (Krause, 2013) in the cocoa-forest communities. In Kamaso, the 'walk and talk' also took place in the Mamire Forest Reserve, which shares a boundary with the community.

The research also uses semi-structured interviews to gather information to build an understanding of the near-environmental history (forest management, deforestation and degradation drivers) and socio-politics of the communities (see Chapter 7), the changes in behaviours that occur with the introduction of REDD+, and why these changes occur. In total, 31 community forest residents are interviewed face-to-face in Kamaso and Attobrakrom. All the focus groups and

most of the community interviews and interactions are undertaken in Twi, the dominant local language of the case study areas. The research supplements the data gathered in the communities through documentary analysis and interaction with officials of the International Union for Conservation of Nature (IUCN) and the district and national forestry offices, taking both formal and informal approaches.

9.3.2 Case study: Attobrakrom and Kamaso

Both communities lie in the Western Region of Ghana, a cocoa growing area. They have been in existence for less than 70 years and are mostly composed of migrant settlers who are engaged in cocoa farming as their main livelihood (IUCN, 2016). Not all local forest dwellers are landowners and neither are all the farmers landowners. Most of the migrant farmers entered private individual agreements with landowners to farm on their land and for the proceeds to be shared per certain arrangements, typically including: Abunu (proceeds shared in half between the landowner and the farmer), Abusa (two-thirds of the proceeds to the landowner and one-third to the farmer) or Modified Abunu (same as Abunu with half of the cultivated land transferring to the farmer after the cocoa is mature). Both communities have off-reserve forestlands, with Kamaso sharing boundaries with the Mamire Forest Reserve, and Attobrakrom falling within 5km of the reserve. The Mamire Forest Reserve is a production reserve, 45.33km² (GSS, 2014) in area that falls under the Achichire Stool land. The reserve is drained southward by the Semara River tributaries (Afrifa et al., 2013).

In dry seasons, minor crop production seasons, or periods of crop failure, farmers face hardships as farming is the single most important source of income for most. To cope in these periods, some farmers cultivate other crops for subsistence, trade goods for money, or provide labour in various ways in the industry and services sectors especially in the district capital, Asankragwa. In some cases, local forest community dwellers collect non-timber forest products (see Table 9.1 below). Crops planted to substitute farmers' incomes sometimes fail during the dry season, putting them in further hardship. During these periods, farmers borrow money from other well-to-do farmers and arrange repayment terms. This leads to a

cyclical strain (pervasive poverty) on them, as payments are sometimes not completed when hardship periods re-emerge and they tend to borrow more. Both communities lack services, industry and other jobs that are not land or climate dependent.

Table 9.1: Supplementary livelihoods of communities besides cocoa farming

Community	Industry and Services	Subsistence and Trade		
		<i>Livelihood type</i>	<i>Off-reserve lands</i>	<i>Forest reserve lands</i>
Kamaso	Masonry, carpentry, provision store	Crops/trees	Tomatoes, okro, pepper, corn, plantain, cassava, palm fruits, maize, cocoyam, tree nursery, 'sonchi', 'alanblakia', 'abesebuo'	Pestles, kola, ropes, mortar wood, black pepper, chewing stick
		Animals	Chicken, turkey	Grass cutter, snails, tortoise
Attobrakrom		Crops/trees	Pepper, onions, tomatoes, okro, plantain, rice (import and sell), cocoyam, cassava, palm trees, pineapple, oranges, mangoes	Herbal medicines (limited to those who are herbalists)
		Animals	Pigs, chicken	

Both communities fall within the jurisdictional area earmarked by the government for the national cocoa-carbon REDD+ programme. IUCN has been engaging these communities in REDD+ since 2009 when it commenced its pro-poor REDD+ project. The case study areas are chosen as they represent two of the few communities that have seen early REDD+ implementation activities. There are traditional authorities that oversee the communities and district state offices such as the District Forest Services Division that govern the forest reserves and off-reserves they contain.

9.4 Results

9.4.1 Prior to REDD+

This section presents the results on the near-history of the communities in relation to both forest reserves and off-reserve lands. This chapter presents results on initial deforestation drivers and further presents the situational context of human-forest relations in Attobrakrom and Kamaso over the years preceding REDD+.

Residents of Kamaso, the community that shares a boundary with the Mamire Forest Reserve, stated that they obey rules forbidding entry to the forest reserve to conduct activities that harm the forests. Attobrakrom respondents believed that regulations instituted to protect the forest reserves in the district (forbidding commercial exploitation, encroachment and destruction) had influenced community behaviours towards the reserves. The locals therefore have a legal consciousness about limited access to the reserve. According to one local community dweller:

"They have laws that we should not enter the forest. They have also appointed some [people] to guard the forest land so if you enter and the person meets you in there, he will deal with you because as for that forest it is not part of [what] you own and so you cannot just on your own go to take something from it. It is not allowed in any way that you would go and cut any tree from it... because it is for the government".

Staff of IUCN gave a contrary account, stating that while communities insist that they do not conduct illegalities in the forest reserve, this is not the case. The researcher's field observations from transect walks showed that the Mamire Forest Reserve was relatively better protected than the off-reserve forests. On the off-reserve lands, farmers from both communities had exhaustively cleared forests, mostly for cocoa farming. One interviewee acknowledged there were trade-offs between protecting forests and producing crops:

“Our own forests (off-reserve) that we acquired and are farming on, the truth is that we weed it and use for cocoa farms... we clear it to make ends meet from planting cocoa”.

The off-reserve forestlands also face illegal activity by people who do not dwell in the communities. For example, “illegal chainsaw operators” enter lands belonging to others, fell trees and transport the logs usually at night (see Photo 9.1). With the off-reserve forestlands, fieldwork participants expressed concern for committing resources and labour to tending naturally regenerating trees, which, as per the 1992 Constitution of Ghana, belong to the state. Premised on this, the Forestry Commission (FC) issues tree-felling permits for off-reserve lands to timber merchants who at times fail to make the required payments to farmers when trees are felled. Farmers said:

“When the contractor comes, they go and speak to the authorities (in Asankragwa) and so you with the farm has no authority... to say you will not let him cut the tree and so we were not getting any benefits from it”.

“This is responsible for “a lot of people uproot[ing] the trees on our farms because they (timber merchants) will come and cut it and destroy property and yet [farmers] make no gains from it”.



Photo 9.1: Illegally felled tree in Kamaso, sawn and waiting to be transported

Despite the existence of state rules governing the management rights over wildlife and trees in the off-reserve forests, it was mentioned that, initially, to cultivate cocoa, farmers cut down trees, cleared off-reserve forests and, often, set fire to the land (slash and burn). This was mostly done in the belief that trees on the farm were not conducive to growing cocoa efficiently. Moreover, in pursuit of higher livelihood earnings, famers required more land, which made them clear more forests to expand their farms. This was reflected in a statement in a focus group discussion:

"Before REDD+, we did not take care of our forests at all. We did not engage in any proper management at all. All it was... was us weeding... in this period of January, everybody would have cleared... weeded and cut out all the trees... with our forests, there was no decision to use it wisely... there were no arrangements to make us take care of the forests".

In relation to the community-forest relationship with off-reserve lands and complaints of farmers over forest bureaucracy giving permits for trees to be felled, the District Forestry Officer in the Asankragwa office stated:

"Most of the time in off-reserve areas, farmers complain that the trees are overshadowing the cocoa and pests are infesting their farms. Those are some of the reasons if illegal chainsaw operations are taking place, farmers are preparing their land by burning the trees, and galamsey²⁶ activities are going on, then such areas are given [by the state] for the trees to be removed as it is better to make use of the tree than to destroy it".

The research found that when lands were under the control of traditional authority and allocated to individuals and families for their use, decisions defy established rules. Whereas similar rules were upheld by the community members for the forest reserves in the area, partly owing to monitoring arrangements existing for the reserves but not for the off-reserves:

"There were rules but we didn't follow them. We took it that it was my own farm and so whatever I like I can do to it".

There was hunting (e.g. for grass cutters) in the forest lands with some techniques involving the use of fire, which sometimes led to bush burning when fires accidentally got out of control. The Kamaso fieldwork participants mentioned that because their community shares boundaries directly with the government forest reserve, fires set by farmers to clear farmland close to the forests and on lands used for charcoal production led to forest degradation:

"The smoke from the fire sometimes lead to the destruction of leaves of the forest trees close by".

²⁶ Locally coined Ghanaian term which means illegal small-scale gold mining

When investigating the drivers of deforestation and degradation in the case study areas, the research found that Attobrakrom and Kamaso fieldwork participants did not gather firewood or produce charcoal by exploiting the forest reserve. Instead, household energy needs have historically been met by gathering biomass from individual farms (see photo 9.2).



Photo 9.2: Schoolgirl in Attobrakrom with firewood for household use from a farm

According to some fieldwork participants, there was inadequate involvement of landowners and communities in state policymaking and forest governance before 2000. This was coupled with local deforestation and ecological degradation. One prominent land holding family therefore started to work with communities (including Kamaso and Attobrakrom) to improve the forest cover of the district. During years prior to REDD+, the family took advantage of the state's initiative for collaborative forest management by introducing communities to the Community Resource Management Area (CREMA). CREMA is a government mechanism for promoting community participation in natural resource management. It commenced as a collaborative management of wildlife between forest communities and Wildlife Division of the FC. The family established an NGO that

worked with communities to institute CREMAS, providing communities with some management rights over wildlife and trees in off-reserve forests. Currently, 21-23 communities form the CREMA with a recorded 2000 members in the Wassa Amenfi District. CREMA started by educating farmers and locals on the importance of tree planting and resource management. In the words of one respondent in Kamaso, the role of CREMA:

"is that they work on trees; the means that we plant trees and there are benefits that come with the trees".

CREMA is decentralized, with the CREMA Executive Committee at the district level and CREMA sub-committees and membership at community level (see Chapter 7). Based on CREMA, many changes took place in the communities and actions were taken after negotiation with the state forest authorities, including ownership certificates for trees planted by farmers. IUCN worked with Kamaso and Attobrakrom communities from 2006, engaging with CREMA. IUCN considers CREMA a key complimentary mechanism upon which to build its REDD+ process, which it commenced in 2009.

9.4.2 How is REDD+ understood among cocoa-forest communities?

In this section, the thesis explores the understanding that farmers in Kamaso and Attobrakrom have of REDD+ based on IUCN's mediation of REDD+ knowledge at the local level.

IUCN (working with the FC) introduced REDD+ into several cocoa-forest communities including Kamaso and Attobrakrom in Wassa Amenfi District in 2009 with funding from Denmark Development Cooperation (DANIDA). The introduction involved sensitization and capacity building activities and built on existing forest initiatives like the CREMA, to enhance existing institutions to maximize impact for communities. The approach adopted an agro-forestry strategy and aimed to connect to the values and views of the local communities, by focusing on local livelihood development and enhancement, improving local governance structures, and enhancing local community knowledge.

To deepen community understanding of REDD+, IUCN who had prior experience in landscape wide projects in the Wassa Amenfi area, set up a multi-stakeholder platform that mirrored the composition of the FC's National REDD+ working group at the policy level. Membership included the District Assembly Member, Forest Services Division, Ministry of Food and Agriculture, Customary Land Secretariat, National Disaster Management Organization (NADMO), CREMA members, logging companies and the private sector. The platform assisted IUCN in carrying out its activities. According to one IUCN official:

“These people are working and living in the community, most of them are from the community, and so they are accepted. They are now the ones we use as trainers... we train them as trainers, so they go propagating and sharing the information, making people more aware”.

The majority of farmers in both study sites had knowledge of REDD+, referred to as 'ndua dua' (tree planting) in Twi. There was a general understanding that planting trees was essential because diminishing forest cover was negatively impacting the local environment. A minority of participants expressed a wider knowledge of global climate change and the role of trees as a mitigation solution:

“They have made us understand that the activities we embark on this earth... carbon.... smoke... cars... forest clearing and bush burning and our own use of fire... smoke that goes into the atmosphere has led to change within the atmospheric compositions so it has made the sun intensify and when you look at the white man’s land, because of carbon, it doesn’t allow comfortable living; over there the snow is falling so much and that is bringing hardships. So they have seen that we have to plant trees”.

A recurrent concept expressed on REDD+ in the field was for the trees to be planted with the cocoa on farmlands, to have the cocoa trees shaded from the sun, 'good air' to breathe, and for trees to act as windshields for farms and buildings. According to local cocoa farmers:

"They teach us that... if we plant the trees, the bad air (carbon) from up will be taken in by the trees to prevent calamities from impacting us".

"...helps the cocoa we plant, because the trees are on the farm, when the sun shines it does not affect the cocoa and so it helps us to be able to get the cocoa pods and seeds to harvest".

These findings corroborated an earlier policy level interview with two IUCN officials:

"We are trying to preach agro-forestry. Cocoa, is why you are there... but then the Ghana Cocoa Research Institute has identified that you can put 18 trees per hectare, so we are just saying can you do that, that is one of the legs of the R-PP; that Ghana would go for climate-smart cocoa".

Some farmers felt that they would be able to cut down the trees they plant at maturity and sell them for income. According to others, they would cut them down for personal use:

"When REDD+ was introduced, they educated us that everyone who plants trees should register them so that they can have records of your name and the amount of trees you have so that in the future when you need any for a project work, you can cut and use".

The study traced the community narrative on cutting trees to the views expressed by the local forestry officer in Asankragwa on the REDD+ process:

"We go and give them technical advice: spacing, how to tend, what not to do and then we register them. At the end of the day when the trees are matured, it is for them so whatever that they intend to do with the trees, they can do".

Others indicated that they were informed that the trees planted could not be cut down or they would face consequences. This group believed that REDD+ gives farmers a new responsibility for the forests and the authority to report to the FC when people (especially from outside the community) attempted to cut trees on their farms and in forest reserves.

Notably, interviewees and focus group discussants who had constant and direct engagement with the state and NGOs on REDD+ as community representatives (e.g. sub-chiefs (Odikro) Kamaso forest guard and CREMA Executive Committee chairman) demonstrated a deeper understanding of REDD+ technicalities like carbon financing, carbon measurement, monitoring and reporting. Many other interviewees had limited knowledge or were misinformed on technicalities of REDD+ performance based payments, as illustrated by the extract below:

"They said when you plant the tree and it gets to a certain stage, they would come and attach something to it and it would pull air and so when it pulls the air, then they would give you the money..."

A section of interviewees across both communities stated that some community members were oblivious to REDD+; others did not understand the REDD+ concept. Interviewees mentioned that some community members believe that when trees are mature, the government allows timber merchants to cut the trees planted by the farmers and would do so at the expense of destroying the cocoa on their lands.

The district forestry officer who works in both communities corroborated this in his interview:

"When the REDD+ programme started, you go round, you educate people as to what to do, what not to do, plant trees with cocoa, they say no. This is a measure by the government to come and take our cocoa farms, so no. You see they have taken our reserves? So no".

9.4.3 What changes have taken place in attitudes and behaviours since REDD+?

In this section the thesis examines changes that have taken place in attitudes and the institutions that have emerged since REDD+ was introduced among cocoa-forest communities in Attobrakrom and Kamaso.

Interacting with various field participants, it was evident that education and awareness-raising on ensuring forest integrity had become increasingly important at community meetings. It was commonly acknowledged that REDD+ has brought beneficial knowledge to farmers' lives and a change towards more responsive environmental protection. An increasing number of community members were into tree planting on their land and refraining from exploiting wildlife in forestlands with the fire technique for hunting. This new restraint, in addition to the tree planting, was hailed as having increased forest cover in Kamaso and Attobrakrom:

"It has changed a lot, now when you enter a farm you see trees have emerged in farms and lands. Give it a little while, the trees would be really visible in the community".

"When we were using the forest, initially we were not protecting it. We had forests that we cut down. Currently the state of things has made us realise the way the weather and

things are occurring, if we do not protect the forests... the world is doomed... we are doomed".

Community members felt a new sense of empowerment and were exercising this in various ways. For example, Kamaso residents were able to stop chainsaw operators from illegally felling trees in their surrounding forests, resulting in a reduction of such illegalities. During fieldwork, a participant stated:

"It has made us realize that the forests all belong to us and so we need to protect it. So now when you see someone cutting a tree that they are not supposed to or are not following the appropriate laid down channels, then you can report to the authorities".

More so in Kamaso than Attobrakrom, community members who witness illegalities that threaten forest cover are encouraged under the REDD+ process, to report to the chief, his council of elders, or any of the executives of the CREMA who lead on REDD+. After violations are reported, the chief and elders organize a disciplinary hearing. If the perpetrator's defence is considered unsatisfactory, the chief and local authorities report them to the FC.

According to respondents, community members have become empowered under REDD+ by gaining insight into existing forest policies and formal arrangements, with increased awareness of forestry practices that should be conformed to. For example, there is a requirement for timber merchants to seek a farmer's approval before they can fell trees on the latter's land. This has led to some farmers recently challenging the status quo where timber merchants enter their farms and clear trees without their consent, and also fail to make necessary payments including compensation in cases where cocoa farms get destroyed.

"We did not know. It was through these teachings that we came to know... so they (timber merchants) have [already] taken advantage of us very well... if not for this REDD+, like

even a tree on one's farm would be felled... also the REDD+ that we have engaged in means that it is impossible for a contractor (timber merchant) to enter the farm and cut trees haphazardly and destroy your things in the process".

As naturally regenerating trees are the property right of the state government as specified in the 1992 constitution, permits are issued by the state for the felling of such trees in rural forest landscapes. It was reported that the processes through which the trees are felled and transported off farmers' lands usually destroy their crops and produce, especially when path access to fell and transport are needed. Respondents therefore expressed joy in being able to stop timber merchants from felling trees because of the capacity REDD+ had provided.

Respondents in both communities provided accounts of the opportunity to register with the FC, any economic tree they plant under the REDD+ process. One interviewee said:

"When REDD+ came, we got to realize that even the trees that you are planting you have to register. Once you register, when in the future you want to cut any to use for your purpose, you have to let government know. It is when they (REDD+ proponents) came that we got to know all these arrangements; initially we didn't know".

Even though most respondents attributed the emergence of tree registration certificates to REDD+, documents in the field proved contrary. This study discovered that tree registration certificates were introduced under the IUCN 'Livelihoods and Landscapes' Programme, which was implemented a few years before any REDD+ programme went in to the communities.

Knowledge of tree registration and the promotion of 'ndua dua' under REDD+ has contributed to an increase in tree planting efforts, because it is now easier to distinguish trees planted by farmers as their property and those that naturally

regenerated and by law belonged to the state. Some farmers, who intentionally schemed with local chainsaw operators to illegally fell trees on their farms, said their views changed to pro-environmental care and they had adopted tree protection measures. As mentioned in one interview:

“Now we do not agree... for instance when I have a tree in my farm, I will not agree as I initially used to for any operator to buy and cut the tree”.

REDD+ has led to the adoption of approaches including the use of trees for the targeted protection of other ecosystem services like streams, rivers and ponds in the communities. Farmers chose to leave standing trees close to water banks and planted trees on those banks that were bare so that the water bodies were shaded and protected from direct sunlight and heat. According to some respondents, they had planted, and were still planting, trees so that wildlife that migrated away from the communities, as the forest cover dwindled, would return.

According to the Chairman of the CREMA Executive Committee, who is also a cocoa farmer, the communities have been educated and encouraged to pursue livelihood diversification under REDD+. He stated that this has led him to engage in animal rearing, honey production, and other income making activities. In reference to REDD+ and livelihoods, the ‘Odikro’ of Attobrakrom said:

“We noticed that it was hardship that existed and led to the cutting down of trees in some instances, and so the new way that we have adopted is to get new and alternative livelihoods to support the main work [cocoa farming] that we are engaged in so that we can make money from that one too. (For example) we have taught some of the women soap making that they sell and so those things bring some sums of money that complement the farming we are engaged in and so the hardship is not major to cause tree cutting for sale”.

In Kamaso and Attobrakrom, REDD+ reinforced the coming together of community members through CREMA and efforts to improve forest and wildlife management. The study found that as part of working towards REDD+ in Attobrakrom, some farmers had formed a cooperative with the 'Odikro' as head of the group. The interview extracts below illustrate this:

"When the CREMA was established, many people did not get involved in the initiative but when REDD+ was introduced, it came and strengthened the tree planting... they brought us education about climate change and how we are cutting the trees and the challenges it is causing".

"It was the REDD+ programme that we were attending trainings on, that made us realize that if we do not come together as farmers, it would be difficult for us to be able to progress".

REDD+ has introduced some access to free seedlings, which for some farmers is a huge relief from having to pump capital into tree planting. The provision of seedlings has stalled in Attobrakrom but not in Kamaso, whose residents source seedling from the Kamaso forest guard for the Mamire Forest Reserve, who runs a nursery established through financial and technical support of IUCN.

9.4.4 Why do cocoa-forest communities care about REDD+?

This section presents the results on the material and non-material values that farmers attach to REDD+, which makes them care about, and conduct aspects of their life in relation to, the policy mechanism.

9.4.4.1 Non-material benefits of REDD+

Considering why they engaged in REDD+, most farmers and community members mentioned the benefits of REDD+ for the future generation. These include preserving the opportunity for future generations to see and gain knowledge of

forests, access to trees for use in building projects, and preserving indigenous knowledge on tree types and their functions, especially as sources of herbal medicine.

The role of trees in reducing the intensity of direct sunlight impacting the community and farms was the motivation behind some community members' participation in 'ndua dua'. According to some farmers, their experiences and observations of changes to the suitability of their cocoa farmlands, after they planted trees, further convinced them to pursue REDD+:

"The reason why we went into tree planting is that our land is spoilt and so if we plant the trees on it, it would make the land fertile".

Others expressed a sense of happiness from the positive changes to their cocoa health, cocoa yield and the opportunity to rest under the shade of the trees as motivation to keep engaging in REDD+. According to farmers, due to the harsh climate, the lifespan of their cocoa trees without shade is shorter than when there are trees on the farm providing shade. The presence of trees on farmland extending the lifespan of cocoa trees by 30 or more years, serves as a motivational factor for some farmers' engagement in the initiative. The CEC Chairman mentioned in his interview that:

"Where there are no trees on the farm, it dies off at a maximum of 12-15 years. But when there are trees on it, sometimes 'til 60 years, you would still be harvesting from the cocoa tree".

Participants mentioned that changes in the microclimate such as intense heat, decreased rainfall and changes in rainfall patterns contribute to the hardships of farmers and their families. According to some interviewees, their motivation is drawn from information that REDD+ would contribute to address the harsh climatic conditions they experienced. As one interviewee said:

“Okay the teachings they provided was that it would help for the changing climate to be addressed and so that is what has given me the encouragement to engage well on the initiative so that the warming of the climate would reduce”.

The need to protect water bodies and improve tree cover to ensure that animals do not migrate from the community encourages some farmers. In addition, the trees serve as windbreaks to withstand heavy winds that destroy crops and buildings. In Kamaso, there was mention of how the tree planting initiative helps to preserve the flow of the main river running on the outskirts of the town.

Other farmers were engaging in REDD+ hoping that it would provide a future supply of wood to meet the community's needs such as infrastructure construction. There were also recurrent mentions by farmers of the ownership rights they enjoy by registering the trees they plant. These trees are viewed as property “to fall back on”, ownership of which gives farmers the right to make decisions, and exercise rights of access for use in the future when trees may be scarce. For others, the tree presents a more viable property than cocoa. In one interviewee's words:

“Everything you need to do, wood is an integral part. And so a tree has huge benefits... it is a huge property... cocoa will die but the tree would still be standing so as for the tree it is a huge property”.

The research noted that sentimental value was attached to the planting of trees in some cases. Ties to family and the ability to leave property for family were motivations for engaging in 'ndua dua'. This is reflected in narratives such as:

“If I die, they [children and grandchildren] would use the trees as a remembrance that their father planted trees for them”.

For a few interviewees, their engagement in REDD+ was motivated by the ideology that REDD+ was a legitimate initiative as it originated from the 'white man', who they considered advanced in knowledge:

"It is the white person who is well informed and knows what they say so for me I am of the opinion that it is good".

Similarly, other motivations included the trust farmers had in the government: they believed that the government introduced the initiative to enhance the welfare of farmers:

"I know that when government says something, it brings it to assist us; if government won't, then they won't tell us to do it. I feel that because it is a good thing that is why they said we should do it and so that is why we must involve in it and benefit is and also benefit our up and coming children".

In an isolated case, one farmer derived motivation from the fact that he believed the influx of actors to the community to talk about REDD+ proved the legitimacy and security of REDD+ as an initiative. He compared REDD+ to other failed initiatives pointing out that organizations never built on the same initiative in the communities as has been done under REDD+.

Specific to Kamaso community, the majority of field participants attributed their motivation to engage in REDD+ to a combination of the increasing empowerment they benefited from under REDD+, and the experience of an unpleasant historical event. A female industrial timber merchant referred to as 'Abaawa' reportedly visited the community and felled many trees from farmland causing massive deforestation that the community had never previously experienced. She failed to make the necessary payments to farmers or to pay compensation to the people whose farms were destroyed. Many farmers expressed grief recounting the incident. They recounted that the knowledge gained under REDD+, about their

rights for example, had not only enlightened them as to how they could have prevented the destruction of their environment by 'Abaawa', and been cheated out of payments, but ensure there is no repeat of the situation.

9.4.4.2 Material benefits of REDD+

Some community members in Kamaso believed that tree planting via REDD+ would benefit them with additional income alongside their cocoa farming. A couple of respondents mentioned plans to commit land to planting more trees once the current cocoa trees on the farm were no longer as productive. Some farmers expected that the trees would fetch money in one way or another for their progeny even when they passed on from this world. However, others expected to rely on the trees during hard times as a source of income that could be channelled into the general upkeep of the family (mostly for the educational expenses of wards). For others, the expectation was that the trees planted would be felled for sale to supply the local demand for wood and wood products. Some respondents believed they could make more income from selling the trees than they made from cocoa. Some farmers anticipated that payments for carbon could be made to farmers for the service rendered by their trees. For example:

"As I have planted the trees, the way that REDD+ can change my life is the way that REDD+ people said that carbon credit is coming.... when they come and they place the device on the tree, then I will gain a lot of benefits from those trees I have planted".

"Right now the trees are what I am counting on for the future because as for the cocoa [business] it's dead. With the trees I know that I can get money to take care of myself and my children and grandchildren going to secondary school; one of my grandchildren is about to go to university and I know it is the trees that I have anticipation for to take care of us".

Some fieldwork participants believed that the community's involvement in REDD+ would lead to infrastructural development when the timber merchants logged the trees and the community requested the improvement of facilities like roads. For others, a percentage of the finance that would come from REDD+ through carbon credits would be used for community development and the rest paid to the implementing farmer. Other farmers stated that the government was responsible for developmental efforts of the community and so all monies accruing from carbon credits should be paid to each implementing farmer.

According to others, their successful execution of a REDD+ programme would place Kamaso on the map for visitors and tourists or at best as a model village for REDD+ to other communities:

"It can bring change based on the fact that how well we plant can lead to people talking about Kamaso as a model town where people have engaged in a lot of tree planting and this can make leaders come to look and once people come, it will propel the name of the community and then they can bring development to the community".

9.4.5 Why cocoa-forest communities do not care about REDD+

In this section the research presents results showing why some farmers in Kamaso and Attobrakrom have not come to care for REDD+ unlike others.

Some farmers were suspicious of the government having a hidden agenda with the introduction of REDD+ (as shown in section 8.5.2). This cross-section of farmers refused to engage in 'ndua dua' so as not to risk having their lands and/or trees taken away from them. There was resistance by others, who experienced unpleasant clashes in the past with state authorities. In the account of one farmer:

"I remember that some people cut a tree... the tree was more than 20 years in the farm. When they weeded the land, they

cut the tree. The person who initially tended the land had died and the successor cut the tree to use for a building project. The soldiers went and what transpired had some people admitted at the hospital. So this has made some people when you tell them to plant trees, they question that when they plant the trees, what benefit would they get from it?"

The majority of respondents across both communities indicated that no outspoken farmers or community members opposed REDD+. Speaking about resistance to REDD+ in Attobrakrom, one interviewee stated that:

"A person may refuse to engage in the activities but they cannot say that they would not agree for us to move forward with REDD+".

However, the CRMC Secretary in Attobrakrom mentioned that there was a group of young men that pronounced that the initiative is a waste of time since trees take a long time to mature and benefits would most likely not accrue in their lifetimes. They tried to discourage old people from engaging in REDD+ on the premise that the older farmers would die before the trees matured sufficiently for them to earn financial benefits.

According to the district forestry officer interviewed in Asankragwa, some of the community dwellers did not understand exactly what REDD+ was and formed their own ideas on which they base resistance:

"....we have sometimes encountered strong opposition. We have encountered so much oppositions but then our duty is to collaborate with the communities so no matter what the community does or say, you have to be able to achieve your objective there otherwise you would have wasted resources,

wasted fuel, maintenance on the vehicle, man-hours and all that... so make sure that you get the result".

9.5 Discussion

This section discusses the results in relation to the themes of 'new knowledge and care', 'how subjectivity is manifested', and 'why some farmers have become subjects and others have not'. The section concludes the study by summarizing what is learnt regarding cocoa farmers in Kamaso and Attobrakrom becoming subjects of REDD+.

9.5.1 **New knowledge and care**

In looking at the formation of subjects, an understanding of the historical dimension of the practices and knowledges of the case being studied is key (Agrawal and Lemos, 2009). In this case, there was a historical lack of knowledge regarding off-reserve forest management and sustainable use of such lands. Communities therefore engaged in practices that led to the destruction of off-reserve forests. Also, as off-reserve lands were under the control of individual farmers, they made their own decisions about their land use. Even though rules existed for the protection of the forest reserve, they were not applicable to farmers' off-reserve forestlands. On the other hand, farmers had limited knowledge of their rights (e.g. the right to give consent before loggers could log trees on the farm), which restricted their capacity and power to challenge forest bureaucrats and the industrial loggers who showed up with logging permits for naturally regenerated trees on their farms. Because of this inequity, farmers removed such naturally regenerating trees from their farms to avoid the state issuing permits for the felling of those trees, which usually resulted in the destruction of their cocoa and agricultural products, without appropriate payments to them as caretakers of the trees. It is interesting to see a contradiction in stakeholder perspectives on this issue as the district forestry officer attributed state approvals for tree felling in off-reserve lands to economic rent salvaging techniques, when illegalities that put trees at risk were seen in an off-reserve forest estate. This is a classic display of the varied interests that stakeholders have

and how each adopts different means to protect their interests (Mayers et al., 1996).

REDD+ is not the first initiative promoting good forest management in Kamaso and Attobrakrom. Earlier initiatives aimed to develop understanding and practice of the local forest communities of good natural resource stewardship. For instance, the CREMA initiative (which the IUCN REDD+ process consciously built on) created awareness of local environmental benefits of tree planting and fostered early efforts of collective resource management in the communities. Regardless, IUCN through their REDD+ programme was majorly credited by farmers for bringing 'new' knowledge to members of the communities. IUCN's implementation of REDD+ in the forest communities strengthened and expanded rural knowledge and empowered engagement in forest politics and management. New environmental technologies like REDD+ come with knowledge that creates new forms of power, and leads to certain practices and thinking patterns (Agrawal and Lemos, 2009). Local discourse on forest management therefore came to include the wider dimensions of global climate change. This increased farmers' understanding of human activities impacting the climate, the effects, and an appreciation of the value of standing forests to the global populace.

Farmers' reference to REDD+ in the local parlance as 'ndua dua' translates as tree planting. Such tree planting has found popularity amongst farmers who understand to plant trees with their cocoa. This understanding of REDD+ by the farmers reflects how the mechanism was framed and 'sold' to them by IUCN and their partnered state officials (Špirić et al. 2016; Bastakoti and Davidsen, 2017). The REDD+ initiative in these two cocoa forest communities was framed with emphasis on the beneficial value of forests to their locality and livelihoods. In engaging local forest dependent communities in a mechanism that seeks to reduce an element as abstract as carbon, intervening agencies resorted to mediating REDD+ knowledge in relation to things that can be touched, seen and felt. One of the most successful approaches is aligning REDD+ to the beneficial value for local people (Awung and Marchant, 2016; Li, 2007). The way in which such new globally designed mechanisms are framed at the local level determines understanding and

ensuing actions (Bastakoti and Davidsen, 2017). From the results presented, communities have limited knowledge of the full REDD+ mechanism, especially relating to the technicalities of permanence, additionality and leakage. Arguably, this is largely attributable to limited information and discourse on these REDD+ technicalities by the intervening agencies, whose REDD+ framing was aligned to appeal to what matters to the farmers: their cocoa livelihood. This finding corroborates the findings by Lyons and Westoby (2014) where local communities had no idea of the market economy attached to the carbon forestry project in which they were engaged.

To improve tree cover in the cocoa growing regions and in tandem reduce the destruction of trees for the cultivation of cocoa, IUCN presented REDD+ as an opportune source of resource mobilization for cocoa agroforestry systems and promoted its uptake to farmers (IUCN, 2014). Agroforestry systems partly contribute to achieving REDD+ in certain landscapes (Minang et al., 2011). As a land use science, agroforestry is integral to productive agriculture and flexible enough to be implemented on small and large land holdings (Karki, 2017), as in the context in Kamaso and Attobrakrom. It is hoped by the state and IUCN that this approach will help improve cocoa yields while pursuing emission reductions, but at reduced operational cost. Agroforestry strategic options for REDD+ have the potential to reduce deforestation by tackling the influence of agricultural expansion on forests (Minang et al., 2011). In addition, the trees that are cultivated on cocoa farmlands also sequester carbon. IUCN showed in a previous study that, for the agroforestry systems of cocoa, the sequestration is approximately 19t CO₂/ha against 14t CO₂/ha for non-shaded cocoa systems. This is an indication that cocoa agroforestry systems perform well as strategies for climate change mitigation and adaptation. Planting trees with cocoa has the potential to generate non-carbon and sustainable development benefits (Minang et al., 2011).

Though the concept of planting trees among the cocoa is well understood by the communities, there was a noticeable difference in views relating to the future of the trees (by inference, REDD+). Some farmers hoped to cut and sell the trees and/or to utilize them for building projects – a narrative traced to the district

forestry office. This thinking, as the basis for engaging in ‘ndua dua’ (REDD+), raises concerns regarding the emission reduction objective of the mechanism. Though ‘ndua dua’ is promising for achieving improved forest cover in the cocoa communities in the short term, there are real threats to carbon permanence, as some farmers regard the trees as their property to be felled for use or to sell as a source of income when they mature. A similar case of a challenge to REDD+ meeting its carbon objective is illustrated in Sikor and Câm’s (2016) study of a REDD+ intervention in Vietnam, where villagers implemented a REDD+ pilot by protecting rocky areas, which had barely any trees. An understanding of the GHG emissions objective of REDD+ requires a representation of knowledge that advances farmers’ perceptions of REDD+ from a simplistic view (as tree planting and forest conservation that favours their livelihoods), to the importance of REDD+ as a carbon mitigation approach that requires additionality, permanence and avoided leakage to address global climate change.

Evidence shows that locals who usually engage in the REDD+ process had a clearer understanding that REDD+ involves payments for results-based reductions. This cohort of community representatives, some of whom were the community contacts for IUCN and the FC, displayed relatively advanced knowledge of REDD+ and on-going political processes based on their continued engagement (Agrawal, 2005a) and institutional memory (Olsson and Folke, 2001). Evidence from this study, and from literature, suggests that constant engagement/participation has an impact on how farmers/community members form knowledge of initiatives like REDD+ (Astuti, 2016; Agrawal, 2005a) and how they finally come to care. These everyday relational social processes are responsible, to an extent, for how people come to care about their environment (Howson, 2017). Relative to other community members, local REDD+ community representatives therefore adopted expert subjectivities in conducting themselves. Furthermore, by spearheading engagement and activities related to REDD+ in the communities on behalf of external agencies like the FC and IUCN, Kamaso and Attobrakrom are governed through what Agrawal (2005a: p.195) calls “intimate government” – the creation and utilization of a group of decision makers from the communities as a link to influence the general village populace and shape their actions.

The peculiar situation experienced in Kamaso where an individual industrial logger, Abaawa, felled trees and cheated people out of compensations on a large scale, is pertinent to the creation of environmental subjects under REDD+. According to the study of Benjaminsen (2014: p.394), “local responses to interventions do not happen in a vacuum, but rather are conditioned and affected by structural and historical relations and experiences; former exclusions and dispossessions and the fear of new ones”. Even though the experience occurred before the advent of REDD+ in the community, it was partly responsible for the local reception of the REDD+ intervention in Kamaso. They regard the education that comes with REDD+ as empowering and as a crucial initiative that builds their capacity to resist such unpleasant situations.

The education and knowledge has contributed to refined relations between the farmers and their environmental quality, and improved forest cover in the communities. New forms of REDD+ subjects emerge as IUCN and the FC operate through “educating desires and configuring habits, aspirations and beliefs” (Li, 2007: p.275). Everyday REDD+ processes, including changes to the health of cocoa and cocoa farms, contribute to trees becoming a domain of thought (Agrawal, 2005a) in these two rural communities. The result of which is an increased adoption of trees in cocoa farms. Emerging REDD+ subjectivity has been partly shaped by everyday practice and experience in natural resource use (Lau and Scales, 2016). This corresponds to the findings of Singh (2013) that local perceptions are shaped not only by environmental discourse but also by “everyday embodied experiences of changes in the landscape” (p.193). No single cause exists for the new behaviour of farmers in planting trees on cocoa farms and protecting forests, but rather a multitude of reasons including flourishing cocoa farms, increased yield, promissory income from tree sales, enjoyment of ecosystem services, reduction in climate change impacts, and others (treated in section 8.5.3).

9.5.2 How subjectivity is manifested

Earlier activities, for instance through CREMA, laid the foundation for improving forest cover through tree planting. Following these initiatives, REDD+ strengthened the push for enhancement of forest carbon stocks and tackling deforestation in the communities. Distinguishing the initiatives and achievements of various forest/environmental projects is unclear from the accounts of farmers. It is difficult therefore for this research to accurately attribute the precise natural resource management and behavioural changes that materialized in the communities singularly to REDD+. The plethora of historical forestry projects facilitated by external intervening agencies has caused farmers to mix up activities and attribute other milestones that were not chalked up under REDD+, to REDD+.

Farmers have embarked on actions to meet their self-interests including improved cocoa farming and suitable micro-climatic conditions. Though the study had no means of verifying the change in forest cover quantitatively, narratives from the field convincingly point to the increase in tree cover as new subjects continue to form. This is in line with Agrawal's claim of individuals being "environmentalized" (2005a; p.17) by projects and processes. These individuals reconfigure their views and roles in relation to the environment (Cepek, 2011). The desire to plant trees and protect forests or trees, stemming from "recognition that such protection could enhance one's material self-interest" (Agrawal, 2005a: p.162), is still regarded as environmental subjectivity. Involvement in regulatory practices like reporting forest illegalities to the sub-chiefs and officials is a manifestation of these new subjects. This corresponds to the literature in which Singh (2013) discovered that, through patrolling practices and other everyday activities that contribute to forest growth, the villagers developed, and in some instances strengthened, their ties to the forest.

Alternative livelihoods that divert focus from forest use are emerging (and have been reinforced) in the communities since REDD+ was introduced. Policies for reducing deforestation and forest degradation that entail approaches for delivering sustainable livelihoods and livelihood strategies would best serve communities (IUCN, 2014) like Kamaso and Attobrakrom whose primary focus is 'survival' for the present and their future generations. However, this aspect of REDD+ that promotes livelihood diversification did not feature much in the data

gathered. There is therefore reason to believe that most of the cocoa farmers are not yet pursuing livelihood alternatives at scale.

Communities are beginning to understand the rights they have and are demanding these in relation to natural resources. Farmers have started challenging the inequitable status quo relating to timber felling by external actors. The results indicate that the REDD+ process is (re)constructing social relationships and changing the dynamics between community members of the case study areas and outsiders who come to extract timber including local chainsaw operators. However, this will need to be studied over time to investigate if it achieves a socially-just forest sector. It is also clear that forest dependents like the chainsaw operators and timber merchants who do not reside in the forest communities present risks to REDD+/'ndua dua' success in pursuit of their interests (Gibson and Becker, 2000).

As the farmers feel assured of their interests in, and rights related to, planted trees due to the registration certificates issued (Sommerville, 2013), collusion with the local chainsaw operators to engage in illegal logging is tapering off. This is significant as the off-reserves are recorded as the main suppliers of timber felled illegally, up to an estimated 80% (IUCN, 2014). The tree registration certificates create an enabling environment that guarantees farmers their "tree rights" and the ability to exercise power over the trees. Unlike other cases where fiscal incentives are employed to secure communities' involvement in monitoring and reporting on encroachment activities (Astuti, 2016), the case of Kamaso and Attobrakrom is different when it comes to surveillance and reporting illegalities. Communities monitor and report partly because of the secure rights that tree certificates provide. This facilitates the work of the state REDD+ authorities that govern from a distance (Astuti, 2016; Agrawal, 2005a).

9.5.3 Why some farmers have become subjects but others have not

It is critical to have a firm understanding of the motivations that drive care for the environment. As cocoa forms the greatest single livelihood for many in Kamaso and Attobrakrom, many farmers engage in REDD+ to benefit from the ecosystem

services that trees provide for farms. The economic life of the farmers and their families plays a very important part in their commitment to 'ndua dua'. With trees benefiting the cocoa crop and improving general wellbeing, farmers remain strongly incentivized to secure sustainable forests management and protection. Other motivations stem from benefits such as shade for resting and watershed protection. Contrastingly, carbon payments did not feature as much in the reasons why farmers have come to care for the forests. This clearly speaks to the school of thought that successful REDD+ needs to consider community livelihoods and livelihood strategies as a priority (Angelsen et al., 2012). This conforms to the literature on REDD+, which states how essential biodiversity, community and carbon are to an integrated approach (Howson, 2017).

A chief social concern relates to children and the future generation; farmers aim to preserve tree species to allow indigenous knowledge of flora and fauna and their functions to be passed down the generations. In addition, commitment to REDD+ is motivated by the ability to arrest harsh environmental conditions that would impact future generations. New subject formations in Kamaso and Attobrakrom emerge under REDD+ from struggles around cocoa cultivation, intimate relations with culture, lineage continuity, and dealing with harsh climatic conditions. Though both communities are mainly settler communities, the dwellers share identity, culture and understanding in multiple ways. These values include priding themselves as being high cocoa producing communities and therefore needing to protect the forests and plant trees to improve the micro-climate and their cocoa production. Although they have shared values, which Mosimane et al. (2012) see as essential for a concerted effort of natural resource management, the lack of collective property rights seems to challenge collective action in REDD+, as some farmers have been less than enthusiastic about planting trees on their land.

There are highly distinguishable elements in Kamaso and Attobrakrom relating to who has become a subject of REDD+ and who has not. Not everyone becomes an environmental subject based on project implementation or implementation processes (Agrawal, 2005b). This is shown in a rural study in Odisha, in which Singh (2013) found that not all residents had come to care about their

environment as others had. In our study communities, the issue of uncertainty about tree property rights, despite the acclaimed registration certificates, and distrust for the government, were responsible for some farmers refraining from 'ndua dua'. The distrust was manufactured by the suspicion that forest bureaucracies would exclude farmers from accessing the trees they plant and rather issue felling permits to timber merchants that would annex farmers' efforts (Howson, 2017). It is interesting that while some farmers were on-board with REDD+, and trusted the government, others were sceptical and suspicious that the state was using REDD+ rhetoric to possess the trees they planted, and possibly their lands in the future. This adds to the findings of Awung and Marchant (2016) that insecure tenure reduces project support and local peoples' engagement. People resist subjection through self-knowledge and self-government, which may be influenced by their individual goals for personal security (Manuel-Navarette and Pelling, 2015).

The cost of planting trees including, but not limited to, seedlings acquisition, labour, land and operational costs, hinders some farmers from engaging in REDD+. Ignoring the limitations faced by some farmers in everyday practice not only excludes them from some benefits under REDD+ (Howson, 2017) but also affects the manifestation of their care for the environment. Having farmers who resist joining in with REDD+, and those who for logistical reasons are unable to join, raises important questions around the gap between the two groups: subjects and non-subjects. Even though resistance can open opportunities for alternative pathways, which offer other solutions (Benjaminsen, 2014), the resistance in Kamaso and Attobrakrom is more passive than active and not directed towards discourse or strategic REDD+ design, and therefore offers little chance for developing alternative solutions.

9.6 Conclusion

This chapter set out to understand whether REDD+ in two cocoa-forest communities in Ghana was causing transformations of rural forest dwellers to care for the environment, how, and why they came to care. At the local community

forest level, the overly technical narrative of REDD+ is watered down to a simplified understanding of “tree-planting” (ndua dua). The majority of farmers have come to accept the strategy of growing trees together with cocoa on the same land. The everyday experience and changes associated with such tree planting actions has transformed the way some think of, and value, trees. As a new technology of environmental management, REDD+ intervention includes building capacity and deepening knowledge of resource management for emission reduction. REDD+ gives new understandings and identities around forests, making some people care, act and benefit, in relation to livelihoods, reduced climate impacts and favourable microclimates. This type of environmentality produces subjects of self-governance that shape rural peoples’ thoughts and actions, including surveillance and reporting illegalities, to protect forest resources, which may, in turn, reduce carbon emissions. Despite the positives of the process noted so far for the forest communities, there are some who are not convinced, and have refused to engage in ‘ndua dua’.

The analytic of subjectivity under the environmentality lens has allowed an examination of the ways cocoa farmers in forest communities in Ghana have, through various channels, positioned themselves as subjects, or not, in relation to the IUCN REDD+ programme. The situation on the ground is complex, and includes issues around whether locals can cut down trees or not, with some people thinking that since REDD+ emerged from the western world then it must be right, and what will happen to people’s subjectivities when things go wrong such as trees succumbing to disease or financial payments failing to materialize.

How has engaging with emotions, connections and values enhanced and added value to our environmentality analysis? This research suggests that adding the element of emotions and connections has provided valuable insight into what motivates the individual to adopt new environmental practices for sustainability. It also offers insight into how and why individuals might engage collectively, what the pitfalls of that engagement might be, and what it might lead to, such as buying-in to simplistic solutions, divisions within communities between those who support and those who resist, without power to change the fundamental drivers

behind losses of land quality and continued hardship. Another important question is whether the formation of REDD+ subjects will, in the long-term, help people to move out of poverty, given the wider economic, political and environmental drivers of forest loss in West Africa, or the risk of being locked-in to unfounded beliefs that 'ndua dua', delivered through REDD+, by the 'white man', is a silver bullet.

CHAPTER TEN: CONCLUSION

10.1 Introduction

The primary aim of this research was to understand how REDD+ is localised in Ghana from the national policy level to the local implementation sites by employing an exploratory REDD+ localisation analysis framework to construct meanings into how REDD+ materialises. The study used the framework to explore how REDD+ as a new environmental technology of government is mediated through institutions to form environmental subjects, while investigating how equity is playing out in knowledge and power relationships. As a novel mechanism, empirical research on the local realities emerging from REDD+ implementation is particularly limited. This research therefore sought to contribute to this scholarship gap and to meet its main aim by answering the following four research questions:

- Q1: How have REDD+ projects (on public and community lands across the globe) performed according to a set of collective action principles for effective forest management?
- Q2: How do different dimensions of governance and stakeholder engagement affect equity in REDD+?
- Q3: How is REDD+ institutionalised across and within scales of governance at national, regional and local levels in Ghana?
- Q4: What are the emerging realities from REDD+ implementation within the social, political and historical context of local communities in Ghana?

The research was based on qualitative interviews at both policy and implementation levels. It also adopted as part of its methods participatory approaches such as focus groups, community mapping and photo elicitation at the

local forest community level. The total number of participants across the entire study was 124. This chapter draws the thesis to a close by first presenting a summary of the key findings against each of the research questions outlined above. The subsequent sections of the chapter address the theoretical and empirical contributions, the implications of this research for policy, the avenues for future research, and finally the conclusion.

10.2 Summary of findings

Through collective action approaches, communities are mostly engaged in the activity side of implementation as opposed to the policy design, decision-making or strategy formation aspects of REDD+. The local forest dwellers are treated as agents of service/implementation not as agents of policy discourse/discussion. Other key institutional failures across many empirical projects reviewed included tenurial complexities and insecurities; lack of defined benefit sharing and conflict resolution structures/arrangements. These institutional issues especially tenure clarity and tenure security, feature prominently in the policy level discourse as key elements that need to be present for a successful REDD+. What we see however is that this does not correspond to practice. Establishing these essential elements to facilitate this new environmental technology is political, complex, volatile, costly and time-consuming.

The major actors of Ghana's national REDD+ policy level include the government, CSOs/NGOs, private sector (timber merchants and carbon traders), and traditional authority. The national policy level is the first stage of localising REDD+ from the international UNFCCC level to fit within the context of Ghana. REDD+ governmental technologies were developed through formal multi-stakeholder platforms and working committees. Such consultation and participation approaches are largely based on a stakeholder representation approach, which comes with its own equity challenges such as knowledge asymmetry.

Documents developed under the Ghana REDD+ process by the government of Ghana show clear intent to institute an equitable national REDD+ programme. In practice however, there are some existing pre-REDD+ policies and laws that do not

promote equity in the natural resource sector. The REDD+ process has failed to reform existing policies that are weak in promoting equity in forest and natural resources. Ghana's colonial legacy has discernible traces that set the context within which natural resource politics operate and therefore dictates the outcomes of procedural and distributive equity. Existing contextual inequities are negatively impacting the achievement of procedural and distributive equity. In achieving equity in knowledge mediation, decision-making, benefit sharing, risks and cost allocation, the context (conventions, existing laws and policies) within which REDD+ operates must be deeply analysed with the aim to facilitate informed decision-making and policy reform and formulation towards a level playing field.

Though the Ghana Forestry Commission as the state mandated forestry authority is the key mediator of REDD+ in the country, there is an increasing role of non-state actors in both formal and informal capacities on the politics surrounding REDD+ localisation. NGOs as external actors, at least in the case of IUCN, have been key at the national policy formulation level, technical and strategy design level, and local implementation level. State and non-state actor relationships are requisite in REDD+ politics, as the latter tend to have resources that help bridge capacity gaps and co-produce ideas/knowledge that plug policy gaps. In dealing with the required knowledge production under REDD+, there is a higher reliance on consultants or experts in the Ghana REDD+ programme than was previously the case under the traditional forest management regime. The expertise of the various consultants vary and, in the worst cases, have failed to deliver the expected outputs which has delayed the localisation of the already crawling REDD+ process vis-à-vis the urgent action needed in addressing climate change.

The state has pursued efforts to improve the governance of REDD+ by forming and using multi-stakeholder committees and platforms, pursuing some form of consultative approaches, and rendering REDD+ visible and relatable as a governmental strategy, by rolling out initiatives such as the REDD+ Roadshow (national REDD+ awareness campaign); the REDDeye (attracting youth interest in REDD+); and REDD+ Digest (frequent REDD+ publications for interested citizens) (see Chapter 6). All of which were clear attempts to strengthen the legitimacy of the state's localisation of the REDD+ programme nationwide.

New actors, especially from CSO and private sector actor groups, have entered the REDD+ process at the national level. This introduces representation of added (sometimes new) interests and changes the dynamics of the power relations existing among “older” participating stakeholders. Also, new power relationships are created between the existing stakeholders and new actors that join the process. Power in Ghana’s REDD+ process varies from unjust and negative (e.g. the state withholding information) to positive and enabling (e.g. CSOs training FC officials on aspects of REDD+). In influencing REDD+ policy, the level of information and knowledge stakeholders possess, and their capacity to access, produce, understand, and provide information also determines how much agency they assert (Brockhaus and Angelsen, 2012). REDD+ knowledge exchange occurs between certain key actors in the actor groups. While most CSOs engage in knowledge exchange with the FC, there is limited exchange with the state agricultural sector. There is also limited engagement between CSOs and the private sector and this limits the exchange of ideas between these two interest groups.

Ghana’s national discourse, actions and strategies frame REDD+ as a mechanism to secure the economic growth of the country through improved cocoa cultivation practices that contribute to the reduction of the country’s forest based emissions. This is hoped to contribute to emission reduction, improve national cocoa yield and lead to the attainment of sustainable poverty reduction. The national REDD+ readiness preparation plan and strategy promotes the use of CREMA for REDD+, which is what IUCN is practicing with the farmers in Kamaso and Attobrakrom. CREMA is a collaborative approach, which allows for collective action for the implementation of REDD+. In the local forest communities, IUCN is building awareness and capacity, and embarking on implementation activities including providing tree seedlings for planting and developing local governance structures (i.e. CREMA). However, there are challenges with CREMA, which affects the localisation of REDD+ as shown in Chapter 7, including elite control by some CREMA executives.

Localising REDD+ at the national level centres around the state’s requisite concerns for building figures, maps and data on forest cover and carbon and

putting in place monitoring, reporting and verification systems. However, at the implementation sites studied, these figures, maps and data do not feature in shaping local community governance of self but rather REDD+ acts as a frame that allows people to seek material well-being by understanding how improved forest cover enhances their cocoa livelihood. It is not clear the extent to which data, maps and figures could, in future, be used to shape the relationship between rural people and their forests, as the government embarks on its jurisdictional REDD+ implementation.

IUCN's introduction of REDD+ to communities strengthened and expanded knowledge of rural people, which empowered their engagement in rural forest politics and management. Based on the REDD+ project, farmers understand and appreciate the need for forest integrity, however the specifics of REDD+ technology such as carbon permanence and additionality are poorly understood within the objective of REDD+. Farmers envisage REDD+ fundamentally as tree planting and forest protection activities that improve their cocoa livelihoods and increase their incomes. Reference to REDD+ in the local parlance translates as "tree planting". The understanding of how forests and improved tree cover enhance the health and yield of cocoa for increased income is the entry point for shaping these communities. REDD+ has therefore taken on an agro-forestry strategy in these cocoa-growing communities, which aligns with FC's REDD+ localisation strategy of promoting tree growth in cocoa landscapes.

The participation and rate of engagement with the REDD+ process has influenced how people have come to care about the environment. The community representatives who were most engaged in REDD+ meetings and interacted with external facilitators have taken on a new form of expert subjectivity. Although farmers who are not as engaged with policy and technical level actors do not express expert subjectivities, a rise in care for the environment is apparent. Community dwellers report illegalities, have reduced destruction of forests and disturbance of their environment, and are planting trees on farms. With the new knowledge, local communities have become powerful and able to challenge timber merchants who come to their farms to fell trees. Farmers have also started to demand their rights to compensatory payments from the felling of trees by private

businesses.

The knowledge provided by the REDD+ process and daily practice is not the only reason people have come to care about the environment. Cultural connections, values and emotions feature in the uptake of REDD+ as an environmental technology. Bringing new knowledge, particular narratives and institutions, REDD+ is used to influence beliefs and build and sustain certain practices among the local cocoa-forest communities. However, there are farmers who do not care for REDD+ for several reasons including fear of exclusion by the state through the issuance of permits to timber merchants to fell trees that farmers plant, insecure tree tenure and the financial, labour and time cost elements attached to engaging in REDD+.

Even though there is a production of self-governance that shape rural farmers' thoughts and activities, including their surveillance and reporting of illegalities that hamper forests, there are real challenges to REDD+ of knowledge ambiguity at the community level. Farmers have different understandings of REDD+, with some hoping to cut down trees for sale or use upon maturity. These misconceptions are a risk to the permanence and additionality of carbon. In localising REDD+, there are potential trade-offs that exist between the global objective of reducing emissions from forests and local farmers' priorities.

10.3 Theoretical contributions

This thesis adopted case study as an approach to analysing the way REDD+ is panning out in the specific context of cocoa-forest communities in Ghana. The thesis represents the first attempt employing the REDD+ localisation analysis framework as a lens to analyse REDD+ in Ghana. REDD+ localisation analysis is based on the amalgamation of concepts drawn up from empiricism, unlike other frameworks. The REDD+ localisation analysis framework is a way to understand the connection that REDD+ knowledge/power and mediating institutions have with subjectivity, which is how people think and act in relation to the environment. The thesis explored how subjective dimensions play out, condition and are

conditioned by local community experiences including dealing with states and/or external intervening organisations.

Having recognised the absence of an analytical framework that navigates the localisation of REDD+ from the international level, the thesis has provided arguments for this. The theoretical framework presented in chapter 3 of the thesis presents a logical analysis of the localisation of REDD+ at the policy level through to the implementation level and how cross-sectoral and multi-institutional dynamics play out.

First it proposes a conceptual framework that links formal and informal collective action institutions that mediate REDD+ to the framework on equity to show how procedural, distributive and contextual aspects of REDD+ play out in localising REDD+. Context is critical in advancing the understanding of the framework. A core part of this thesis is its investigation of REDD+ cocoa-carbon, which is new and more dynamic than the usual REDD+ forest carbon approach. A difference in context is that the case study was of farmers who held individual ownership of their land, although it still belonged to the traditional area of the kingship that ruled over them. We see therefore that the landscape is different from typical REDD+ examples of state land or communally owned lands, which makes the entry point different. It is novel therefore to have identified that the reality on the ground is messy by having applied the REDD+ localisation analysis framework to a different tenurial arrangement context set around an economic commodity.

The theoretical framework explicitly attempts to assess if farmers at the local community are caring about REDD+ and what makes them care. Its investigation shows that creating subjects of REDD+ needs more than regular participation to considering the affect that culture, motivation and values play in the lives of the farmers. The governed build experience by participating, which leads to a change in beliefs and ideas, followed by a change in actions. However, we have learnt that there are nuances in how and why people become subjects, and there are also gaps in subjectivity as treated under Agrawal's (2005) environmentality in terms of the local contextual aspects linked to emotion, cultural connection, and values, which go beyond the kind of institutional framework and knowledge framework currently dominant in assessing subjectivity (see Agrawal, 2005a; Boyd et al.,

2014). A host of people engage in REDD+ even though they are not members of the CREMA, and others are merely members by registration with no active engagement in meetings. These people, together with active CREMA members all mentioned emotions, values and cultural connections as reasons for caring about the environment. Our case study has therefore shown that care for REDD+ is not linked solely to participation in environmental decision-making.

The study examines the localisation of REDD+ by pushing Agrawal's (2005) work on how subjectivity arises out of participation to making a case that subjectivity also arises from emotion, place, cultural connection and values. The subjectivity aspect of REDD+ localisation analysis framework allows the treatment of subjectivity to be localised in its approach. Adopting REDD+ localisation analysis in order to investigate problems, provides a conditioned and nuanced approach, which fosters a look into the politics of the case and considers the cultural and human development perspective. The buy-in may continue in the longer term, because REDD+ facilitators have tapped into something that has meaning for the people. Maybe not all REDD+ and carbon forest examples at community level are about polarised resistance and struggles against neoliberalism (see Corson, 2011; Taylor and Zabin, 2000; Scheba and Scheba, 2017)

10.4 Empirical contributions

This thesis makes an important contribution to REDD+ scholarship by showing how various actors understand and respond to REDD+ in different ways. The mediation of REDD+ is a painstakingly slow and messy process that requires finance, capacity and appropriate technology to advance the various components that come together to create enabling environments. In the earlier days of the Ghana process, REDD+ as a governmental technology for the environment was discussed and shaped purely from a carbon perspective. Over the years, as indicated in this thesis, REDD+ has come to be about more than just carbon to progressively include livelihoods such as cocoa farming. The local community fieldwork provides evidence that the entry point to REDD+ for many local dwellers is linked to their economic survival, social progression and cultural continuity.

Therefore such new environmental regimes that have to deal with local community dwellers must encompass other aspects essential to the specific context of the people. Evidence shows that finding a fine balance that caters for emission reductions, livelihoods and biodiversity is complex. Focus on one aspect more than another is at the detriment of the latter. Literature reviewed in this thesis showed that carbon-centered REDD+ are detrimental to community livelihoods and well-being whereas this study has added unto the debate to show that focus on livelihoods also places the REDD+ objective of carbon sequestration in jeopardy.

At the level of global environmental governance, this thesis propels the realities of REDD+ implementation to the forefront of global insight. The findings add weight to calls for improved governance and equity concerns that have been expressed about REDD+. It shows that governance issues such as tenure, benefit sharing, and multi-stakeholder and multi-institutional input complicate the implementation of REDD+, meaning it is not as simple or cost-effective as it has been hailed in negotiations.

Even though this thesis has shown that there is willingness on the part of people to change behaviour, the evidence suggests that there is still fragmentation in the way that land use or cocoa farming is thought about in a larger context, and this risks undermining the REDD+ policy mechanism. Though jurisdictional approach for REDD+ as per its character must include policy integration of other land use types, towards a sort of sustainable land use, this is not the case on the ground in Ghana.

10.5 Contributions to policy

This thesis has acknowledged the shortfall in policy of clarified tenure and tenure security across the various cases studied in literature and via empirical work in Ghana. Countries successful implementation of REDD+ requires policies that disentangle the current messy tenurial arrangements to one of clearly defined and secured tenure. Farmers and forest communities are more likely to adopt and

support the implementation of a REDD+ programme that does not threaten their control, use and enjoyment of benefits from the land resource. This thesis adds to the myriad of global literature on the essential role that tenure plays in the REDD+ process. The Government of Ghana should clarify and secure farmers rights to trees that they plant. This will include a referendum for the repeal of the laws in the 1992 constitution that vest naturally recurring trees in the state. Farmers are more likely to expend resources, time and energy in tending naturally regenerating trees if they have the rights and feel secured as the beneficiaries of any payments that may accrue for carbon emissions sequestered and avoided.

Because the analysis of REDD+ in this thesis is carried out at the national other than the international level, the findings are relevant to policy-making of other countries particularly those that share similar characteristics to the case of Ghana. Countries that seek to localise REDD+ through a jurisdictional approach; using an economic commodity like cocoa-carbon forests will all benefit from the insight that the thesis provides concerning how support for livelihoods are key to the REDD+ programme. As Ghana moves to establish REDD+ in Shea growing landscapes in northern Ghana, the conditions of the areas to be used must be featured in policy considerations. In achieving emissions through REDD+ at the sub-national level under the Ghana Nationally Determined Contributions (NDCs), REDD+ must be localised across the varying contexts of the different ecological zones of Ghana. For instance, the localisation of REDD+ in the south-western region of Ghana which revolves around Cocoa needs different approach to the second REDD+ programme targeted for the north of Ghana which will revolve around Shea. The land use types that exist in connection to each designated landscape require integrated policies that target the variant drivers of deforestation and degradation towards achieving sustainable land use practices under REDD+.

Even though tackling the drivers of deforestation at the implementation stage is key and taking cognizance of the livelihoods in the specific implementation areas, this thesis has shown that a balanced knowledge of REDD+ among the key stakeholders at national level requires deliberate attention to ensure that inequities are reduced and not deepened. This means that policies that back

stakeholder participation and supports institutionalisation of participation are essential for the legitimacy of REDD+. Minimum requirements for participation should be spelt out in policies to ensure that all stakeholders and interested citizens have a basis to measure participation in REDD+.

Policies localising REDD+ must incorporate the understanding of how culture, connections and emotions of people play in the acceptance and implementation of REDD+. What matters to a people as Ghanaians must feature in policy designs of REDD+. For instance, for cocoa growing landscapes in Ghana, structuring a benefit sharing approach should capture some benefits for future generations like enacting a policy that sets up an endowment or heritage fund for those landscapes engaged in REDD+.

10.6 Future research avenues

There is uncertainty and complexity around human-ecological interactions vis-à-vis REDD+ objectives, strategies and priorities as most countries transition from the REDD+ readiness phase to actual project implementation in order to generate finance from carbon. As exploratory research, this study has opened new research areas of REDD+ that would benefit from further study. Even though the findings of this thesis show a rising duty of care for the environment on the part of the people of Attobrakrom and Kamaso, a study of how these new subjectivities hold up in some years is an avenue for research. Such a study would benefit from an extensive temporal approach. A longitudinal study would provide richer data to deepen the understanding of how long the new subjectivities hold up, or how quickly they disappear, and why.

It has already been established that this thesis examines the early stages of the REDD+ roll out on the ground, without the benefit of exploring well-established REDD+ projects. The relationships between people and REDD+ may change as countries move from the readiness stage to actual projects that pay for carbon. Such complete REDD+ implementation would involve new and different

technologies of government such as an increased role for carbon maps, figures and statistics. New technologies of government would likely lead to different human-nature relationships and subjectivities which may include more pronounced resistance.

With an increasing role for consultants in modern environmental governance regimes, there is also a need to determine how consultants and consultancies differ in their impact on environmental governance technologies such as REDD+, in contrast to government led processes, especially where such experts are external to the country and communities to which they apply their expert knowledge.

10.7 Concluding remarks

This thesis has been concerned with the localisation of internationally conceived mechanisms such as REDD+ that seek to reduce emissions of greenhouse gases. In examining how REDD+ is being governed, the processes involved in making it materialise and the associated impacts arising out of its implementation, the thesis adopted a REDD+ localisation analysis framework. The framework is a pool of concepts drawn from Ostrom's (1990) Common Property Resource institutions, McDermott et al's (2013) equity framework and Agrawal's (2005) environmentality to trace how institutions and actors influence REDD+ and each other, what the relationship means for procedural, distributive and contextual elements of equity and how REDD+ subjects are thus formed. The REDD+ localisation analysis framework has been used to show REDD+ to be a new form of power and knowledge that has the potential to reshape cocoa forest communities in Ghana.

REDD+ has gone through different stages in Ghana as different conceptualisations emerged over time. Starting from a more carbon-centered approach (i.e. REDD+ solely as carbon mitigation approach), REDD+ in Ghana is now designed to be a jurisdictional/landscape centered approach where other land uses are integrated into REDD+ activities (Turnhout et al, 2016). The FC is actively pursuing a REDD+ cocoa-carbon forest programme in the southern part of Ghana and commencing a

REDD+ Shea landscape programme in the north of Ghana. Fashioning REDD+ around the major land uses in the different Ghana landscapes is a key step to the country's means of localising a collective action strategy such as REDD+ that was conceived at the international level. This research has shown that translating global governance mechanisms into national and sub-national governance processes is not as simple as international discourse portrays. Much more complex factors are in play in localising REDD+ for its successful implementation whether the mechanism becomes "a patchwork of projects and practices with different foci and financing mechanisms" as suggested by Turnhout et al. (2016:1) or as sub-national REDD+ approaches as anticipated by Weatherly-Singh and Gupta (2017).

Localising REDD+ to achieve emission reductions towards keeping temperatures below a 2 degrees Celsius rise, including achieving other co-benefits across a mosaic of land uses has become important than ever because of the importance given to the mechanism in what has come to be known as the Paris Agreement signed at COP 21 in 2015. In preparing REDD+ strategies, countries must exercise context specific variation in localising REDD+. This is because historical contextual institutions and new institutions impact REDD+ in achieving equitable processes and outcomes. Mediating REDD+ involves multiple actors and multiple institutions that span various vertical and horizontal scales. REDD+ is relatively organised at the national level of management but messy, especially with respect to knowledge disparities, insecure tenure, elite control and costs (financial, time and labour) at the local community level where implementation occurs.

REDD+ materialises based on its framing and interpretation on the ground as identified in this study and supported by Weatherly-Singh and Gupta (2017) in their Madagascan study on REDD+ that showed considerable attention has been paid to establishing baselines, monitoring and other technicalities of REDD+. It is captured in this thesis that livelihoods (i.e. cocoa cultivation) are shaping the management of forests and tree cover on local community land under REDD+. Through new environmental care practices for improving forest cover (tree planting, monitoring, reporting illegalities, etcetera), farmers are transforming their natural landscapes, livelihoods and individual and collective subjectivities.

REDD+ has contributed to improving human-environment relationships, in the direction of possible sustainable futures. One challenge is the potential instability of these subjectivities, depending on how farmers encounter REDD+ in the future. If their expectations are not met, there is a risk to the sustainability of REDD+. Farmers pursue actions that drive their individual gains and will continue to do so under REDD+.

REDD+ localisation analysis framework has shown that despite the subjectivities formed, there are complexities and nuances in the understandings of REDD+ at the implementation level, which have implications for sustainability of forest resources and poverty reduction. Local people's understanding of REDD+ does not reflect broader win-win objectives with respect to emission reduction, but rather how their livelihoods can be improved by planting trees and taking care of their environment. REDD+ governance requires radical overhauling in its strategy and approach to the mediation of knowledge from the national to the local level. Farmers should have full information about the carbon emission objectives of REDD+ and be involved meaningfully in the design of REDD+, rather than just the manual aspects of implementation. In as much as the REDD+ process may be expert driven due to MRV requirements, reference emission levels and the like, localising REDD+ to the extent of farmers and local communities caring about REDD+ implementation for collective action, requires local community engagement to promote knowledge/power balances, values, emotions and connections.

REFERENCES

Abbey, P., Tomlinson, P. R., & Branston, J. R. (2016). Perceptions of governance and social capital in Ghana's cocoa industry. *Journal of Rural Studies*, 44, 153–163. <http://doi.org/10.1016/j.jrurstud.2016.01.015>

Acciaioli, G. (2006). Environmentality reconsidered: Indigenous to Lindu conservation strategies and the reclaiming of the commons in Central Sulawesi, Indonesia.

ActionAid. (2006). *Climate change, urban flooding and the rights of the urban poor in Africa: Key findings from six African cities*. London. Retrieved from <http://www.actionaid.org/publications/climate-change-urban-flooding-and-rights-urban-poor-africa>

Acutt, N., Ali, A., Boyd, E., Hartmann, A., Kim, J. A., Lorenzoni, I., ... Winkels, A. (2000). *An interdisciplinary framework for research on global environmental issues*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.509.8301&rep=rep1&type=pdf>

Adger, W. N., Barnett, J., Brown, K., Marshall, N., & Brien, K. O. (2013). Cultural dimensions of climate change impacts and adaptation. *Nature Climate Change*, 3, 4811. <http://doi.org/10.1038/NCLIMATE1666>

Adger, W. N. (2001). Scales of governance and environmental justice for adaptation and mitigation of climate change. *Journal of International Development*, 13, 921–931. <http://doi.org/10.1002/jid.833>

Adger, W. N., Brown, K., Fairbrass, J., Jordan, A., Paavola, J., Rosendo, S., & Seyfang, G. (2003). Governance for sustainability: towards a “thick” analysis of environmental decision making. *Environment and Planning A*, 35, 1095–1110. <http://doi.org/10.1068/a35289>

Adger, W. N., Brown, K., & Tompkins, E. L. (2006). The political economy of cross-scale networks in resource co-management. *Ecology and Society*, 10(2). Retrieved from <http://www.ecologyandsociety.org/vol10/iss2/art9/>

Adger, W. N., Huq, S., Brown, K., Conway, D., & Hulme, M. (2003). Adaptation to climate change in the developing world. *Progress in Development Studies*, 3(3), 179–195. <http://doi.org/10.1191/1464993403ps060oa>

Afrifa, A. B., Sarfo, D. A., Ghartey, K. K. F., & Ameludze, Nelson, M. (2013). Assessment of star rating species at Mamiri forest reserve in Ghana. *Agricultural Science Research Journal*, 3(February), 62–66.

References

Agar, M. H. (1996). *The professional stranger: An informal introduction to ethnography* (2nd ed.). San Diego: Academic Press.

Agidee, Y. (2011). *Forest carbon in Ghana: Spotlight on Community Resource Management Areas. Katoomba Group's legal initiative country study series.* Washington D.C.

Agrawal, A. (2002). Common resources and institutional sustainability. In E. Ostrom, T. Dietz, N. Dolsak, P. C. Stern, S. Stovich, & E. U. Weber (Eds.), *The drama of the commons* (pp. 41–85). Washington D.C: National Academy Press.

Agrawal, A. (2005a). *Environmentality: Technologies of Government and the Making of Subjects*. Durham and London: Duke University Press.

Agrawal, A. (2001). Common property institutions and sustainable governance of resources. *World Development*, 29(10), 1649–1672.

Agrawal, A. (2005b). Environmentality: Community, intimate government, and the making of environmental subjects in Kumaon, India. *Current Anthropology*, 46(2), 161–190.

Agrawal, A. (2000). Small is beautiful, but is larger better? Forest management institutions in the Kumaon Himalaya, India. In *People and forests - Communities, institutions and governance* (pp. 57–86).

Agrawal, A., & Angelsen, A. (2009). Using Community forest management to achieve REDD+ goals. In A. Angelsen, M. Brockhaus, M. Kanninen, E. Sills, W. D. Sunderlin, & S. Wertz-kanounnikoff (Eds.), *Realising REDD: National strategy and policy options* (pp. 201–212). Bogor: CIFOR.

Agrawal, A., & Gibson, C. C. (1999). Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation. *World Development*, 27(4), 629–649. [http://doi.org/10.1016/S0305-750X\(98\)00161-2](http://doi.org/10.1016/S0305-750X(98)00161-2)

Agrawal, A., & Lemos, M. C. (2007). A Greener revolution in the making?: Environmental governance in the 21st century. *Environment: Science and Policy for Sustainable Development*, 49(5), 36–45. <http://doi.org/10.3200/ENVT.49.5.36-45>

Agrawal, A., Lemos, M. C., Orlove, B., & Ribot, J. (2012). Cool heads for a hot world – Social sciences under a changing sky. *Global Environmental Change*, 22(2), 329–331. <http://doi.org/10.1016/j.gloenvcha.2012.02.003>

Agrawal, A., Nepstad, D., & Chhatre, A. (2011). Reducing emissions from deforestation and forest degradation. *Annual Review of Environment and Resources*, 36, 373–396. <http://doi.org/10.1146/annurev-environ-042009-094508>

Agrawal, A., & Perrin, N. (2008). *Climate Adaptation, local institutions, and rural livelihoods* (No. W081-6).

References

Agrawal, A., & Ribot, J. (1999). Accountability in decentralization: A framework with South Asian and West African cases. *The Journal of Developing Areas*, 33(4), 473–502. <http://doi.org/http://www.jstor.org/stable/4192885>

Agyei, K. (2012). Ghana's land tenure and benefit sharing approaches and their implications for forest fringe communities under the REDD+ scheme. In *35th AFSAAP Annual Conference Proceedings* (pp. 1–24).

Allen, J. C., & Barnest, D. F. (1985). The Causes of deforestation in developing countries. *Annals of the Association of American Geographers*, 75(2), 163–184.

Allison, E. H., Perry, A. L., Badjeck, M., Adger, W. N., Brown, K., Conway, D., ... Dulvy, N. K. (2009). Vulnerability of national economies to the impacts of climate change on fisheries. *Fish and Fisheries*, 10, 173–196. <http://doi.org/10.1111/j.1467-2979.2008.00310.x>

Alvesson, M., & Ashcraft, K. L. (2012). Interviews. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 239–257). London: Sage Publications.

Ameyaw, J., Arts, B., & Wals, A. (2016). Challenges to responsible forest governance in Ghana and its implications for professional education. *Forest Policy and Economics*, 62, 78–87. <http://doi.org/10.1016/j.forpol.2015.07.011>

Andersen, L. E., Granger, C. W., Reis, E. J., Weinhold, D., & Wunder, S. (2002). *The dynamics of deforestation and economic growth in the Brazilian Amazon* (1st ed.). New York: Cambridge University Press.

Anderson, K. (2012). The inconvenient truth of carbon offsets. *Nature*, 484, 7.

Anderson, K., & Bows, A. (2011). Beyond "dangerous" climate change: emission scenarios for a new world. *Philosophical Transactions of the Royal Society A*, 369, 20–44. <http://doi.org/10.1098/rsta.2010.0290>

Andersson, K., Paul, J., & Leo, R. (2013). Institutional diversity and local forest governance. *Environmental Science and Policy*, 6. <http://doi.org/10.1016/j.envsci.2013.07.009>

Angelsen, A. (2009). *Realising REDD+: National Strategy and Policy Options*. Bogor: CIFOR.

Angelsen, A., Brockhaus, M., Sunderlin, W. D., & Verchot, L. V. (2012). *Analysing REDD+: challenges and choices*.

Apriwan, S., & Afriani, A. (2015). Local readiness towards REDD+ UNFCCC scheme (Study in Province of West Sumatera Indonesia). *Procedia Environmental Sciences*, 28, 649–656. <http://doi.org/10.1016/j.proenv.2015.07.076>

Arhin, A. A. (2015). Halting deforestation to advance sustainable development: Progress, prospects and challenges of REDD+ Readiness in Ghana. In D. Reyes

References

(Ed.), *Sustainable Development: Processes, Challenges and Prospects*. Nova Publishers. <http://doi.org/10.13140/RG.2.1.2615.6566>

Aquino, A., & Guay, B. (2013). Implementing REDD+ in the Democratic Republic of Congo: An analysis of the emerging national REDD+ governance structure. *Forest Policy and Economics*, 36, 71–79. <http://doi.org/10.1016/j.forpol.2013.04.003>

Asare, R. A., Kyei, A., & Mason, J. J. (2013). The community resource management area mechanism: a strategy to manage African forest resources for REDD+. *Philosophical Transactions of the Royal Society B*, 368. <http://doi.org/http://dx.doi.org/10.1098/rstb.2012.0311>

Asare, R. A., & Kwakye, Y. (2013). *A Guide to implementing REDD+ in Ghana: Criteria and modalities for developing a REDD + project*. Accra.

Asiyanbi, A. P. (2016). A political ecology of REDD +: Property rights, militarised protectionism, and carbonised exclusion in Cross River. *Geoforum*, 77, 146–156. <http://doi.org/10.1016/j.geoforum.2016.10.016>

Asiyanbi, A. P., Arhin, A. A., & Isyaku, U. (2017). REDD+ in West Africa: Politics of design and implementation in Ghana and Nigeria. *Forests*, 8(78). <http://doi.org/10.3390/f8030078>

Astuti, R. Y. (2016). *REDD+ governmentality: Governing Forest, Land, and Forest Peoples in Indonesia*. Victoria University of Wellington.

Astuti, R., & McGregor, A. (2015). Governing carbon, transforming forest politics: A case study of Indonesia's REDD+ Task Force. *Asia Pacific Viewpoint*, 56(1), 21–36. <http://doi.org/10.1111/apv.12087>

Atela, J. O., Minang, P. A., Quinn, C. H., & Duguma, L. A. (2015). Implementing REDD+ at the local level: Assessing the key enablers for credible mitigation and sustainable livelihood outcomes. *Journal of Environmental Management*, 157, 238–249. <http://doi.org/10.1016/j.jenvman.2015.04.015>

Atela, J. O., Quinn, C. H., Minang, P. A., Duguma, L. A., & Houdet, J. A. (2016). Implementing REDD + at the national level: Stakeholder engagement and policy coherences between REDD + rules and Kenya's sectoral policies. *Forest Policy and Economics*, 65, 37–46. <http://doi.org/10.1016/j.forpol.2016.01.003>

Aukland, L., Costa, P. M., & Brown, S. (2003). A conceptual framework and its application for addressing leakage: the case of avoided deforestation. *Climate Policy*, 3(2), 123–136. <http://doi.org/10.3763/cpol.2003.0316>

Awono, A., Somorin, O. a., Eba'a Atyi, R., & Levang, P. (2014). Tenure and participation in local REDD+ projects: Insights from southern Cameroon. *Environmental Science & Policy*, 35, 76–86. <http://doi.org/10.1016/j.envsci.2013.01.017>

References

Awung, N. S., & Marchant, R. (2016). Investigating the role of the local community as co-managers of the Mount Cameroon National Park conservation project. *Environments*, 36. <http://doi.org/10.3390/environments3040036>

Awuni, M. (2013). *Dilemmas of implementing Reducing Emissions from Deforestation and Forest Degradation (REDD+): Evidence from Ghana REDD+ pilots in Western Region, Ghana*. International Institute of Social Studies.

Aziz, A. A., Dargusch, P., Phinn, S., & Ward, A. (2015). Using REDD+ to balance timber production with conservation objectives in a mangrove forest in Malaysia. *Ecological Economics*, 120, 108–116. <http://doi.org/10.1016/j.ecolecon.2015.10.014>

Bäckstrand, K. (2004). Scientisation vs. civic expertise in environmental governance: Eco-feminist, eco-modern and post-modern responses. *Environmental Politics*, 13(4), 695–714. <http://doi.org/10.1080/0964401042000274322>

Backstrand, K., & Lovbrand, E. (2006). Planting trees to mitigate climate change: Contested discourses of ecological modernization, green governmentality and civic environmentalism. *Global Environmental Politics*, 6(1), 50–75. Retrieved from <https://muse.jhu.edu/article/194598>

Baland, J.-M., & Platteau, J.-P. (1996). *Halting degradation of natural resources: Is there a role for rural communities?* Rome: Food and Agricultural Organisation.

Banana, A. Y., & Gombya-Ssembajjwe, W. (2000). Successful forest management: the importance of security of tenure and rule enforcement in Ugandan forests. In *People and forests - Communities, institutions and governance* (pp. 87–98).

Bardhan, P., & Dayton-Johnson, J. (2002). Unequal Irrigators: Heterogeneity and commons management in large-scale multivariate research. In E. Ostrom, T. Dietz, N. Dolsak, P. C. Stern, S. Stovich, & E. U. Weber (Eds.), *The drama of the commons* (pp. 87–112). Cambridge: Massachusetts Institute of Technology.

Barnett, C. (2002). Publics and Markets; What's wrong with neoliberalism? In S. Smith, S. Marston, R. Pain, & J. P. I. Jones (Eds.), *The Handbook of Social Geography*. Milton Keynes.

Barr, C. M., & Sayer, J. a. (2012). The political economy of reforestation and forest restoration in Asia-Pacific: Critical issues for REDD+. *Biological Conservation*, 154, 9–19. <http://doi.org/10.1016/j.biocon.2012.03.020>

Baruah, M. (2013). *Privatization in guise of decentralization in a collaborative resource management initiative: A case of CREMAs from Ghana*. Columbia.

Bastakoti, R. R., & Davidsen, C. (2017). Framing REDD+ at national level: Actors and discourse around Nepal's policy debate. *Forests*, 8(57). <http://doi.org/10.3390/f8030057>

References

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report*, 13(4), 544–559. Retrieved from <http://nsuworks.nova.edu/tqr/vol13/iss4/2>

Bayrak, M. M., & Marafa, L. M. (2016). Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities. *Sustainability*, 8(620), 1–22. <http://doi.org/10.3390/su8070620>

Beg, N., Morlot, J. C., Davidson, O., Afrane-okesse, Y., Tyani, L., Denton, F., ... Rahman, A. A. (2002). Linkages between climate change and sustainable development. *Climate Policy*, 2(2–3), 129–144. <http://doi.org/10.3763/cpol.2002.021>

Benjaminsen, G. (2014). Between resistance and consent: Project–village relationships when introducing REDD+ in Zanzibar. *Forum for Development Studies*, 41(3), 377–398. <http://doi.org/10.1080/08039410.2014.961953>

Berkes, F. (2004). Rethinking Community-Based Conservation. *Conservation Biology*, 18(3), 621–630.

Berkes, F. (2002). Cross-scale institutional linkages: Perspectives from the bottom-up. In E. Ostrom, T. Dietz, N. Dolsak, P. C. Stern, S. Stonich, & E. U. Weber (Eds.), *The drama of the commons*. Washington D.C: National Academy Press.

Berkes, F. (2009). Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, 90(5), 1692–702. <http://doi.org/10.1016/j.jenvman.2008.12.001>

Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. *Ecological Applications*, 10(5), 1251–1262.

Bernard, F., Minang, P. a., Adkins, B., & Freund, J. T. (2014). REDD+ projects and national-level readiness processes: a case study from Kenya. *Climate Policy*, 14(6), 788–800. <http://doi.org/10.1080/14693062.2014.905440>

Besten, J. W. den, Arts, B., & Verkooijen, P. (2014). The evolution of REDD+: An analysis of discursive-institutional dynamics. *Environmental Science & Policy*, 35, 40–48. <http://doi.org/10.1016/j.envsci.2013.03.009>

Beymer-Farris, B. a., & Bassett, T. J. (2012). The REDD menace: Resurgent protectionism in Tanzania's mangrove forests. *Global Environmental Change*, 22(2), 332–341. <http://doi.org/10.1016/j.gloenvcha.2011.11.006>

Bixler, P. (2014). From community forest management to polycentric governance: Assessing evidence from the bottom up. *Society & Natural Resources: An International Journal*, 27, 155–169. <http://doi.org/10.1080/08941920.2013.840021>

References

Bizikova, L., Robinson, J., & Cohen, S. (2007). Linking climate change and sustainable development at the local level. *Climate Policy*, 7(4), 271–277. <http://doi.org/http://dx.doi.org/10.1080/14693062.2007.9685655>

Blaikie, P. (2006). Is small really beautiful? Community-based natural resource management in Malawi and Botswana. *World Development*, 34(11), 1942–1957. <http://doi.org/10.1016/j.worlddev.2005.11.023>

Blok, K., Höhne, N., Leun, K. Van Der, & Harrison, N. (2012). Bridging the greenhouse-gas emissions gap. *Nature Climate Change*, 2, 471–474. <http://doi.org/10.1038/nclimate1602>

Blom, B., Sunderland, T., & Murdiyarso, D. (2010). Getting REDD to work locally: lessons learned from integrated conservation and development projects. *Environmental Science and Policy*, 13, 164–172. <http://doi.org/10.1016/j.envsci.2010.01.002>

Bluffstone, R., Robinson, E., & Guthiga, P. (2013). REDD+ and community-controlled forests in low-income countries: Any hope for a linkage? *Ecological Economics*, 87, 43–52. <http://doi.org/10.1016/j.ecolecon.2012.12.004>

Bodin, Ö., & Crona, B. I. (2009). The role of social networks in natural resource governance: What relational patterns make a difference? *Global Environmental Change*, 19(3), 366–374. <http://doi.org/10.1016/j.gloenvcha.2009.05.002>

Boer, H. (2017). Welfare environmentality and REDD+ incentives in Indonesia. *Journal of Environmental Policy & Planning*. <http://doi.org/10.1080/1523908X.2017.1292872>

Bohm, S., Misoczky, M. C., & Moog, S. (2012). Greening capitalism? A marxist critique of carbon markets. *Organization Studies*, 33(11), 1617–1638. <http://doi.org/10.1177/0170840612463326>

Bolin, A., & Tassa, D. T. (2012). Exploring climate justice for forest communities engaging in REDD+: Experiences from Tanzania. *Forum for Development Studies*, 39(1). <http://doi.org/10.1080/08039410.2011.635380>

Boon, E., Ahenkan, A., & Baduon, B. N. (2009). An Assessment of forest resources policy and management in Ghana. In *Impact assessment and human well-being* (pp. 1–6). Accra. Retrieved from https://www.researchgate.net/profile/Albert_Ahenkan/publication/242209085_An_Assessment_of_Forest_Resources_Policy_and_Management_in_Ghana/links/549973780cf21eb3df60d1a4/An-Assessment-of-Forest-Resources-Policy-and-Management-in-Ghana.pdf

Boucher, D., Elias, P., Faires, J., & Smith, S. (2014). *Deforestation success stories: Tropical nations where forest protection and reforestation policies have worked* (Vol. 8). Cambridge.

References

Boyd, E. (2009). Governing the Clean Development Mechanism: global rhetoric versus local realities in carbon sequestration projects. *Environment and Planning A*, 41, 2380–2395. <http://doi.org/10.1068/a41341>

Boyd, E., Ensor, J., Broto, V. C., & Juhola, S. (2014). Environmentalities of urban climate governance in Maputo, Mozambique. *Global Environmental Change*, 26, 140–151. <http://doi.org/10.1016/j.gloenvcha.2014.03.012>

Boyd, E., & Folke, C. (2012). *Adapting Institutions: Governance, complexity and social-ecological resilience*. Cambridge University Press.

Boyd, E., & Goodman, M. K. (2011). The Clean Development Mechanism as ethical development?: Reconciling emissions trading and local development. *Journal of International Development*, 23, 836–854. <http://doi.org/10.1002/jid>

Boyd, E., Gutierrez, M., & Chang, M. (2007). Small-scale forest carbon projects: Adapting CDM to low-income communities. *Global Environmental Change*, 17, 250–259. <http://doi.org/10.1016/j.gloenvcha.2006.10.001>

Boyd, E., May, P., Chang, M., & Veiga, F. C. (2007). Exploring socioeconomic impacts of forest based mitigation projects: Lessons from Brazil and Bolivia. *Environmental Science and Policy*, 10, 419–433. <http://doi.org/10.1016/j.envsci.2007.03.004>

Bradshaw, M., & Stratford, E. (2010). Qualitative research design and rigour. In I. Hay (Ed.), *Qualitative research methods in human geography* (3rd ed., pp. 69–80). Don Mills: Oxford University Press.

Broadhead, R. S., & Rist, R. C. (1976). Gatekeepers and the social control of social research. *Society for Study of Social Problems*, 23(3), 325–336.

Brockhaus, M., & Angelsen, A. (2012). Analysing REDD +: Challenges and choices. In A. Angelsen, M. Brockhaus, W. D. Sunderlin, & L. V Verchot (Eds.), *Analysing REDD+: Challenges and choices*. Bogor: CIFOR.

Brockhaus, M., Gregorio, M. Di, & Carmenta, R. (2014). REDD + policy networks: exploring actors and power structures in an emerging policy domain. *Ecology and Society*, 19(2). <http://doi.org/http://dx.doi.org/10.5751/ES-07098-190429>

Brockhaus, M., Gregorio, M. Di, & Mardiah, S. (2014). Governing the design of national REDD+: An analysis of the power of agency. *Forest*, 49, 23–33. <http://doi.org/10.1016/j.forpol.2013.07.003>

Brockhaus, M., Korhonen-kurki, K., Sehring, J., Gregorio, M. Di, Assembe-mvondo, S., Babon, A., ... Zida, M. (2016). REDD+, transformational change and the promise of performance-based payments: a qualitative comparative analysis. *Climate Policy*, 1–23. <http://doi.org/10.1080/14693062.2016.1169392>

References

Broegaard, R. B., Vongvisouk, T., & Mertz, O. (2017). Contradictory land use plans and policies in Laos : Tenure security and the threat of exclusion. *World Development*, 89(265286), 170–183.
<http://doi.org/10.1016/j.worlddev.2016.08.008>

Brown, D. S., Brown, J. C., & Brown, C. (2016). Land occupations and deforestation in the Brazilian Amazon. *Land Use Policy*, 54, 331–338.
<http://doi.org/10.1016/j.landusepol.2016.02.003>

Brown, D., Malla, Y., Schreckenberg, K., & Springate-baginski, O. (2002). From supervising “subjects” to supporting “citizens”: recent developments in community forestry in Asia and Africa. *Natural Resource Perspectives*, (75).

Brown, D., Seymour, F., & Peskett, L. (2008). How do we achieve REDD co-benefits and avoid doing harm? In A. Angelsen (Ed.), *Moving ahead with REDD: Issues, options and implications* (pp. 107–118). Bogor: CIFOR.

Brown, H. C. P., & Sonwa, D. J. (2015). Rural local institutions and climate change adaptation in forest communities in Cameroon. *Ecology and Society*, 20(2).
<http://doi.org/http://dx.doi.org/10.5751/ES-07327-200206>

Brown, H. C. P., Smit, B., Sonwa, D. J., Somorin, O. A., & Nkem, J. (2011). Institutional perceptions of opportunities and challenges of REDD+ in the Congo Basin. *The Journal of Environment & Development*, 20(4), 381–404.
<http://doi.org/doi/10.1177/1070496511426480>

Brown, K., Adger, W. N., Boyd, E., Corbera-elizalde, E., & Shackley, S. (2004). *How do CDM projects contribute to sustainable development?*

Brown, K., & Corbera, E. (2003). Exploring equity and sustainable development in the new carbon economy. *Climate Policy*, 3(June 2014), S41–S56.
<http://doi.org/10.1016/j.clipol.2003.10.004>

Bryant, R. L. (1998). Power, knowledge and political ecology in the third world: a review. *Progress in Physical Geography*, 22(1), 79–94.
<http://doi.org/https://doi.org/10.1177/030913339802200104>

Bryant, R. L., & Sinead, B. (1997). *Third world political ecology*. London and New York: Routledge.

Bulkeley, H. (2005). Reconfiguring environmental governance: Towards a politics of scales and networks. *Political Geography*, 24, 875–902.
<http://doi.org/10.1016/j.polgeo.2005.07.002>

Bulley, D. (2013). Producing and governing community (Through) resilience. *Politics*, 33(4), 265–275. <http://doi.org/10.1111/1467-9256.12025>

Bumpus, A. (2009). *Carbon development: A political ecology analysis of carbon offset projects for local development and global climate benefit*. University of Oxford.

References

Bumpus, A. G., & Liverman, D. M. (2011). Carbon Colonialism? Offsets, greenhouse gas reductions, and sustainable development. In R. Peet, P. Robbins, & M. J. Watts (Eds.), *Global Political Ecology* (pp. 203–224). London and New York: Routledge.

Bumpus, A. G., & Liverman, D. M. (2008). Accumulation by decarbonization and the governance of carbon offsets. *Economic Geography*, 84(2), 127–156.

Burgess, N. D., Mwakalila, S., Munishi, P., Pfeifer, M., Willcock, S., Shirima, D., ... Marchant, R. (2013). REDD herrings or REDD menace: Response to Beymer-Farris and Bassett. *Global Environmental Change*, 23(5), 1349–1354. <http://doi.org/10.1016/j.gloenvcha.2013.05.013>

Cabello, J., & Gilbertson, T. (2012). A colonial mechanism to enclose lands: A critical review of two REDD+-focused special issues. *Ephemera*, 12, 162–180.

Cadman, T., Maraseni, T., Ma, H. O., & Lopez-casero, F. (2017). Five years of REDD+ governance: The use of market mechanisms as a response to anthropogenic climate change. *Forest Policy and Economics*, 79, 8–16. <http://doi.org/10.1016/j.forpol.2016.03.008>

Callon, M. (2009). Civilizing markets: Carbon trading between in vitro and in vivo experiments. *Accounting, Organizations and Society*, 34(3-4), 535–548. <http://doi.org/10.1016/j.aos.2008.04.003>

Cameron, J. (2005). Focussing on the focus group. In I. Hay (Ed.), *Qualitative research methods in human geography* (2nd ed.). Melbourne: Oxford University Press.

Caplow, S., Putri, A. A. D., & Kweka, D. L. (2014). Piloting REDD in Zanzibar through community forest management, Tanzania. In E. O. Sills, S. Atmadja, C. De Sassi, A. E. Duchelle, D. L. Kweka, I. A. P. Resosudarmo, & W. D. Sunderlin (Eds.), *REDD+ on the ground: A case book of sub-national initiatives across the globe* (pp. 234–244). Bogor: CIFOR.

Carney, D. (1999). Approaches to sustainable livelihoods for the rural poor. London: Overseas Development Institute. Retrieved from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3093.pdf>

Carson, D., Gilmore, A., Perry, C., & Gronhaug, K. (2001). *Qualitative marketing research* (1st ed.). London: Sage Publications.

Carvalho, A., & Burgess, J. (2005). Cultural circuits of climate change in U.K. broadsheet newspapers, 1985–2003. *Risk Analysis*, 25(6). <http://doi.org/10.1111/j.1539-6924.2005.00692.x>

Cash, D. W., Adger, W. N., Berkes, F., Garden, P., Lebel, L., & Olsson, P. (2006). Scale and Cross-Scale Dynamics : Governance and Information in a Multilevel World, 11(2).

References

Castree, N. (2010). Neoliberalism and the biophysical environment: What “Neoliberalism” is, and what difference nature makes to it. *Geography Compass*, 4(12), 1725–1733.

Castree, N. (2003). Commodifying what nature? *Progress in Human Geography*, 27(3), 273–297. <http://doi.org/10.1191/0309132503ph428oa>

Cavanagh, C. J., Vedeld, P. O., & Traedal, L. T. (2015). Securitizing REDD+? Problematizing the emerging illegal timber trade and forest carbon interface in East Africa. *Geoforum*, 60, 72–82. <http://doi.org/10.1016/j.geoforum.2015.01.011>

Ceppek, M. L. (2011). Foucault in the forest: Questioning environmentality in Amazonia. *American Ethnologist*, 38(3), 501–515. <http://doi.org/10.1111/j.1548-1425.2011.01319.x>

Cerbu, G. a., Sonwa, D. J., & Pokorny, B. (2013). Opportunities for and capacity barriers to the implementation of REDD+ projects with smallholder farmers: Case study of Awae and Akok, Centre and South Regions, Cameroon. *Forest Policy and Economics*, 36, 60–70. <http://doi.org/10.1016/j.forpol.2013.06.018>

Chan, K. M. A., Satter, T., & Goldstein, J. (2012). Rethinking ecosystem services to better address and navigate cultural values. *Ecological Economics*, 74, 8–18. <http://doi.org/10.1016/j.ecolecon.2011.11.011>

Cheng, A. S., Kruger, L. E., Daniels, S. E., Cheng, A. S., Kruger, L. E., Place, S. E. D., ... Daniels, S. E. (2015). “Place” as an integrating concept in natural resource politics: Propositions for a social science research agenda’. *Society & Natural Resources*, 16(2), 87–104. <http://doi.org/10.1080/08941920309199>

Chhatre, A., Lakhpal, S., Larson, A. M., Nelson, F., Ojha, H., & Rao, J. (2012). Social safeguards and co-benefits in REDD+: a review of the adjacent possible. *Current Opinion in Environmental Sustainability*, 4(6), 654–660. <http://doi.org/10.1016/j.cosust.2012.08.006>

Chomba, S., Kariuki, J., Friis, J., & Sinclair, F. (2016). Land Use Policy Roots of Inequity : how the implementation of REDD + reinforces past injustices, 50, 202–213.

Chomba, S., Kariuki, J., Lund, J. F., & Sinclair, F. (2016). Roots of inequity: How the implementation of REDD + reinforces past injustices. *Land Use Policy*, 50, 202–213.

CIA. (2016). The world factbook: Ghana. Retrieved October 27, 2016, from www.cia.gov/library/publications/the-world-factbook/geos/gh.html

CIFOR. (2012). Forests and climate change mitigation: What policymakers should know. Bogor: CIFOR. Retrieved from http://www.cifor.org/publications/pdf_files/factsheet/4060-factsheet.pdf

References

Clements, T. (2010). Reduced Expectations: the political and institutional challenges of REDD +. *Fauna and Flora International, Oryx*, 44(3), 737–738. <http://doi.org/10.1017/S0030605310000712>

Clyde, D., Ahmed, M., Siar, S. V., & Kanagaratnam, U. (2006). Cross-scale linkages and adaptive management :Fisheries co-management in Asia. *Marine Policy*, 30, 523–533. <http://doi.org/10.1016/j.marpol.2005.07.001>

Codjoe, F. N. Y., Ocansey, C. K., Boateng, D. O., & Ofori, J. (2013). Climate change awareness and coping strategies of cocoa farmers in rural Ghana. *Journal of Biology, Agriculture and Healthcare*, 3(11), 19–30.

Coe, R., & Stern, R. D. (2011). Assessing and addressing climate-induced risk in sub-saharan rainfed agriculture: Lessons learned. *Experimental Agriculture*, 47(2), 395–410. <http://doi.org/10.1017/S001447971100010X>

Cole, L. W., & Foster, S. R. (2001). *From the Ground Up: Environmental racism and the rise of the environmental justice movement*. New York: New York University Press.

Conradson, D. (2005). Focus groups. In R. Flowerdew & D. Martin (Eds.), *Methods in Human Geography: A guide for students doing research project* (2nd ed., pp. 128–143). Edinburgh: Pearson Education Limited.

Conway, G. (2008). *The science of climate change in Africa: Impacts and adaptation*. London. Retrieved from https://www.researchgate.net/publication/267305891_The_Science_of_Climate_Change_in_Africa_Impacts_and_Adaptation (Accessed 24/04/2017)

Cook, I., & Crang, M. (2007). *Doing ethnographies* (1st ed.). London: Sage Publications.

Cooper, R. N. (1998). Toward global warming a real treaty. *Foreign Affairs*, 77(2), 66–79.

Corbera, E. (2017). Redeeming REDD. Policies, incentives and social feasibility for avoided deforestation. *The Journal of Peasant Studies*, 44(2), 502–506. <http://doi.org/10.1017/S1356186315000486>

Corbera, E. (2012). Problematizing REDD+ as an experiment in payments for ecosystem services. *Current Opinion in Environmental Sustainability*, 4(6), 612–619. <http://doi.org/10.1016/j.cosust.2012.09.010>

Corbera, E., Estrada, M., & Brown, K. (2009). Reducing greenhouse gas emissions from deforestation and forest degradation in developing countries: revisiting the assumptions. *Climatic Change*. <http://doi.org/10.1007/s10584-009-9773-1>

References

Corbera, E., & Schroeder, H. (2011). Governing and implementing REDD+. *Environmental Science & Policy, 14*(2), 89–99. <http://doi.org/10.1016/j.envsci.2010.11.002>

Corson, C. (2017). Territorialization, enclosure and neoliberalism: non-state influence in struggles over Madagascar's forests. *The Journal of Peasant Studies, 38*(4), 703–726. <http://doi.org/10.1080/03066150.2011.607696>

Cotthem, W. Van. (2017). Deforestation: Positive and negative consequences (Technorati/Nandu Green). Retrieved from <https://desertification.wordpress.com/2008/05/19/deforestation-positive-and-negative-consequences-technorati-nandu-green/>

Cox, M., Arnold, G., & Villamayor, S. (2010). A Review of design principles for community-based natural resource management. *Ecology and Society, 15*(4), 28. <http://doi.org/38>

Crane, T. A. (2013). *The role of local institutions in adaptive processes to climate variability: The cases of southern Ethiopia and Southern Mali.*

Crona, B., & Bodin, Ö. (2012). Knowledge, social networks, and leadership: Setting the stage for the development of adaptive institutions? In E. Boyd & C. Folke (Eds.), *Adapting institutions: Governance, complexity and socio-ecological resilience* (pp. 11–36). Cambridge University Press.

Cumming, G. S., Cumming, D. H. M., & Redman, C. L. (2006). Scale mismatches in social-ecological systems: Causes, consequences, and solutions. *Ecology and Society, 11*(1).

Dale, V. H., Joyce, L. A., Mcnulty, S., & Neilson, R. P. (2000). The interplay between climate change, forests, and disturbances. *The Science of the Total Environment, 262*, 201–204.

Dallman, S., Ngo, M., Laris, P., & Thien, D. (2013). Political ecology of emotion and sacred space: The Winnemem Wintu struggles with California water policy. *Emotion, Space and Society, 6*, 33–43. <http://doi.org/10.1016/j.emospa.2011.10.006>

Damnyag, L., Saastamoinen, O., Blay, D., Dwomoh, F. K., Anglaaere, L. C. N., & Pappinen, A. (2013). Sustaining protected areas: Identifying and controlling deforestation and forest degradation drivers in the Ankasa Conservation Area, Ghana. *Biological Conservation, 165*, 86–94. <http://doi.org/10.1016/j.biocon.2013.05.024>

Dasgupta, A., & Baschieri, A. (2010). Vulnerability to climate change in rural Ghana: Mainstreaming climate change in poverty-reduction strategies. *Journal of International Development, 22*, 803–820. <http://doi.org/10.1002/jid>

Dawson, C. (2009). *Introduction to research methods: A practical guide for anyone undertaking a research project* (4th ed.). Oxford: How To Books Limited.

References

Delmas, M. A., & Young, O. R. (2009). *Governance for the environment: New perspectives*. New York: Cambridge University Press.
<http://doi.org/https://doi.org/10.1017/CBO9780511627170>

Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research* (Third Edit). California: Sage Publications.

Di Gregorio, M., Gallemore, C. T., Brockhaus, M., & Fatorelli, L. (2017). How institutions and beliefs affect environmental discourse: Evidence from an eight-country survey on REDD+. *Global Environmental Change*, 45(May), 133-150. <http://doi.org/10.1016/j.gloenvcha.2017.05.006>

Dickinson, K. L., Monaghan, A. J., Rivera, I. J., Hu, L., Kanyomse, E., Alirigia, R., ... Wiedinmyer, C. (2017). Changing weather and climate in Northern Ghana: comparison of local perceptions with meteorological and land cover data. *Regional Environmental Change*, 17, 915-928.
<http://doi.org/10.1007/s10113-016-1082-4>

Dietz, T., Ostrom, E., & Stern, P. C. (2003). The struggle to govern the commons. *Science*, 302(5652), 1907-12. <http://doi.org/10.1126/science.1091015>

Dimitrov, R. S. (2005). Hostage to norms: States, institutions and global forest politics. *Global Environmental Politics*, 5(4), 1-25.

Dimitrov, R. s. (2005). Precaution in global environmental politics. *International Journal of Global Environmental Issues*, 5(1/2).
<http://doi.org/https://doi.org/10.1504/IJGENVI.2005.006265>

Dixon, R., & Challies, E. (2015). Making REDD+ pay: Shifting rationales and tactics of private finance and the governance of avoided deforestation in Indonesia. *Asia Pacific Viewpoint*, 56(1), 6-20. <http://doi.org/10.1111/apv.12085>

Doherty, E., & Schroeder, H. (2011). Forest tenure and multi-level governance in avoiding deforestation under REDD+. *Global Environmental Politics*, 11(November), 66-89.

Dokken, T., Caplow, S., Angelsen, A., & Sunderlin, W. D. (2014). Tenure issues in REDD+ pilot project sites in Tanzania. *Forests*, 5(2), 234-255.
<http://doi.org/10.3390/f5020234>

Domson, O., & Vlosky, R. P. (2007). *A Strategic Overview of the Forest Sector in Ghana*. Retrieved from http://www.lfpdc.lsu.edu/publications/working_papers/wp81.pdf (accessed 27/01/2017)

Dooley, K., Griffiths, T., Martone, F., & Ozinga, S. (2011). *Smoke and mirrors: A critical assessment of the Forest Carbon Partnership Facility*.

Duberley, J., Johnson, P., & Cassell, C. (2012). Philosophies underpinning qualitative research. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research*:

References

Core methods and current challenges (1st ed., pp. 15–34). London: Sage Publications.

Duchelle, A. E., Sassi, C. De, Jagger, P., Cromberg, M., Larson, A. M., Sunderlin, W. D., ... Pratama, C. D. (2017). Balancing carrots and sticks in REDD+: implications for social safeguards. *Ecology and Society*, 22(3). <http://doi.org/https://doi.org/10.5751/ES-09334-220302>

Duchelle, A. E., Cromberg, M., Gebara, M. F., Guerra, R., Melo, T., Larson, A., ... Sunderlin, W. D. (2014). Linking forest tenure reform, environmental compliance, and incentives: Lessons from REDD+ initiatives in the Brazilian Amazon. *World Development*, 55, 53–67. <http://doi.org/10.1016/j.worlddev.2013.01.014>

Dumenu, W. K., Derkyi, M. A., Samar, S. B., Oduro, K. A., Mensah, K., Pentsil, S., ... Obeng, E. A. (2014). *Benefit sharing mechanism for REDD+ implementation in Ghana: Consultancy report*. Accra.

Ebeling, J., & Yasue, M. (2008). Generating carbon finance through avoided deforestation and its potential to create climatic, conservation and human development benefits. *Philosophical Transactions of the Royal Society B*, 363, 1917–1924. <http://doi.org/10.1098/rstb.2007.0029>

Edirisingha, P. (2012). Interpretivism and positivism (ontological and epistemological perspectives). Retrieved October 20, 2016, from <https://prabash78.wordpress.com/2012/03/14/interpretivism-and-positivism-ontological-and-epistemological-perspectives/>

Egeru, A. (2016). Climate risk management information, sources and responses in a pastoral region in East Africa. *Climate Risk Management*, 11, 1–14. <http://doi.org/10.1016/j.crm.2015.12.001>

Elum, Z. A., & Momodu, A. S. (2017). Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach. *Renewable and Sustainable Energy Reviews*, 76, 72–80. <http://doi.org/10.1016/j.rser.2017.03.040>

Epule, E. T., Peng, C., Lepage, L., & Chen, Z. (2014). Policy options towards deforestation reduction in Cameroon: An analysis based on a systematic approach. *Land Use Policy*, 36, 405–415. <http://doi.org/10.1016/j.landusepol.2013.09.004>

Eriksen, S. H., Nightingale, A. J., & Eakin, H. (2015). Reframing adaptation: The political nature of climate change adaptation. *Global Environmental Change*, 35, 523–533. <http://doi.org/10.1016/j.gloenvcha.2015.09.014>

Evans, K., Murphy, L., & de Jong, W. (2014). Global versus local narratives of REDD: A case study from Peru's Amazon. *Environmental Science & Policy*, 35, 98–108. <http://doi.org/10.1016/j.envsci.2012.12.013>

References

FAO. (2013). *Implementing the Non-legally Binding Instrument on All Types of Forests*. Retrieved from <http://www.fao.org/docrep/019/mi749e/mi749e.pdf> (accessed 27/01/2017)

Fischer, R., Hargita, Y., & Günter, S. (2016). Insights from the ground level? A content analysis review of multi-national REDD+ studies since 2010. *Forest Policy and Economics*, 66, 47–58. <http://doi.org/10.1016/j.forepol.2015.11.003>

Fishbein, G., & Lee, D. (2015). *Early lessons from jurisdictional REDD+ and low emissions development programs*. Arlington.

Fletcher, R. (2010). Neoliberal environmentality: Towards a poststructuralist political ecology of the conservation debate. *Conservation and Society*, 8(3), 171–181. <http://doi.org/10.4103/0972-4923.73806>

Flowerdew, R., & Martin, D. (2005). *Methods in Human Geography: A guide for students doing research project* (2nd ed.). Edinburgh: Pearson Education Limited.

Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, 30, 441–473. <http://doi.org/10.1146/annurev.energy.30.050504.144511>

Forest Trends Ecosystem Marketplace. (2014). *Turning over a New Leaf; State of the Forest Carbon Markets 2014*.

Forestry Commission. (2016). *Ghana REDD + Strategy 2016-20135*.

Forestry Commission. (2010). *Readiness Preparation Proposal Ghana*.

Forestry Commission. (2014). Forest Carbon Partnership Facility Carbon Fund Emission Reductions Program Idea Note for Ghana.

Forestry Commission. (2008). The Forest Carbon Partnership Facility Readiness Plan Idea Note for Ghana.

Forsyth, T., & Sikor, T. (2013). Forests, development and the globalisation of justice. *The Geographical Journal*, 179(2), 114–121. <http://doi.org/doi:10.1111/geoj.12006>

Forsyth, T. (2003). *Critical Political Ecology*. London: Routledge.

Forsyth, T. (2008). Political ecology and the epistemology of social justice. *Geoforum*, 39(2), 756–764. <http://doi.org/10.1016/j.geoforum.2006.12.005>

Fosci, M. (2013). Balance sheet in the REDD+: Are global estimates measuring the wrong costs? *Ecological Economics*, 89, 196–200. <http://doi.org/10.1016/j.ecolecon.2012.11.022>

References

Fosu-Mensah, B. Y., Vlek, P. L. G., & MacCarthy, D. S. (2012). Farmers' perception and adaptation to climate change : a case study of Sekyedumase district in Ghana. *Environment Development Sustainability*, 14, 495–505. <http://doi.org/10.1007/s10668-012-9339-7>

Foucault, M. (1979). Discipline and punish: The birth of the prison.

Fraser, N. (2001). Recognition without Ethics. *Theory, Culture and Society*, 18(2-3).

Fry, B. P. (2011). Community Forest Monitoring in REDD+: The 'M' in MRV? *Environmental Science and Policy* 14(2):181–187. <http://dx.doi.org/10.1016/j.envsci.2010.12.004>.

Fukuda-parr, S. (2003). The human development paradigm: Operationalizing Sen's ideas on capabilities. *Feminist Economics*, 9(2-3), 301–317. <http://doi.org/10.1080/1354570022000077980>

Gallemore, C., & Jespersen, K. (2016). Transnational Markets for Sustainable Development Governance: The Case of REDD+. *World Development*, 86, 79–94. <http://doi.org/10.1016/j.worlddev.2016.06.009>

Gardner, T. A., N. D. Burgess, N. Aguilar-Amuchastegui, J. Barlow, E. Berenguer, T. Clements, F. Danielsen, J. Ferreira, W. Foden, V. Kapos, S. M. Khan, A. C. Lees, L. Parry, R. M. Roman-Cuesta, C. B. Schmitt, N. Strange, I. Theilade, and I. C. G. Vieira. 2012. A Framework for Integrating Biodiversity Concerns into National REDD+ Programmes. *Biological Conservation* 154:61–71. <http://dx.doi.org/10.1016/j.biocon.2011.11.018>.

Gautam, A. P., & Shivakoti, G. P. (2005). Conditions for successful local collective action in forestry: Some evidence from the Hills of Nepal. *Society & Natural Resources*, 18(2), 153–171. <http://doi.org/10.1080/08941920590894534>

Gaventa, J., & Cornwall, A. (2006). Challenging the Boundaries of the Possible: Participation, Knowledge and Power. *IDS Bulletin*, 37(6), 122–128. <http://doi.org/10.1111/j.1759-5436.2006.tb00329.x>

Gebara, M. F., & Agrawal, A. (2017). Beyond rewards and punishments in the Brazilian amazon: Practical implications of the REDD+ discourse. *Forests*, 8(66), 1–27. <http://doi.org/10.3390/f8030066>

Ghana Statistical Service. (2014). *2010 population and housing census: District analytical report for Wassa Amenfi Central District*. Accra.

Gibson, C. C., & Becker, D. C. (2000). A lack of institutional demand: Why a strong local community in Western Ecuador fails to protect its forest. In C. C. Gibson, M. M. A, & E. Ostrom (Eds.), *People and forests: Communities, institutions and governance*. (pp. 135–161). Cambridge: The MIT Press. Retrieved from <http://discovery.ucl.ac.uk/1317990/>

References

Giddens, A. (1984). *The Constitution of society: Outline of the theory of structuration*. Los Angeles: University of California Press.

Giddens, A. (2009). *The politics of climate change* (1st ed.). Cambridge: Polity Press.

Githiru, M. (2016). Correcting inequity: How the implementation of the Kasigau Corridor REDD+ Project in fact redresses past injustices — Response to Chomba et al. *Land Use Policy*, 57, 619–624.
<http://doi.org/10.1016/j.landusepol.2016.06.035>

Giuliani, M. V. (2016). Theory of attachment and place attachment. In M. Bonnes, T. Lee, & M. Bonaiuto (Eds.), *Psychological Theories for Environmental Issues* (pp. 137–170). Aldershot: Ashgate.

Glover, A., & Schroeder, H. (2017). Legitimacy in REDD+ governance in Indonesia. *International Environmental Agreements: Politics, Law and Economics*.
<http://doi.org/10.1007/s10784-016-9341-x>

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597–606. Retrieved from <http://nsuworks.nova.edu/tqr/vol8/iss4/6>

Gong, Y., Bull, G., & Baylis, K. (2010). Participation in the world's first clean development mechanism forest project: The role of property rights, social capital and contractual rules. *Ecological Economics*, 69(6), 1292–1302.
<http://doi.org/10.1016/j.ecolecon.2009.11.017>

Gonzalez-Hidalgo, M., & Zografas, C. (2017). How sovereignty claims and “negative” emotions influence the process of subject-making: Evidence from a case of conflict over tree plantations in Southern Chile. *Geoforum*, 78: 61-73.

Goodman, M., & Boyd, E. (2010). *A Social Life for Carbon?: Commodification, markets and care* (Environment, politics and development working paper series 36). London. Retrieved from www.kcl.ac.uk/schools/sspp/geography/research/epd/working.html

Graham, E. (2005). Philosophies underlying human geography research. In R. Flowerdew & D. Martin (Eds.), *Methods in Human Geography: A guide for students doing research project* (2nd ed., pp. 8–34). Edinburgh: Pearson Education Limited.

Gregorio, M. Di, Hagedorn, K., Kirk, M., Korf, B., McCarthy, N., Meinzen-Dick, R., & Swallow, B. (2008). *Property rights, collective action, and poverty: The role of institutions for poverty reduction. Collective Action and Property Rights*. Washington D.C.

Grieg-Gran, M., Porras, I., & Wunder, S. (2005). How can market mechanisms for forest environmental services help the poor? Preliminary lessons from Latin America. *World Development*, 33(9), 1511–1527.
<http://doi.org/10.1016/j.worlddev.2005.05.002>

References

Groom, B., & Palmer, C. (2012). REDD+ and rural livelihoods. *Biological Conservation*, 154, 42–52. <http://doi.org/10.1016/j.biocon.2012.03.002>

Gupta, A., Lövbrand, E., Turnhout, E., & Vijge, M. J. (2012). In pursuit of carbon accountability: the politics of REDD+ measuring, reporting and verification systems. *Current Opinion in Environmental Sustainability*, 4(6), 726–731. <http://doi.org/10.1016/j.cosust.2012.10.004>

Gupta, H. S. (2014). Future opportunities for Indian forestry sector: The post 2012 scenario. In H. S. Gupta, M. Yadav, M. Verma, A. David, K. Sarma, & C. P. Kala (Eds.), *Science and Business of Forestry Carbon Projects* (pp. 167–177). New Delhi: The Energy and Resources Institute.

Gupta, J. (2012). Glocal forest and REDD+ governance: win – win or lose – lose? *Current Opinion in Environmental Sustainability*, 4, 620–627. <http://doi.org/10.1016/j.cosust.2012.09.014>

Haggerty, J. H. (2007). “I’m not a greenie but...”: Environmentality, eco-populism and governance in New Zealand Experiences from the Southland whitebait fishery. *Journal of Rural Studies*, 23(2), 222–237. <http://doi.org/10.1016/j.jrurstud.2006.11.002>

Hajek, F., Ventresca, M. J., Scriven, J., & Castro, A. (2011). Regime-building for REDD+: Evidence from a cluster of local initiatives in south-eastern Peru. *Environmental Science & Policy*, 14(2), 201–215. <http://doi.org/10.1016/j.envsci.2010.12.007>

Hall, R. (2014). *The great REDD gamble: Time to ditch risky REDD for community-based approaches that are effective, ethical and equitable*.

Hansen, C. ., Lund, J. ., & Treue, T. (2009). Neither fast, nor easy: the prospect of Reduced Emissions from Deforestation and Degradation (REDD) in Ghana. *International Forestry Review*, 11(4), 439–455.

Hansen, C. P., & Lund, J. F. (2017). Imagined forestry: The history of the scientific management of Ghana’s High Forest Zone. *Environment and History*, 23(1). <http://doi.org/10.3197/096734017X14809635325548>

Hansen, J., Kharecha, P., Sato, M., Masson-delmotte, V., Ackerman, F., Beerling, D. J., ... Rohling, E. J. (2013). Assessing “dangerous climate change”: Required reduction of carbon emissions to protect young people, future generations and nature. *PloS ONE*, 8(12). <http://doi.org/https://doi.org/10.1371/journal.pone.0081648>

Harrison, K., & Sundstrom, L. M. (2010). Introduction: Global commons, domestic decisions. In K. Harrison & L. M. Sundstrom (Eds.), *Global commons, domestic decisions: The comparative politics of climate change*. Cambridge: Massachusetts Institute of Technology.

References

Hay, I. (2010). *Qualitative research methods in human geography* (3rd ed.). Don Mills: Oxford University Press.

Haynes, K. (2012). Reflexivity in qualitative research. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 72–89). London: Sage Publications.

Heller, T. C., & Shukla, P. R. (2003). *Development and climate: Engaging developing countries*. Retrieved from <https://www.c2es.org/publications/beyond-kyoto-advancing-international-effort-against-climate-change>

Heikkila, T., Schlager, E., & Davis, M. W. (2011). The role of cross-scale institutional linkages in common pool resource management: Assessing interstate river compacts *. *Policy Studies Journal*, 39(1).

Heltberg, R. (2002). Property rights and natural resource management in developing countries. *Journal of Economic Surveys*, 16(2), 189–214.

Hickey, S., & Mohan, G. (2004). *Participation: From tyranny to transformation?* London and New York: Zed Books.

Hiraldo, R., & Tanner, T. (2011). Forest Voices: Competing Narratives over REDD+. *IDS Bulletin*, 42(3), 42–51.

Hoang, M. H., Do, T. H., Pham, M. T., van Noordwijk, M., & Minang, P. a. (2013). Benefit distribution across scales to reduce emissions from deforestation and forest degradation (REDD+) in Vietnam. *Land Use Policy*, 31(1), 48–60. <http://doi.org/10.1016/j.landusepol.2011.09.013>

Hohne, N., Wartmann, S., Herold, A., & Freibauer, A. (2007). The rules for land use, land use change and forestry under the Kyoto Protocol — lessons learned for the future climate negotiations. *Environmental Science & Policy*, 10, 353–369. <http://doi.org/10.1016/j.envsci.2007.02.001>

Holmgren, S. (2013). REDD + in the making: Orders of knowledge in the climate – deforestation nexus. *Environmental Science and Policy*, 33, 369–377. <http://doi.org/10.1016/j.envsci.2013.04.007>

Honneth, A. (1995). *The struggle for recognition: The moral grammar of social conflicts*. Cambridge: Polity Press.

Honneth, A. (1992). Integrity and disrespect: Principles of a conception of morality based on the Theory of Recognition. *Political Theory*, 20(2), 188–9.

Howson, P. (2017). Intimate exclusions from the REDD+ forests of Sungai Lamandau, Indonesia. *Conservation and Society*, 15(2), 125–135. <http://doi.org/10.4103/0972-4923.204071>

References

Huettner, M. (2012). Risks and opportunities of REDD+ implementation for environmental integrity and socio-economic compatibility. *Environmental Science & Policy*, 15(1), 4–12. <http://doi.org/10.1016/j.envsci.2011.10.002>

Humphreys, D. (2009). Discourse as ideology: Neoliberalism and the limits of international forest policy. *Forest Policy and Economics*, 11(5–6), 319–325. <http://doi.org/10.1016/j.forepol.2008.08.008>

Huq, S., Reid, H., & Murray, L. A. (2006). *Climate change and development links*. London. Retrieved from <http://pubs.iied.org/14516IIED/>

IIED. (2017). REDD+: Protecting climate, forests and livelihoods. Retrieved August 12, 2017, from www.iied.org/redd-protecting-climate-forests-livelihoods

Indufor. (2015). *Development of Reference Emissions Levels and Measurement, Reporting and Verification System in Ghana*.

Intarini, D. Y., Resosudarmo, I. A. P., Komalasari, M., Ekaputri, A. D., & Agustavia, M. (2014). Ketapang community carbon pools, West Kalimantan, Indonesia. In E. O. Sills, S. Atmadja, C. De Sassi, A. E. Duchelle, D. L. Kweka, I. A. P. Resosudarmo, & W. D. Sunderlin (Eds.), *REDD+ on the ground: A case book of sub-national initiatives across the globe* (pp. 329–347). Bogor: CIFOR.

International Sustainability Unit. (2013). *Interim REDD+ Finance: status and ways forward for 2013-2020*. Retrieved from <http://www.pcfisu.org/wp-content/uploads/2012/11/Nov-2012-Interim-REDD+-Finance-Current-Status-and-Ways-Forward-2013-2020-Princes-Rainforests-Project.pdf>

IPCC. (2007). *Summary for policymakers. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, UK and USA.

IPCC. (2014). *Climate change 2014 synthesis report summary for policymakers*. Retrieved from https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf

IPCC. (2007). *Climate change 2007: Impacts, adaptation and vulnerability. Summary for policymakers*.

Isyaku, U., Arhin, A. A., & Asiyanbi, A. (2017). Framing justice in REDD+ governance: centring transparency, equity and legitimacy in readiness implementation in West Africa. *Environmental Conservation*, 44(3), 212–220. <http://doi.org/10.1017/S0376892916000588>

Ituarte-Lima, C., McDermott, C. L., & Mulyani, M. (2014). Assessing Equity in National Legal Frameworks for REDD+: The Case of Indonesia. *Environmental Science & Policy*, 44, 291–300. <http://doi.org/10.1016/j.envsci.2014.04.003>

References

IUCN. (2016). *Action learning towards improved local natural resource governance: The IUCN experience with Acgichire/Sureso/Pebaseman CREMA*. Accra.

Jaffe, J. (2017). Knowledge equity is social justice: Engaging a practice theory perspective of knowledge for rural transformation. *Rural Sociology*, 82(3), 391–410. <http://doi.org/10.1111/ruso.12143>

Jaffe, A. B., Newell, R. G., & Stavins, R. N. (2005). A tale of two market failures: Technology and environmental policy. *Ecological Economics*, 54, 164–174. <http://doi.org/10.1016/j.ecolecon.2004.12.027>

Jarvis, A., Lau, C., Cook, S., Wollenberg, E., Hansen, J., Bonilla, O., & Challinor, A. (2011). An integrated adaptation and mitigation framework for developing agricultural research: Synergies and trade-offs. *Experimental Agriculture*, 47(2), 185–203. <http://doi.org/10.1017/S0014479711000123>

Jasanoff, S., & Martello, M. L. (2004). *Earthly Politics: Local and global in environmental governance*. (S. Jasanoff & M. L. Martello, Eds.) *Politics, Science and the Environment*. Massachusetts Institute of Technology.

Jaung, W., & Bae, J. S. (2012). Evaluating socio-economic equity of REDD+ in a rights-based approach: Rapid equity appraisal matrix. *Environmental Science & Policy*, 22, 1–12. <http://doi.org/10.1016/j.envsci.2012.05.007>

Jepson, W., Brannstrom, C., & Persons, N. (2012). “We Don’t Take the Pledge”: Environmentality and environmental skepticism at the epicenter of US wind energy development. *Geoforum*, 43(4), 851–863. <http://doi.org/10.1016/j.geoforum.2012.02.002>

Joshi, D. K., Hughes, B. B., & Sisk, T. D. (2015). Improving governance for the Post-2015 Sustainable Development Goals: Scenario forecasting the next 50 years. *World Development*, 70, 286–302. <http://doi.org/10.1016/j.worlddev.2015.01.013>

Jovanka, Š., Corbera, E., Reyes-Garcia, V., & Porter-Bolland, L. (2016). A Dominant voice amidst not enough people: Analysing the legitimacy of Mexico’s REDD+ readiness process. *Forests*, 7(313). <http://doi.org/10.3390/f7120313>

Kamelarczyk, K. B. F., & Gamborg, C. (2014). Spanning boundaries: Science–policy interaction in developing countries—The Zambian REDD+ process case. *Environmental Development*, 10, 1–15. <http://doi.org/10.1016/j.envdev.2014.01.001>

Kandola, B. (2012). Focus groups. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 258–274). London: Sage Publications.

Kanowski, P. J., McDermott, C. L., & Cashore, B. W. (2011). Implementing REDD+: lessons from analysis of forest governance. *Environmental Science & Policy*, 14(2), 111–117. <http://doi.org/10.1016/j.envsci.2010.11.007>

References

Kar, K. (2005). Practical guide to triggering Community-Led Total Sanitation. Sussex: Institute of Development Studies. Retrieved from http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/Guidelines_for_triggering_CLTS_0.pdf

Karki, A. S. (2017). Agroforestry and its benefits. Retrieved from <https://en.reset.org/knowledge/agroforestry-and-its-benefits>

Karkkainen, B. C. (2002). Collaborative ecosystem governance: scale, complexity, and dynamism. *Virginia Environmental Law Journal*, 21(189), 189–243.

Karsenty, A., & Ongolo, S. (2012). Can “fragile states” decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism. *Forest Policy and Economics*, 18, 38–45. <http://doi.org/10.1016/j.forpol.2011.05.006>

Karsenty, A., Vogel, A., & Castell, F. (2014). “Carbon rights”, REDD+ and payments for environmental services. *Environmental Science & Policy*, 35, 20–29. <http://doi.org/10.1016/j.envsci.2012.08.013>

Kashwan, P. (2015). Forest Policy, institutions, and REDD+ in India, Tanzania, and Mexico. *Global Environmental Politics*, 15(3), 95–117. <http://doi.org/10.1162/LEP>

Kashwan, P. (2016). Power asymmetries and institutions : landscape conservation in central India. *Regional Environmental Change*. <http://doi.org/10.1007/s10113-015-0925-8>

Katerere, Y., Fobissie, K., & Annies, A. (2015). *Non-carbon benefits of REDD+: The case for supporting non-carbon benefits in Africa*.

Kates, R. W., Parris, T. M., & Leiserowitz, A. A. (2005). What is sustainable development? *Environment*, 47(3), 8–21.

Kim, J. (2015). Aid and state transition in Ghana and South Korea. *World Quarterly*, 36(7), 1333–1348. <http://doi.org/10.1080/01436597.2015.1038339>

Klepper, G. (2011). The future of the European Emission Trading System and the Clean Development Mechanism in a post-Kyoto world. *Energy Economics*, 33, 687–698. <http://doi.org/10.1016/j.eneco.2010.12.014>

Koch, S. (2016). International influence on forest governance in Tanzania: Analysing the role of aid experts in the REDD+ process. *Forest Policy and Economics*. <http://doi.org/10.1016/j.forpol.2016.09.018>

Krause, T. (2013). *Buying conservation - Financial incentives for tropical forest conservation in the Ecuadorian Amazon*. Lund University. Retrieved from <https://lup.lub.lu.se/search/publication/4057968>

References

Krott, M., Bader, A., Schusser, C., Devkota, R., Maryudi, A., Giessen, L., & Aurenhammer, H. (2014). Actor-centred power: The driving force in decentralised community based forest governance. *Forest Policy and Economics*, 49, 34–42. <http://doi.org/10.1016/j.forpol.2013.04.012>

Krugman, P. (2010). Building a Green Economy. *The New York Times*, pp. 1–16.

Kufuor, K. O. (2000). Forest management in Ghana: Towards a sustainable approach. *Journal of African Law*, 44(1), 52–64. <http://doi.org/doi.org/10.1017/S0021855300012031>

Kumar, S. (2002). Does “Participation” in Common Pool Resource Management Help the Poor? A Social Cost–Benefit Analysis of Joint Forest Management in Jharkhand, India. *World Development*, 30(5), 763–782. [http://doi.org/10.1016/S0305-750X\(02\)00004-9](http://doi.org/10.1016/S0305-750X(02)00004-9)

Landell-mills, N., & Porras, I. T. (2002). *Silver bullet or fools ' gold?: A global review of markets for forest environmental services and their impact on the poor*. London.

Larson, A. M., Corbera, E., Cronkleton, P., Dam, C. Van, Bray, D., Estrada, M., ... Pacheco, P. (2010). Rights to forests and carbon under REDD + initiatives in Latin America. *CIFOR Brief*, (33), 1–8.

Larson, A. M. (2011). Forest tenure reform in the age of climate change: Lessons for REDD+. *Global Environmental Change*, 21(2), 540–549. <http://doi.org/10.1016/j.gloenvcha.2010.11.008>

Larson, A. M., Brockhaus, M., Sunderlin, W. D., Duchelle, A., Babon, A., Dokken, T., ... Huynh, T.-B. (2013). Land tenure and REDD+: The good, the bad and the ugly. *Global Environmental Change*, 23(3), 678–689. <http://doi.org/10.1016/j.gloenvcha.2013.02.014>

Larson, A. M., & Petkova, E. (2011). An introduction to forest governance, people and REDD+ in latin america: Obstacles and opportunities. *Forests*, 2(1), 86–111. <http://doi.org/10.3390/f2010086>

Lasco, R. D., Mallari, N. A. D., Pulhin, F. B., Florece, A. M., Rico, E. L. B., Baliton, R. S., & Urquiola, J. P. (2013). Review article: Lessons from early REDD + experiences in the Philippines. *International Journal of Forestry Research*, 2013.

Lau, J. D., & Scales, I. R. (2016). Identity, subjectivity and natural resource use: How ethnicity, gender and class intersect to influence mangrove oyster harvesting in The Gambia. *Geoforum*, 69, 136–146. <http://doi.org/10.1016/j.geoforum.2016.01.002>

Laube, W., Schraven, B., & Awo, M. (2012). Smallholder adaptation to climate change: dynamics and limits in Northern Ghana. *Climate Change*, 111, 753–774. <http://doi.org/10.1007/s10584-011-0199-1>

References

Lawlor, K., Madeira, E. M., Blockhus, J., & Ganz, D. J. (2013). Community participation and benefits in REDD+: A review of initial outcomes and lessons. *Forests*, 4, 296–318. <http://doi.org/10.3390/f4020296>

Lawson, V., & St. Clair, A. L. (2009). Global poverty studies and human security. Retrieved from <https://www.ehs.unu.edu/file/get/7703>

Leach, M. (2008). Pathways to sustainability in the forest? Misunderstood dynamics and the negotiation of knowledge, power, and policy. *Environment and Planning A*, 40, 1783–1796. <http://doi.org/10.1068/a40215>

Lebel, L., Anderies, J. M., Campbell, B., Folke, C., Hatfield-dodds, S., Hughes, T. P., & Wilson, J. (2006). Governance and the capacity to manage resilience in regional social-ecological systems. *Ecology and Society*, 11(1).

Lebel, L., Garden, P., & Imamura, M. (2005). The politics of scale, position, and place in the governance of water resources in the Mekong Region. *Ecology and Society*, 10(2). Retrieved from <http://www.ecologyandsociety.org/vol10/iss2/art18/>

Lederer, M. (2015). The politics of carbon markets in the global south. In B. Stephan & R. Lane (Eds.), *The politics of carbon markets* (1st ed., pp. 133–149). London and New York: Routledge.

Leggett, M., & Lovell, H. (2012). Community perceptions of REDD+: a case study from Papua New Guinea. *Climate Policy*, 12(1), 115–134. <http://doi.org/10.1080/14693062.2011.579317>

Lemos, M. C., & Agrawal, A. (2006). Environmental governance. *Annual Review of Environment and Resources*, 31(1), 297–325. <http://doi.org/10.1146/annurev.energy.31.042605.135621>

Leth, J. (2013). *The environmentality of forest conservation; the case of REDD+ in Tanzania*. University of Copenhagen.

Li, T. M. (2007). *The Will to Improve; Governmentality, development, and the practice of politics*. Durham and London: Duke University Press.

Lima, M. G. B., Visseren-Hamakers, I. J., Brana-Varela, J., & Gupta, A. (2017). A reality check on the landscape approach to REDD+: Lessons from Latin America. *Forest Policy and Economics*, 78, 10–20. <http://doi.org/10.1016/j.forpol.2016.12.013>

Liverman, D. (2004). Who governs, what scale and at what price? geography, environmental governance, and the commodification of nature. *Centennial Forum*, 94(4), 734–738.

Liverman, D., & Boyd, E. (2008). The CDM ethics and development. In *A reformed CDM - Including new mechanisms for sustainable development*. Nairobi: UNEP-Riso centre.

References

Loaiza, T., Nehren, U., & Gerold, G. (2015). REDD+ and incentives: An analysis of income generation in forest-dependent communities of the Yasuní Biosphere Reserve, Ecuador. *Applied Geography*, 62, 225–236.
<http://doi.org/10.1016/j.apgeog.2015.04.020>

Lockwood, M., Davidson, J., Curtis, A., Stratford, E., & Griffith, R. (2010). Governance principles for natural resource management. *Society & Natural Resources: An International Journal*, 23(10), 986–1001.
<http://doi.org/10.1080/08941920802178214>

Lohmann, L. (2006). Carbon Trading: A critical conversation on climate change, privatisation and power. Dag Hammarskjöld Foundation, Durban Group for Climate Justice and The Corner House.

Lohmann, L. (2010). Uncertainty markets and carbon markets: Variations on Polanyian themes. *New Political Economy*, 15(2), 225–254.
<http://doi.org/10.1080/13563460903290946>

Luke, T. W. (2011). Environmentality. In J. S. Dryzek, R. B. Norgaard, & D. Schlosberg (Eds.), *The Oxford Handbook of Climate Change and Society* (pp. 1–11). Oxford University Press.
<http://doi.org/10.1093/oxfordhb/9780199566600.003.0007>

Lund, J. F., Carlsen, K., Hansen, C. P., & Treue, T. (2012). The political economy of timber governance in Ghana. In G. Broekhoven, H. Savenije, & S. Von Scheliha (Eds.), *Moving forward with forest governance* (pp. 117–126). Wageningen: Tropenbos International.

Luttrell, C., Resosudarmo, I. A. P., Muharrom, E., Brockhaus, M., & Seymour, F. (2014). The political context of REDD+ in Indonesia: Constituencies for change. *Environmental Science & Policy*, 35, 67–75.
<http://doi.org/10.1016/j.envsci.2012.10.001>

Lyons, K., & Westoby, P. (2014). Carbon colonialism and the new land grab: Plantation forestry in Uganda and its livelihood impacts. *Journal of Rural Studies*, 36, 13–21. <http://doi.org/10.1016/j.jrurstud.2014.06.002>

Lyster, R. (2011). REDD +, transparency, participation and resource rights: the role of law. *Environmental Science and Policy*, 14(2), 118–126.
<http://doi.org/10.1016/j.envsci.2010.11.008>

Maarleveld, M., & Dangbegnon, C. (1999). Managing natural resources : A social learning perspective. *Agriculture and Human Values*, 16, 267–280.

Mahanty, S., Gronow, J., Nurse, M., & Malla, Y. (2006). Reducing poverty through community based forest management in Asia. *Journal of Forest and Livelihood*, 5(1).

Mahanty, S., & McDermott, C. L. (2013). How does “Free, Prior and Informed Consent” (FPIC) Impact Social Equity? Lessons from Mining and Forestry and

References

their Implications for REDD+. *Land Use Policy*, 35, 406–416.
<http://doi.org/10.1016/j.landusepol.2013.06.014>

Manji, F., & Marks, S. (2008). Carbon trading: A critical conversation on climate change, privatisation and power. *Development in Practice*, 18(3), 460–462.
<http://doi.org/10.1080/09614520802031241>

Manuel-navarrete, D., & Pelling, M. (2015). Subjectivity and the politics of transformation in response to development and environmental change. *Global Environmental Change*, 35, 558–569.
<http://doi.org/10.1016/j.gloenvcha.2015.08.012>

Manzo, L. C. (2014). *Place attachment: Advances in theory, methods and applications*. (L. C. Manzo & P. Devine-Wright, Eds.) (1st ed.). London and New York: Routledge.

Maraseni, T. N., Neupane, P. R., Lopez-casero, F., & Cadman, T. (2014). An assessment of the impacts of the REDD+ pilot project on community forests user groups (CFUGs) and their community forests in Nepal. *Journal of Environmental Management*, 136, 37–46.
<http://doi.org/10.1016/j.jenvman.2014.01.011>

Marfo, E. (2015). *The illusion of democratic representation in the REDD readiness consultation process in Ghana* (15). Responsive Forest Governance Initiative. Dakar.

Marfo, E., Danso, E., & Nketiah, S. K. (2013). *Analysis of linkages and opportunities for synergies between FLEGT, REDD and national forest programme in Ghana*. Kumasi: Tropenbos International Ghana.

Markelova, H., & Mwangi, E. (2015). Multilevel governance and cross-scale coordination for natural resource management: Lessons from current research. In D. Bollier & S. Helfrich (Eds.), *The wealth of the commons: A world beyond market and state* (1st ed.). Florence: Levellers Press.

Matt, E., & Okereke, C. (2015). A neo-Granscian account of carbon markets: The cases of the European Union Emissions Trading Scheme and the Clean Development Mechanism. In B. Stephan & R. Lane (Eds.), *The politics of carbon markets* (1st ed., pp. 113–132). London and New York: Routledge.

Mayers, J., Bila, A., Khauka, S., Opoku, K., & Simwela, W. (2006). Forest governance and social justice: practical tactics from a learning group approach in Africa. *International Forestry Review*, 8(2), 8–11.

Mayers, J., Howard, C., Kotey, N. A. E., Prah, E., & Richards, M. (1996). *Incentives for sustainable forest management: A study in Ghana*. IIED Forestry and Land Use Series No.6. London. Retrieved from <http://pubs.iied.org/pdfs/7510IIED.pdf>

Mayers, J., Maginnis, S., & Arthur, E. (2010). *REDD readiness requires radical reform: Prospects for making the big changes needed to prepare for REDD-plus in*

References

Ghana. Yale: The Forests Dialogue. Retrieved from https://www.iucn.org/downloads/tfd_reddreadiness_ghana_report_lo_res_1_.pdf

Mayers, J., & Vermeulen, S. (2002). Company-community forestry partnerships - From raw deals to mutual gains? *Instruments for Sustainable Private Sector Forestry*.

Mbatu, R. S. (2015). Domestic and international forest regime nexus in Cameroon: An assessment of the effectiveness of REDD + policy design strategy in the context of the climate change regime. *Forest Policy and Economics*, 52, 46–56. <http://doi.org/10.1016/j.forpol.2014.12.012>

Mbatu, R. S. (2016). REDD + research: Reviewing the literature, limitations and ways forward. *Forest Policy and Economics*, 73, 140–152. <http://doi.org/10.1016/j.forpol.2016.09.010>

Mcafee, K. (1999). Selling nature to save it ? Biodiversity and green deveiopmentaiism. *Environment and Planning D: Society and Space*, 17, 133–154.

McDermott, C. L. (2012). Certification and Equity: Applying an “Equity Framework” to Compare Certification Schemes across Product Sectors and Scales. *Environmental Science & Policy*, 33(0), 428–437. <http://doi.org/10.1016/j.envsci.2012.06.008>

McDermott, C. L., Coad, L., Helfgott, A., & Schroeder, H. (2012). Operationalizing social safeguards in REDD+: actors, interests and ideas. *Environmental Science & Policy*, 21, 63–72. <http://doi.org/10.1016/j.envsci.2012.02.007>

McDermott, M., Mahanty, S., & Schreckenberg, K. (2013). Examining equity: A multidimensional framework for assessing equity in payments for ecosystem services. *Environmental Science & Policy*, 33, 416–427. <http://doi.org/10.1016/j.envsci.2012.10.006>

Mcgregor, A., Challies, E., Howson, P., Astuti, R., Dixon, R., Haalboom, B., ... Afiff, S. (2015). Beyond carbon, more than forest? REDD+ governmentality in Indonesia. *Environment and Development Economics*, 47, 138–155. <http://doi.org/10.1068/a140054p>

McKee, K. I. M. (2009). Post-Foucauldian governmentality: What does it offer critical social policy analysis ? *Critical Social Policy*, 29(3), 465–486.

McKee, K. (2015). Community anchor housing associations: Illuminating the contested nature of neoliberal governing practices at the local scale. *Environment and Planning C*, 47, 1–16. <http://doi.org/10.1177/0263774X15605941>

McManners, P. 2014. Reframing Economic Policy Towards Sustainability. *International Journal of Green Economics* 8(3–4):288–305. <http://dx.doi.org/10.1177/0263774X15605941>

References

org/10.1504/IJGE.2014.067723.

Meadowcroft, J. (2002). Politics and scale: some implications for environmental governance. *Landscape and Urban Planning*, 61(2-4), 169–179. [http://doi.org/10.1016/S0169-2046\(02\)00111-1](http://doi.org/10.1016/S0169-2046(02)00111-1)

Mehring, M., Seeberg-Elverfeldt, C., Koch, S., Barkmann, J., Schwarze, S., & Stoll-Kleemann, S. (2011). Local institutions: Regulation and valuation of forest use—Evidence from Central Sulawesi, Indonesia. *Land Use Policy*, 28(4), 736–747. <http://doi.org/10.1016/j.landusepol.2011.01.001>

Meijers, F., Lengelle, R., & Kopnina, H. (2016). Environmental identity and natural resources: A dialogical learning process. *Resources*, 5(11), 1–16. <http://doi.org/10.3390/resources5010011>

Mendelsohn, R., Dinar, A., & Williams, L. (2006). The distributional impact of climate change on rich and poor countries. *Environment and Development Economics*, 11, 159–178. <http://doi.org/10.1017/S1355770X05002755>

Menzel, S., & Teng, J. (2009). Ecosystem services as a stakeholder-driven concept for conservation science. *Conservation Biology*, 24(3), 907–909. <http://doi.org/10.1111/j.1523-1739.2009.01347.x>

MEST. (2010). *Ghana goes for green growth: Discussion document - Summary*. Accra. Retrieved from <http://cdkn.org/wp-content/uploads/2011/04/NCCPF-Summary-FINAL.pdf>

MESTI. (2015). *Ghana's third national communication report to the UNFCCC: 2015 climate change report*. Accra.

Michaelowa, A. (2011). Failures of global carbon markets and CDM? *Climate Policy*, 11(1), 839–841. <http://doi.org/10.3763/cpol.2010.0688>

Millar, C. I., Stephenson, N. L., & Stephens, S. L. (2007). Climate change and the forests of the future: Managing in the face of uncertainty. *Ecological Applications*, 17(8), 2145–2151.

Minang, P. , Bernard, F., Noordwijk, M., & Khurani, E. (2011). Agroforestry in REDD+: Opportunities and challenges. Nairobi: ASB Partnership for the Tropical Forest Margins.

Minang, P. A., Duguma, L. A., Bernard, F., Mertz, O., & Noordwijk, M. Van. (2014). Prospects for agroforestry in REDD+ landscapes in Africa. *Current Opinion in Environmental Sustainability*, 6, 78–82. <http://doi.org/10.1016/j.cosust.2013.10.015>

Minang, P. A., Noordwijk, M. Van, Duguma, L. A., Alemahi, D., Do, T. H., Bernard, F., ... Leimona, B. (2014). REDD+ readiness progress across countries: Time for reconsideration. Retrieved May 19, 2014, from <http://www.tandfonline.com/doi/pdf/10.1080/14693062.2014.905822>

References

Ministry of Lands and Natural Resources. (2012). *Ghana Investment Plan for the Forest Investment Program*.

Ministry of Lands and Natural Resources. Ghana Forest and Wildlife Policy (2012).

Ministry of Science Technology and Innovation. Ghana National Climate Change Policy (2013).

Moeliono, M., Gallemore, C., Santoso, L., Brockhaus, M., & Gregorio, M. Di. (2014). Information networks and power: confronting the “wicked problem” of REDD+ in Indonesia. *Ecology and Society*, 19(2).
<http://doi.org/http://dx.doi.org/10.5751/ES-06300-190209>

Mora, B., Herold, M., De Sy, V., Wijaya, A., Verchot, L., & Penman, J. (2012). *Capacity development in national forest monitoring: Experiences and progress for REDD+*. Retrieved from http://www.cifor.org/publications/pdf_files/Books/BWijaya1201.pdf

Morales, M. C., & Harris, L. M. (2014). Using Subjectivity and emotion to reconsider participatory natural resource management. *World Development*, 64, 703–712.
<http://doi.org/10.1016/j.worlddev.2014.06.032>

Morrison, T. H., Adger, W. N., Brown, K., Lemos, M. C., Huitema, D., & Hughes, T. P. (2017). Mitigation and adaptation in polycentric systems: sources of power in the pursuit of collective goals. *WIREs Climate Change*, e479, 1–16.
<http://doi.org/10.1002/wcc.479>

Mosimane, A. W., Breen, C., & Nkhata, B. A. (2012). Collective identity and resilience in the management of common pool resources. *International Journal of the Commons*, 6(2), 344–362.

Murdiyarso, D., Brockhaus, M., Sunderlin, W. D., & Verchot, L. (2012). Some lessons learned from the first generation of REDD+ activities. *Current Opinion in Environmental Sustainability*, 4(6), 678–685.
<http://doi.org/10.1016/j.cosust.2012.10.014>

Murphree, M. (2002). Yankey's dilemma: Conservation versus the people of Ghana. *New York Academy of Sciences*, 969(5), 14–19.

Mustalahti, I., Bolin, A., Boyd, E., & Paavola, J. (2012). Can REDD + Reconcile Local Priorities and Needs with Global Mitigation Benefits ? Lessons from Angai Forest , Tanzania. *Ecology and Society*, 17(1).

Myers, R., & Ardiansyah, F. (2014). Who holds power in land-use decisions?: Implications for REDD + in Indonesia. Bogor: CIFOR.

Naess, L. O. (2013). The role of local knowledge in adaptation to climate change. *WIREs Climate Change*, 4(April), 99–106. <http://doi.org/10.1002/wcc.204>

References

Nagendra, H., & Ostrom, E. (2012). Polycentric governance of multifunctional forested landscapes. *International Journal of the Commons*, 6(2), 104–133.

Nathan, I., & Pasgaard, M. (2017). Is REDD+ effective, efficient, and equitable? Learning from a REDD + project in Northern Cambodia. *Geoforum*, 83, 26–38. <http://doi.org/10.1016/j.geoforum.2017.04.020>

Nelson, K. C., & de Jong, B. H. J. (2003). Making global initiatives local realities: carbon mitigation projects in Chiapas, Mexico. *Global Environmental Change*, 13(1), 19–30. [http://doi.org/10.1016/S0959-3780\(02\)00088-2](http://doi.org/10.1016/S0959-3780(02)00088-2)

Newell, P. (2014). The politics and political economy of the CDM in Argentina. *Environmental Politics*, 23 (2). pp. 321-338. ISSN 0964-4016. *Environmental Politics*, 23(2), 321–338. <http://doi.org/https://doi.org/10.1080/09644016.2013.821827>

Newell, P., & Bumpus, A. (2012). The global political ecology of the Clean Development Mechanism. *Global Environmental Politics*, 12, 49–67.

Newell, P., Maxwell, B., & Boyd, E. (2012). *The New carbon economy: Constitution, governance and contestation*. Wiley-Blackwell.

Newell, P., & Paterson, M. (2010). *Climate capitalism: Global warming and the transformation of the glocal economy* (1st ed.). Cambridge: Cambridge University Press, UK and USA.

Newell, P., Pattberg, P., & Schroeder, H. (2012). Multiactor Governance and the Environment. *The Annual Review of Environment and Resources*, 37, 365–387. <http://doi.org/10.1146/annurev-environ-020911-094659>

Newell, R. G., & Stavins, R. N. (2000). Climate change and forest sinks: Factors affecting the costs of carbon sequestration. *Journal of Environmental Economics and Management*, 40, 211–235. <http://doi.org/10.1006/jeem.1999.1120>

Newton, P., Fournier, M., Cornwall, M., DeBoer, J., Rosenbach, D. W., Schaap, B., ... Agrawal, A. (2014). *Community forest management and REDD+*. Washington D.C: Program of Forests.

Newton, P., Oldekop, J. A., Brodnig, G., Karna, B. K., & Agrawal, A. (2016). Carbon, biodiversity, and livelihoods in forest commons: synergies, trade-offs, and implications for REDD+. *Environmental Research Letters*, 11(4), 1–7. <http://doi.org/10.1088/1748-9326/11/4/044017>

Newton, P., Schaap, B., Fournier, M., Cornwall, M., Rosenbach, D. W., Deboer, J., ... Agrawal, A. (2015). Community forest management and REDD+. *Forest Policy and Economics*, 56, 27–37. <http://doi.org/10.1016/j.forpol.2015.03.008>

Ngendakumana, S., Bachange, E. G., Damme, P. Van, Speelman, S., Tchoundjeu, Z., Kalinganire, A., & Bandiaky, S. B. (2013). Rethinking rights and interests of

References

local communities in REDD+ designs: Lessons learnt from current forest tenure systems in Cameroon. *ISRN Forestry*.
<http://doi.org/http://dx.doi.org/10.1155/2013/830902>

Ngendakumana, S., Minang, P. A., Feudjio, M., Speelman, S., Damme, P. Van, Tchoundjeu, Z., ... Tchoundjeu, Z. (2014). Institutional dimensions of the developing REDD+ process in Cameroon. *Climate Policy*, 14(6).
<http://doi.org/10.1080/14693062.2014.877221>

Niang, I., Ruppel, O. C., Abdrabo, M. A., Essel, A., Lennard, C., Padgham, J., & Urquhart, P. (2014). Africa. In V. R. Barros, C. B. Field, D. J. Dokken, M. D. Mastrandrea, K. J. Mach, T. E. Bilir, ... L. L. White (Eds.), *Climate Change 2014: Impacts, Adaptation and Vulnerability. Part B: Regional aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (pp. 1199–1265). Cambridge and New York: Cambridge University Press.

Nielsen, T. D. (2016). From REDD+ forests to green landscapes? Analyzing the emerging integrated landscape approach discourse in the UNFCCC. *Forest Policy and Economics*, 73, 177–184.
<http://doi.org/10.1016/j.forpol.2016.09.006>

Nightingale, A. J. (2011). Bounding difference: Intersectionality and the material production of gender, caste, class and environment in Nepal. *Geoforum*, 42(2), 153–162. <http://doi.org/10.1016/j.geoforum.2010.03.004>

Nightingale, A. J., & Ojha, H. R. (2013). Rethinking power and authority: Symbolic violence and subjectivity in Nepal's Terai forests. *Development and Change*, 44(1), 29–51. <http://doi.org/10.1111/dech.12004>

Nolon, J. R. (2012). Land use for energy conservation and sustainable development: A new path toward climate change mitigation. *Journal of Land Use, Energy and Sustainable Development*, 27(295–337).

Norad. (2016). *Real-time evaluation of the Government of Norway's International Climate and Forest Initiative: literature review and programme theory*.

Norton Rose LLP. (2010). Forest carbon rights in REDD + countries : a snapshot of Africa.

Nuesiri, E. O. (2015). *Representation in REDD: NGOs and chiefs privileged over elected local government in Cross River State, Nigeria* (RFGI No. 11). Dakar. Retrieved from <http://www.codesria.org/spip.php?article2322&lang=fr>

Nuijten, M. (2005). Power in practice: A force field approach to natural resource management. *The Journal of Transdisciplinary Environmental Studies*, 4(2).

O'Connor, D. (2008). Governing the global commons: Linking carbon sequestration and biodiversity conservation in tropical forests. *Global Environmental Change*, 18, 368–374. <http://doi.org/10.1016/j.gloenvcha.2008.07.012>

References

Oduro-Ofori, E., Imoro, B., & Asamaaoah, F. S. (2014). The Effects of natural resource conservation on the development of fringe communities around the Barekese Catchment Area. *Research on Humanities and Social Sciences*, 4(19), 27–34.

Offei, A., & Iddrisu, N. (2011). Sustainable management of Ghana's forest and responsible timber production. *Environment Industry Magazine*, 17, 90–91. Retrieved from http://www.ghanatimber.org/upload/news/file/12_FCL-Article2.pdf

Ojha, H. R., Khatri, D., Shrestha, K. K., & Sharma, N. (2013). Carbon, community and governance: Is Nepal getting ready for REDD+? *Forests, Trees and Livelihoods*, 22(4), 216–229. <http://doi.org/10.1080/14728028.2013.856166>

Okereke, C., & Dooley, K. (2010). Principles of justice in proposals and policy approaches to avoided deforestation: Towards a post-Kyoto climate agreement. *Global Environmental Change*, 20, <http://doi.org/10.1016/j.gloenvcha.2009.08.004>

Olsson, P., & Folke, C. (2001). Local ecological knowledge and institutional dynamics for ecosystem management: A study of Lake Racken Watershed, Sweden. *Ecosystems*, 4, 85–104. <http://doi.org/10.1007/s100210000061>

Olukoye, G. A., & Kinyamario, J. I. (2009). Community participation in the rehabilitation of a sand dune environment in Kenya. *Land Degradation and Development*, 409, 397–409. <http://doi.org/10.1002/ldr>

Omura, M. (2008). Property rights and natural resource management incentives: Do transferability and formality matter? *American Journal of Agricultural Economics*, 90(4), 1143–1155. <http://doi.org/10.1111/j.1467-8276.2008.01151.x>

Orchard, S. E., & Stringer, L. C. (2016). Challenges to polycentric governance of an international development project tackling land degradation in Swaziland. *Ambio*, 45(7), 796–807. <http://doi.org/10.1007/s13280-016-0791-8>

Orjan, B., & Crona, B. I. (2009). The role of social networks in natural resource governance: What relational patterns make a difference? *Global Environmental Change*, 19, 366–374. <http://doi.org/10.1016/j.gloenvcha.2009.05.002>

Ostrom, E. (2009). A general framework for analyzing sustainability of social-ecological systems. *Science*, 325(419). <http://doi.org/10.1126/science.1172133>

Ostrom, E. (2005). *Understanding Institutional Diversity*. Oxford: Princeton University Press.

Ostrom, E. (1990). *Governing the commons: the evolution of institutions for collective action*. New York: Cambridge University Press.

References

Ostrom, E., Dietz, T., Dolsak, N., Stern, P. C., Stonich, S., & Weber, E. U. (2002). *The drama of the commons*. Washington D.C: National Academy Press.

Owubah, C. E., Le Master, D. C., Bowker, J. ., & Lee, J. G. (2001). Forest tenure systems and sustainable forest management: The case of Ghana. *Forest Ecology and Management*, 149. [http://doi.org/10.1016/S0378-1127\(00\)00557-0](http://doi.org/10.1016/S0378-1127(00)00557-0)

Palmer, C. (2011). Property rights and liability for deforestation under REDD+: Implications for “permanence” in policy design. *Ecological Economics*, 70(4), 571–576. <http://doi.org/10.1016/j.ecolecon.2010.10.011>

Palmer, C., & Engel, S. (2009). *Avoided deforestation: Prospects for mitigating climate change* (1st ed.). New York: Routledge.

Pasgaard, M., Sun, Z., Müller, D., & Mertz, O. (2016). Challenges and opportunities for REDD+: A reality check from perspectives of effectiveness, efficiency and equity. *Environmental Science and Policy*, 63, 161–169. <http://doi.org/10.1016/j.envsci.2016.05.021>

Pasgaard, M. (2013). The challenge of assessing social dimensions of avoided deforestation: Examples from Cambodia. *Environmental Impact Assessment Review*, 38, 64–72. <http://doi.org/10.1016/j.eiar.2012.06.002>

Pasgaard, M. (2015). Lost in translation ? How project actors shape REDD + policy and outcomes in Cambodia. *Asia Pacific Viewpoint*, 56(1), 111–127. <http://doi.org/10.1111/apv.12082>

Paterson, M., & Stripple, J. (2015). Virtuous carbon. In B. Stephan & R. Lane (Eds.), *The politics of carbon markets* (1st ed., pp. 91–110). London and New York: Routledge.

Paudel, N. S., Vedeld, P. O., & Khatri, D. B. (2015). Prospects and challenges of tenure and forest governance reform in the context of REDD + initiatives in Nepal. *Forest Policy and Economics*, 52, 1–8. <http://doi.org/10.1016/j.forpol.2014.12.009>

Pelletier, J., Gélinas, N., & Skutsch, M. (2016). The Place of community forest management in the REDD+ landscape. *Forests*, 1(Cop 16), 1–24. <http://doi.org/10.3390/f7080170>

Pellizzoni, L. (2011). Governing through disorder: Neoliberal environmental governance and social theory. *Global Environmental Change*, 21(3), 795–803. <http://doi.org/10.1016/j.gloenvcha.2011.03.014>

Penna-firme, R., & Brondizio, E. (2007). The risks of commodifying poverty: Rural communities, Quilombola identity, and nature conservation in Brazil. *Habitus*, 5(2), 355–373.

References

Peprah, K. (2015). Sustainability of cocoa farmers' livelihoods: A case study of Asunafo District, Ghana. *Sustainable Production and Consumption*, 4(April), 2–15. <http://doi.org/10.1016/j.spc.2015.09.001>

Peras, R. J., Pulhin, J., & Inoue, M. (2015). Local stakeholders' assessment of community-based forest management and the implications for REDD Plus implementation in the Philippines. *Asia Life Sciences*, 24, 349–381.

Persson, J., & Prowse, M. (2017). Collective action on forest governance: An institutional analysis of the Cambodian community forest system. *Forest Policy and Economics*, 83(October 2016), 70–79. <http://doi.org/10.1016/j.forpol.2017.06.008>

Peskett, L., Huberman, D., Bowen-Jones, E., Edwards, G., & Brown, J. (2008). *Making REDD work for the poor*. London. Retrieved from <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3451.pdf>

Petrokofsky, G., Holmgren, P., & Brown, N. D. (2011). Reliable forest carbon monitoring – systematic reviews as a tool for validating the knowledge base. *International Forestry Review*, 13(1), 56–66.

Pettenella, D., & Brotto, L. (2012). Governance features for successful REDD+ projects organization. *Forest Policy and Economics*, 18, 46–52. <http://doi.org/10.1016/j.forpol.2011.09.006>

Petticrew, M., & Roberts, H. (2006). *Systematic reviews in the social sciences: A practical guide* (1st ed.). Oxford: Blackwell publishing. Retrieved from http://books.google.com/books?hl=en&lr=&id=ZwZ1_xU3E80C&oi=fnd&pg=PR5&dq=Systematic+reviews+in+the+social+sciences:+A+practical+guide&ots=wWX-AUKYIv&sig=zo480EgB8InP7bmn64nXI3TT7Q4

Phelps, J., Friess, D. A., & Webb, E. L. (2012). Win–win REDD+ approaches belie carbon–biodiversity trade-offs. *Biological Conservation*, 154, 53–60. <http://doi.org/10.1016/j.biocon.2011.12.031>

Phelps, J., Webb, E. L., & Agrawal, A. (2010). Does REDD+ threaten to recentralize forest governance. *Science*, 328.

Phillips, J., & Newell, P. (2013). The governance of clean energy in India: The clean development mechanism (CDM) and domestic energy politics. *Energy Policy*, 59, 654–662. <http://doi.org/10.1016/j.enpol.2013.04.019>

Pickering, C., & Byrne, J. (2013). The benefits of publishing systematic quantitative literature reviews for PhD candidates and other early-career researchers. *Higher Education Research & Development*, 0(0), 1–15. <http://doi.org/10.1080/07294360.2013.841651>

References

Pirard, R., & Karsenty, A. (2009). Climate change mitigation: Should “Avoided Deforestation” be rewarded? *Journal of Sustainable Forestry*, 28, 434–455. <http://doi.org/10.1080/10549810902794485>

Pittock, A. B. (2009). *Climate change: The science, impacts and solutions* (Second). London: Earthscan.

Pokorny, B., Scholz, I., & de Jong, W. (2013). REDD+ for the poor or the poor for REDD+? About the limitations of environmental policies in the Amazon and the potential of achieving environmental goals through pro-poor policies. *Ecology and Society*, 18(2), 3. <http://doi.org/10.5751/ES-05458-180203>

Ponte, S., & Cheyns, E. (2013). Voluntary standards , expert knowledge and the governance of sustainability networks, 1–19.

Programme, G. C. (2016). What is REDD+? Retrieved September 10, 2017, from <http://theredddesk.org/what-redd>

Putz, F. E., & Romero, C. (2012). Helping curb tropical forest degradation by linking REDD+ with other conservation interventions: a view from the forest. *Current Opinion in Environmental Sustainability*, 4(6), 670–677. <http://doi.org/10.1016/j.cosust.2012.10.003>

Quesada-Aguilar, A., & Franks, P. (2015). Applying three dimensions of equity to REDD+. London: IIED. Retrieved from <http://pubs.iied.org/17321IIED>

Raik, D. B., & Decker, D. J. (2007). A multisector framework for assessing community-based forest management : Lessons from Madagascar. *Ecology and Society*, 12(1).

Raik, D. B., Wilson, A. L., & Decker, D. J. (2008). Power in natural resources management: An application of theory. *Society and Natural Resources: An International Journal*, 21(8), 729–739. <http://doi.org/10.1080/08941920801905195>

Ramcilovic-Suominen, S., & Hansen, C. P. (2012). Why some forest rules are obeyed and others violated by farmers in Ghana: Instrumental and normative perspective of forest law compliance. *Forest Policy and Economics*, 23, 46–54. <http://doi.org/10.1016/j.forpol.2012.07.002>

Rantala, S., Kontinen, T., Korhonen-Kurki, K., & Mustalahti, I. (2015). Equity in REDD+: Varying logics in Tanzania. *Environmental Policy and Governance*, 25(3), 201–212. <http://doi.org/10.1002/eet.1669>

Ravikumar, A., Larson, A. M., Myers, R., & Tovar, J. G. (2015). Multilevel governance challenges in transitioning towards a national approach for REDD+: evidence from 23 subnational REDD + initiatives. *International Journal of the Commons*, 9(2), 909–931.

References

RECOFTC. (2015). *Equity in forests and REDD +: An analysis of equity challenges as viewed by forestry decision-makers and practitioners in Cambodia, Lao PDR and Vietnam.*

REDD-net. (2011). A Framework for Defining Equity.

Redman, C. L. (2014). Should sustainability and resilience be combined or remain distinct pursuits? *Ecology and Society*, 19(2), 1–19.
<http://doi.org/10.5751/ES-06390-190237>

Reed, M. S. (2008). Stakeholder participation for environmental management : A literature review. *Biological Conservation*, 1.
<http://doi.org/10.1016/j.biocon.2008.07.014>

Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., ... Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of Environmental Management*, 90(5), 1933–1949. <http://doi.org/10.1016/j.jenvman.2009.01.001>

Reed, P. (2011). REDD+ and the indigenous question: A case study from Ecuador. *Forests*, 2(4), 525–549. <http://doi.org/10.3390/f2020525>

Resosudarmo, I. A. P., Atmadja, S., Ekaputri, A. D., Intarini, D. Y., Indriatmoko, Y., & Astri, P. (2014). Does tenure security lead to REDD+ project effectiveness? Reflections from five emerging sites in Indonesia. *World Development*, 55, 68–83. <http://doi.org/10.1016/j.worlddev.2013.01.015>

Rhodes, R. A. . (2006). Policy network analysis. In M. Moran, M. Rein, & R. E. Goodin (Eds.), *The Oxford Handbook of Public Policy* (1st ed., pp. 425–447). New York: Oxford University Press.

Ribot, J. C., & Larson Anne M. (2012). Reducing REDD Risks: Affirmative Policy on an Uneven Playing Field. *International Journal of the Commons*, 6(2), 233–254.

Richards, L. (2000). Using NVivo in Qualitative Research. In P. Bazeley & L. Richards (Eds.), *The NVivo Qualitative Project Book* (pp. 255–260). Sage Publications.

Richards, L. (1999). Data Alive! The Thinking Behind NVivo. *Qualitative Health Research*, 9(3), 412–428.

Robinson, L. W., & Sasu, K. A. (2013). The role of values in a community-based conservation initiative in northern Ghana. *Environmental Values*, 22.

Rocheleau, D. E. (2008). Political ecology in the key of policy: From chains of explanation to webs of relation. *Geoforum*, 39(2), 716–727.
<http://doi.org/10.1016/j.geoforum.2007.02.005>

References

Rocheleau, D., & Roth, R. (2007). Rooted networks, relational webs and powers of connection: Rethinking human and political ecologies. *Geoforum*, 38(3), 433-437. <http://doi.org/10.1016/j.geoforum.2006.10.003>

Rocheleau, D., Thomas-Slayter, B., & Wangari, E. (1996). Gender and environment: A feminist political ecology perspective. In D. Rocheleau, B. Thomas-Slayter, & E. Wangari (Eds.), *Feminist political ecology*. New York: Routledge.

Roderick, P. (2009). Political ecology : theorizing scale. *Progress in Human Geography*, 33(3), 398–406. <http://doi.org/10.1177/0309132508096353>

Rose, N. (2000). Community, citizenship and the third way. In D. Meredyth & J. Minson (Eds.), *Citizenship and Cultural Policy* (1st ed., pp. 1-17). London: Sage Publications.

Rosen, A. M. (2015). The wrong solution at the right time: The failure of the Kyoto Protocol on climate change. *Politics and Policy*, 43(1), 30–58. <http://doi.org/10.1111/j.1747-1346.2007.00080.x/abstract>

Ross, A. (2009). Modern interpretations of sustainable development. *Journal of Law and Society*, 36(1), 32–54.

Roth, R. J., & Dressler, W. (2012). Market-oriented conservation governance: The particularities of place. *Geoforum*, 43(3), 363–366. <http://doi.org/10.1016/j.geoforum.2012.01.006>

Rouse, J. (2015). Power/Knowledge. In G. Gutting (Ed.), *The Cambridge Companion to Foucault* (pp. 95–122). Cambridge: Cambridge University Press. <http://doi.org/http://dx.doi.org/10.1017/CCOL0521840821.005>

Rowe, E. W. (2015). Locating international REDD+ power relations: Debating forests and trees in international climate negotiations. *Geoforum*, 66, 64–74. <http://doi.org/10.1016/j.geoforum.2015.09.008>

Rutherford, S. (2007). Green governmentality: insights and opportunities in the study of nature's rule. *Progress in Human Geography*, 31(3), 291–307. <http://doi.org/10.1177/0309132507077080>

Sachs, J. D. (2012). From Millennium Development Goals to Sustainable Development Goals. *Lancet*, 379, 2206–2211. [http://doi.org/10.1016/S0140-6736\(12\)60685-0](http://doi.org/10.1016/S0140-6736(12)60685-0)

Saeed, A. (2015). Influencing REDD+: Stakeholder participation in Ghana's REDD+ process. In C. Ludwig, C. Matasci, & X. Edelman (Eds.), *Natural Resources: Sustainable targets, technologies, lifestyles and governance* (pp. 93–99). World Resources Forum.

Saeed, A.-R., Mcdermott, C., & Boyd, E. (2017). Are REDD+ community forest projects following the principles for collective action as proposed by Ostrom?

References

International Journal of the Commons, 11, 572–596. <http://doi.org/DOI: 10.18352/ijc.700>

SAL Consult. (2014). *REDD+ Strategic Environmental and Social Assessment*.

Sambian, K. S. (2012). *The potential of REDD in ghana: A study of a pilot area, Aowin Suaman district in the Western Region , Ghana*. Norwegian University of Life Science.

Sandbrook, C., Nelson, F., Adams, W. M., & Agrawal, A. (2010). Carbon, forests and the REDD paradox. *Fauna and Flora International, Oryx*, 44(3), 330–334. <http://doi.org/10.1017/S0030605310000475>

Sanz, M. J., & Penman, J. (2016). An overview of REDD+. *Unasylva*, 67(246), 21–30.

Sathaye, J., Shukla, P. R., & Ravindranath, N. H. (2006). Climate change, sustainable development and India: Global and national concerns. *Current Science*, 90(3), 314–325.

Satyal, P. (2017). *Assessing civil society participation in REDD + and FLEGT case study analysis of Cameroon, Ghana, Liberia and the Republic of Congo*.

Saunders, J., & Nussbaum, R. (2008). Forest governance and Reduced Emissions from Deforestation and Degradation (REDD). *Energy, Environment and Development Programme*. London: Chatham House.

Saunders, M. N. K. (2012). Choosing research participants. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 35–52). London: Sage Publications.

Saxena, N. C. (2011). Chapter 3: What is meant by people's participation? In A. Cornwall (Ed.), *The participation reader* (pp. 31–33). London: Zed Books. Retrieved from http://ls-tlss.ucl.ac.uk/course-materials/BENVGSD2_63001.pdf

Scales, I. R. (2014). Paying for nature: what every conservationist should know about political economy. *Fauna and Flora International, Oryx*, 1–6. <http://doi.org/10.1017/S0030605314000015>

Scheba, A. (2014). *Commodifying forest carbon: how local power, politics and livelihood practices shape REDD+ in Lindi Region, Tanzania*. University of Manchester.

Scheba, A., & Scheba, S. (2017). REDD+ as “inclusive” neoliberal conservation: The case of Lindi, Tanzania. *Journal of Eastern African Studies*, 11(3), 526–548. <http://doi.org/10.1080/17531055.2017.1357102>

Schlundmadinger, B., Bird, N., Johns, T., Brown, S., Canadell, J., Ciccarese, L., ... Yamagata, Y. (2007). A synopsis of land use, land-use change and forestry

References

(LULUCF) under the Kyoto Protocol and Marrakech Accords. *Environmental Science & Policy*, 10, 271–282. <http://doi.org/10.1016/j.envsci.2006.11.002>

Schlosberg, D., & Carruthers, D. (2010). Indigenous struggles, environmental justice, and community capabilities. *Global Environmental Politics*, 10(4).

Schroeder, H. (2010). Agency in international climate negotiations: the case of indigenous peoples and avoided deforestation. *International Environmental Agreements*, 10, 317–332. <http://doi.org/10.1007/s10784-010-9138-2>

Schroeder, H., & Lovell, H. (2012). The role of non-nation-state actors and side events in the international climate negotiations. *Climate Policy*, 12(1). <http://doi.org/10.1080/14693062.2011.579328>

Schroeder, H., & Mcdermott, C. (2014). Beyond Carbon: enabling justice and equity in REDD+ across levels of governance. *Ecology and Society*, 19(1), 2–4.

Scriven, J. N. H. (2010). *Markets and payments for ecosystem services: Engaging REDD + on Peru's Amazonian frontier*.

Shadish, W. R., Tolliver, D., Gray, M., & Gupta, S. K. Sen. (1995). Author judgements about works they cite: Three studies from Psychology journals. *Social Studies of Science*, 25(3), 477–498.

Shankland, A., & Hasenclever, L. (2011). Indigenous Peoples and the Regulation of REDD+ in Brazil: Beyond the War of the Worlds? *IDS Bulletin*, 42(3), 80–88. <http://doi.org/10.1111/j.1759-5436.2011.00225.x>

Shannon, M. A. (2003). Mechanisms for coordination. In Y. C. Dubé & F. Schmithüsen (Eds.), *Cross-Sectoral Policy Impacts Between Forestry and other Sectors* (pp. 145–158). Rome: FAO.

Shepherd, G. (2016). *Opportunities for interventions around Mole National Park which both enhance livelihoods and promote REDD+ Agendas*.

Sikor, T., & Hoàng, C. (2016). REDD+ on the rocks? Conflict over forest and politics of justice in Vietnam. *Human Ecology*, 44, 217–227. <http://doi.org/10.1007/s10745-016-9821-1>

Sikor, T., Stahl, J., Enters, T., Ribot, J. C., Singh, N., Sunderlin, W. D., & Wollenberg, L. (2010). REDD-plus, forest people's rights and nested climate governance. *Global Environmental Change*, 20(3), 423–425. <http://doi.org/10.1016/j.gloenvcha.2010.04.007>

Sills, E. O., Atmadja, S. S., Sassi, C. De, Duchelle, A. E., Kweka, D. L., Resosudarmo, I. A. P., & Sunderlin, W. D. (2014). *REDD+ on the ground: A case book of subnational initiatives across the globe*. Bogor: CIFOR.

Singh, A., Unnikrishnan, S., Naik, N., & Duvvuri, K. (2013). Role of India's forests in climate change mitigation through the CDM and REDD+. *Journal of*

References

Environmental Planning and Management, 56(1), 61–87.
<http://doi.org/10.1080/09640568.2011.651110>

Singh, B., & Skutsch, M. (2010). The cost of carbon abatement through community forest management in Nepal Himalaya. *Ecological Economics*, 69(3), 666–672.
<http://doi.org/10.1016/j.ecolecon.2009.10.004>

Singh, N. M. (2013). The affective labor of growing forests and the becoming of environmental subjects: Rethinking environmentality in Odisha, India. *Geoforum*, 47, 189–198. <http://doi.org/10.1016/j.geoforum.2013.01.010>

Skutsch, M., Simon, C., Velazquez, A., & Fernández, J. C. (2013). Rights to carbon and payments for services rendered under REDD+: Options for the case of Mexico. *Global Environmental Change*, 23(4), 813–825.
<http://doi.org/10.1016/j.gloenvcha.2013.02.015>

Sommerville, M. (2013). Land tenure and REDD+: Risks to property rights and opportunities for economic growth. USAID. Retrieved from <https://www.land-links.org/wp-content/uploads/2016/09/Land-Tenure-and-REDD.pdf>

Somorin, O. a, Brown, H. C. P., Visseren-Hamakers, I. J., Sonwa, D. J., Arts, B., & Nkem, J. (2012). The Congo Basin forests in a changing climate: Policy discourses on adaptation and mitigation (REDD+). *Global Environmental Change*, 22(1), 288–298. <http://doi.org/10.1016/j.gloenvcha.2011.08.001>

Somorin, O. A., Visseren-hamakers, I. J., Arts, B., Sonwa, D. J., & Tiani, A. (2014). REDD+ policy strategy in Cameroon: Actors, institutions and governance. *Environmental Science and Policy*, 35, 87–97.
<http://doi.org/10.1016/j.envsci.2013.02.004>

Spittlehouse, D. L., & Stewart, R. B. (2003). Adaptation to climate change in forest management. *BC Journal of Ecosystems and Management*, 4(1), 1–11.

Springate-baginski, O., & Wollenberg, E. (2010). *REDD, forest governance and rural livelihoods: The emerging agenda*. Bogor: CIFOR.

St-laurent, G. P., Gélinas, N., & Potvin, C. (2013). Land use policy REDD+ and the agriculture frontier: Understanding colonists' utilization of the land. *Land Use Policy*, 31, 516–525. <http://doi.org/10.1016/j.landusepol.2012.08.017>

Stefanovic, I. L. (2000). *Safeguarding our common future: Rethinking sustainable development*. New York: State University of New York Press.

Stephan, B. (2013). How to trade “not cutting down trees”: a governmentality perspective on the commodification of avoided deforestation. In C. Methmann, D. Rothe, & B. Stephan (Eds.), *Interpretive approaches to global climate governance: (De) constructing the greenhouse* (1st ed., pp. 57–71). Abingdon: Routledge.

References

Stephan, B., & Lane, R. (2015). *The politics of carbon markets* (1st ed.). London and New York: Routledge.

Stern, N. (2006). *Stern Review: The Economics of climate change executive summary*.

Steyaert, P., Barzman, M., Billaud, J.-P., Brives, H., Hubert, B., Ollivier, G., & Roche, B. (2007). The role of knowledge and research in facilitating social learning among stakeholders in natural resources management in the French Atlantic coastal wetlands. *Environmental Science and Policy*, 10, 537–550. <http://doi.org/10.1016/j.envsci.2007.01.012>

Stoian, D. (2005). Making the best of two worlds: Rural and peri-urban livelihood options sustained by nontimber forest products from the Bolivian Amazon. *World Development*, 33(9), 1473–1490. <http://doi.org/10.1016/j.worlddev.2004.10.009>

Stone, S., & Leon, M. C. (2010). Climate change and the role of forests: A community manual. Conservation International. Retrieved from http://www.conservation.org/publications/Documents/redd/CI_Climate_Change_and_the_Role_of_Forests_Community_Manual.pdf

Streck, C. (2004). New partnerships in global environmental policy: The Clean Development Mechanism. *The Journal of Environment & Development*, 13(3), 295–322. <http://doi.org/10.1177/1070496504268696>

Suiseeya, K. R. M. (2016). Transforming justice in REDD+ through a politics of difference approach. *Forests*, 7(300), 1–14. <http://doi.org/10.3390/f7120300>

Sultana, F., Affairs, P., & Hall, E. (2011). Suffering for water, suffering from water: Emotional geographies of resource access, control and conflict. *Geoforum*, 42(2), 163–172. <http://doi.org/10.1016/j.geoforum.2010.12.002>

Sunderland, T. C. H., Ehringhaus, C., & Campbell, B. M. (2008). Conservation and development in tropical forest landscapes: a time to face the trade-offs? *Environmental Conservation*, 34(4), 276–279. <http://doi.org/10.1017/S0376892908004438>

Sunderlin, W. D., Sills, E. O., Duchelle, A. E., Ekaputri, A. D., Kweka, D., Toniolo, M. A., ... Otsyina, R. M. (2015). REDD+ at a critical juncture: Assessing the limits of polycentric governance for achieving climate change mitigation. *International Forestry Review*, 17(4), 400–413. <http://doi.org/https://doi.org/10.1505/146554815817476468>

Sunderlin, W. D., Angelsen, A., Belcher, B., Burgers, P., Nasi, R., Santoso, L., & Wunder, S. (2005). Livelihoods, forests, and conservation in developing countries: An overview. *World Development*, 33(9), 1383–1402. <http://doi.org/10.1016/j.worlddev.2004.10.004>

Sunderlin, W. D., Ekaputri, A. D., Sills, E. O., Duchelle, A. E., Kweka, D., Doggart, N., ... Toniolo, A. (2014). *The challenge of establishing REDD+ on the ground: Insights*

References

from 23 subnational initiatives in six countries (Occasional paper No. 104). Bogor: CIFOR.

Sunderlin, W. D., Larson, A. M., Duchelle, A. E., Resosudarmo, I. A. P., Huynh, T. B., Awono, A., & Dokken, T. (2014). How are REDD+ proponents addressing tenure problems? Evidence from Brazil, Cameroon, Tanzania, Indonesia and Vietnam. <http://doi.org/http://dx.doi.org/10.1016/j.worlddev.2013.01.013>

Susanti, A., & Maryudi, A. (2016). Development narratives, notions of forest crisis, and boom of oil palm plantations in Indonesia. *Forest Policy and Economics*, 73, 130–139. <http://doi.org/10.1016/j.forpol.2016.09.009>

Sutter, C., & Parreño, J. C. (2007). Does the current Clean Development Mechanism (CDM) deliver its sustainable development claim? An analysis of officially registered CDM projects. *Climatic Change*, 84(1), 75–90. <http://doi.org/10.1007/s10584-007-9269-9>

Symon, G., & Cassell, C. (2012). Introduction: The context of qualitative organizational research. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 1–12). London: Sage Publications.

Symon, G., & Cassell, C. (2012). *Qualitative Organizational Research: Core methods and current challenges*. (G. Symon & C. Cassell, Eds.). London: Sage Publications.

Tai, H.-S. (2015). Cross-Scale and cross-level dynamics: Governance and capacity for resilience in a social-ecological system in Taiwan. *Sustainability*, 7, 2045–2065. <http://doi.org/10.3390/su7022045>

Tallis, H., & Polasky, S. (2009). Mapping and valuing ecosystem services as an approach for conservation and natural-resource management. *The Year in Ecology and Conservation Biology*, 283, 265–283. <http://doi.org/10.1111/j.1749-6632.2009.04152.x>

Tanner, A. M., & Johnston, A. L. (2017). The impact of rural electric access on deforestation rates. *World Development*, 94, 174–185. <http://doi.org/10.1016/j.worlddev.2016.12.046>

Tanner, T., & Allouche, J. (2011). Towards a new political economy of climate change and development. *IDS Bulletin*, 42(3), 1–14.

Taylor, C. (1994). The Politics of Recognition. In A. Gutmann (Ed.), *Multi-culturalism: Examining the politics of recognition*. Princeton NJ: Princeton University Press.

Taylor, P. L., & Zabin, C. (2000). Neoliberal reform and sustainable forest management in Quintana Roo, Mexico: Rethinking the institutional framework of the Forestry Pilot Plan. *Agriculture and Human Values*, 17, 141–156.

References

Teddlie, C., & Yu, F. (2007). Mixed Methods Sampling: a typology with examples. *Journal of Mixed Methods Research*, 1(1), 77–100. <http://doi.org/10.1177/2345678906292430>

Tenbensel, T. (2005). Multiple modes of governance. *Public Management Review*, 7(2), 37–41. <http://doi.org/10.1080/14719030500091566>

Tengo, M., & Heland, J. Von. (2012). Adaptive capacity of local indigenous institutions: The case of taboo forests of Southern Madagascar. In E. Boyd & C. Folke (Eds.), *Adapting institutions: Governance, complexity and socio-ecological resilience* (pp. 37–74). Cambridge: Cambridge University Press.

Teye, J. K. (2011). A Chronological assessment of Ghana's forestry policies in precolonial and colonial era: lessons for forest management in contemporary Ghana. *African Journal of Social Sciences*, 1(2), 125–139.

Teye, J. K. (2008). *Forest Resource Management in Ghana: an analysis of policy and institutions*. Retrieved from <https://core.ac.uk/download/pdf/43838.pdf>

Thompson, M. C., Baruah, M., & Carr, E. R. (2011). Seeing REDD+ as a project of environmental governance. *Environmental Science & Policy*, 14(2), 100–110. <http://doi.org/10.1016/j.envsci.2010.11.006>

Thondhlana, G., Shackleton, S., & Blignaut, J. (2015). Local institutions, actors, and natural resource governance in Kgalagadi Transfrontier Park and surrounds, South Africa. *Land Use Policy*, 47, 121–129. <http://doi.org/10.1016/j.landusepol.2015.03.013>

Tietze, S. (2012). Researching your own organization. In G. Symon & C. Cassell (Eds.), *Qualitative organizational research: Core methods and current challenges* (1st ed., pp. 53–71). London: Sage Publications.

Tilahun, M., Damnyag, L., & Anglaaere, L. C. N. (2016). The Ankasa Forest Conservation Area of Ghana: Ecosystem service values and on-site REDD+ opportunity cost. *Forest Policy and Economics*, 73, 168–176. <http://doi.org/10.1016/j.forpol.2016.08.011>

Tinkler, P. (2013). Using photographs in social and historical research. London: Sage Publications.

Tonge, J., Moore, S., Ryan, M., & Beckley, L. (2013). Using photo-elicitation to explore place attachment in a remote setting. *The Electronic Journal of Business Research Methods*, 11(1), 41–50. Retrieved from www.ejbrm.com

Torgerson, D. (1999). *The promise of green politics: Environmentalism and the public sphere*. USA: Duke University Press.

Turnhout, E., Gupta, A., Weatherley-singh, J., Vijge, M. J., Koning, J. De, Visseren-Hamakers, I. J., ... Lederer, M. (2017). Envisioning REDD+ in a post-Paris era:

References

Between evolving expectations and current practice. *WIREs Climate Change*, 8(e425), 1–13. <http://doi.org/10.1002/wcc.425>

UN. (1992). United Nations Framework Convention on Climate Change. Bonn.

UN. (2011). Forests for People: A historical relationship. Retrieved from http://www.un.org/esa/forests/wp-content/uploads/bsk-pdf-manager/83_FACT_SHEET_FORESTSANDPEOPLE.PDF

UNDP. (2015). Human development report 2015: Work for human development. Retrieved October 30, 2016, from <http://hdr.undp.org/en/indicators/100806>

UNEP/UNDP. (2012). *National Climate Change Adaptation Strategy*. Accra. Retrieved from <http://www.clima.md/doc.php?l=en&id=2529&idc=237>

UNFCCC. (2017). CDM project cycle.

UNFCCC. (2014). Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013. Bonn.

UNFCCC. (2016). *Key decisions relevant for reducing emissions from deforestation and forest degradation in developing countries*.

UNFCCC. (2014). Factsheets. Retrieved May 7, 2017, from <http://redd.unfccc.int/meetings.html>

UNFCCC. (2012). *Benefits of the clean development mechanism 2012*.

Uphoff, N., & Buck, L. (2006). *Strengthening rural local institutional capacities for sustainable livelihoods and equitable development*.

Vaccaro, I., Beltran, O., & Paquet, P. A. (2013). Political ecology and conservation policies: some theoretical genealogies. *Journal of Political Ecology*, 20, 255–272.

Valentine, G. (2005). Tell me about...: Using interviews as a research methodology. In R. Flowerdew & D. Martin (Eds.), *Methods in Human Geography: A guide for students doing research project* (2nd ed., pp. 110–127). Edinburgh: Pearson Education Limited.

Varughese, G., & Ostrom, E. (2001). The Contested role of heterogeneity in collective action: Some evidence from community forestry in Nepal. *World Development*, 29(5), 747–765. [http://doi.org/10.1016/S0305-750X\(01\)00012-2](http://doi.org/10.1016/S0305-750X(01)00012-2)

Vatn, A., & Vedeld, P. O. (2013). National governance structures for REDD+. *Global Environmental Change*, 23(2), 422–432. <http://doi.org/10.1016/j.gloenvcha.2012.11.005>

References

Veronesi, M., Reutemann, T., Zabel, A., & Engel, S. (2015). Designing REDD+ schemes when forest users are not forest landowners: Evidence from a survey-based experiment in Kenya. *Ecological Economics*, 116, 46–57. <http://doi.org/10.1016/j.ecolecon.2015.04.009>

Vijge, M. J. (2015). Competing discourses on REDD+: Global debates versus the first Indian REDD+ project. *Forest Policy and Economics*, 56, 38–47. <http://doi.org/10.1016/j.forpol.2015.03.009>

Vijge, M. J., Brockhaus, M., Gregorio Di, M., & Muharrom, E. (2016). Framing national REDD + benefits, monitoring, governance and finance: a comparative analysis of seven countries. *Global Environmental Change*, 39, 57–68. <http://doi.org/10.1016/j.gloenvcha.2016.04.002>

Vijge, M. J., & Gupta, A. (2013). Framing REDD+ in India: Carbonizing and centralizing Indian forest governance? *Environmental Science & Policy*, 1–11. <http://doi.org/10.1016/j.envsci.2013.10.012>

Vink, M. J., Dewulf, A., & Termeer, C. (2013). The role of knowledge and power in climate change adaptation governance : a systematic literature review. *Ecology and Society*, 18(4).

Visseren-Hamakers, I. J., Gupta, A., Herold, M., Peña-Claros, M., & Vijge, M. J. (2012). Will REDD+ work? The need for interdisciplinary research to address key challenges. *Current Opinion in Environmental Sustainability*, 4(6), 590–596. <http://doi.org/10.1016/j.cosust.2012.10.006>

Waage, J., Yap, C., Bell, S., Levy, C., Mace, G., Pegram, T., ... Poole, N. (2015). Governing the UN Sustainable Development Goals: Interactions, infrastructures, and institutions. *The Lancet Global Health*, 3, 251–252. [http://doi.org/10.1016/S2214-109X\(15\)70112-9](http://doi.org/10.1016/S2214-109X(15)70112-9)

Walsh, M. (2003). Teaching Qualitative Analysis Using QSR NVivo. *The Qualitative Report*, 8(2), 251–256. Retrieved from <http://nsuworks.nova.edu/tqr/vol8/iss2/6>

Wassa Amenfi West District Assembly (WAWD). (2006). *Wassa Amenfi West District: Medium Term Development Plan (2006-2009)*.

Wassa Amenfi West District Assembly (WAWD). (2006). *Amenfi West District Profile*. Asankragwa.

Weatherley-singh, J., & Gupta, A. (2017). Forest Policy and Economics An ecological landscape approach to REDD + in Madagascar : Promise and limitations ? *Forest Policy and Economics*, 85(August), 1–9. <http://doi.org/10.1016/j.forpol.2017.08.008>

References

Welsh, E. (2002). Dealing with Data: using NVivo in the Qualitative Data Analysis Process 1. *Forum: Qualitative Social Research*, 3(2), Art. 26. Retrieved from <http://nbn-resolving.de/urn:nbn:de:0114-fqs0202260>

Westerberg, V. (2014). *Towards the design of equitable REDD+ benefit sharing schemes in the Ghananian cocoa sector in the Western Region of Ghana*.

Westerberg, V. (2015). *Baseline socio-economic and agricultural household survey for the communities of Murugu and Yazori neighboring Mole National Park in Northern Ghana*. Accra.

White, A., & Martin, A. (2002). *Who owns the World 's forests ?: Forest tenure and public forests in transition*. Forest Trends.

Wiafe, E. D., & Arku, F. S. (2014). The role of women in community based resource management on the Afadjato mountain ecosystem, Ghana. *Applied Research Journal*, 1(1), 1–11.

Wibowo, A., & Giessen, L. (2015). Absolute and relative power gains among state agencies in forest-related land use politics: The Ministry of Forestry and its competitors in the REDD+ Programme and the One Map Policy in Indonesia. *Land Use Policy*, 49, 131–141.
<http://doi.org/10.1016/j.landusepol.2015.07.018>

Winkel, G. (2012). Foucault in the forests — A review of the use of “ Foucauldian ” concepts in forest policy analysis. *Forest Policy and Economics*, 16, 81–92.
<http://doi.org/10.1016/j.forpol.2010.11.009>

World Bank. (2014). *State and trends of carbon pricing*. Washington D.C.

World Commission on Environment and Development. (1987). *Our common future*. New York: Oxford University Press.

Wright, S. (2012). Emotional geographies of development. *Third World Quarterly*, 6597. <http://doi.org/10.1080/01436597.2012.681500>

Wuebbles, D. J., & Jain, A. K. (2001). Concerns about climate change and the role of fossil fuel use. *Fuel Processing Technology*, 71, 99–119.

Wyborn, C. (2015). Cross-Scale linkages in connectivity conservation: Adaptive governance challenges in spatially distributed networks. *Environmental Policy and Governance*, 25, 1–15. <http://doi.org/10.1002/eet.1657>

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Los Angeles: Sage Publications.

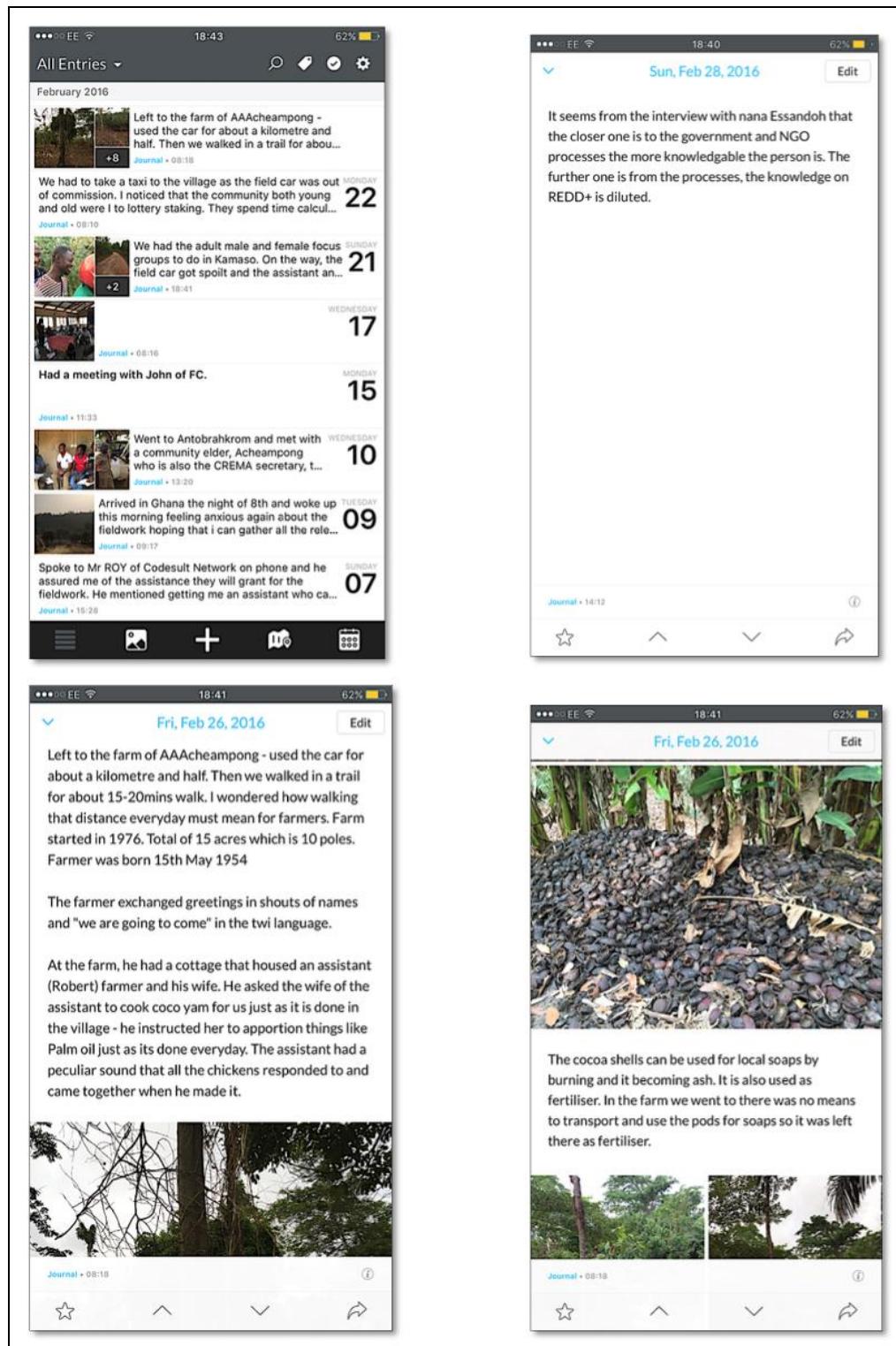
Young, O. R. (2002). Institutional interplay: The environmental consequences of cross-scale interactions. In E. Ostrom, T. Dietz, N. Dolsak, P. C. Stern, S. Stonich, & E. U. Weber (Eds.), *The drama of the commons*. Washington D.C: National Academy Press.

References

Zia, A., Hirsch, P., Songorwa, A., Mutekanga, D. R., Connor, S. O., Mcshane, T., ...
Norton, B. (2011). Cross-Scale Value Trade-Offs in Managing Social-Ecological Systems : The Politics of Scale in Ruaha National Park , Tanzania. *Ecology and Society*, 16(4).

APPENDICES

Appendix A: Sample of journal notes from direct observation and Transect Walks



Appendix B: Advert for Research Assistant

Wanted: Research Field Assistant

A UK university PhD researcher is seeking a **field assistant** for 12 weeks from July to September 2014. The research explores climate justice in forest governance of REDD+. This involves investigating the role of civil society in the implementation process. Applicant's knowledge of climate change is key (knowledge of REDD+ is desired but not required).

The Field Assistant will be engaged five working days in a week. S/he will only be needed on weekends during periods of fieldwork in local communities. A vehicle will be provided for daily transportation of assistant from place of reporting (office) to interview venues and back.

Applicants should have/be:

- Completed first degree (HND/BSc/BA)
- Knowledge in natural resources, climate change or governance
- Fluent in English and Twi/Fante
- Experience in data collection/field work
- Ability to pay attention to detail
- Efficient in notes taking
- Available during the full duration of the fieldwork

The successful applicant will be duly compensated for his/her time. This compensation is negotiable to establish a fair amount. The post will equip the applicant with skills needed for research.

Interested applicants should please forward their CV to xm000212@reading.ac.uk on or before June 15th 2014. Only short listed applicants will be contacted.

Email CV to:
xm000212@reading.ac.uk

Appendix C: Ethics Approval

Staff and Postgraduate Research SAGES Ethics Clearance Form

Name of researcher: **Abdul-Razak Saeed**

School: **Archaeology, Geography and Environmental Science**

Department: **Human Geography and Environmental Science**

Title of Project: **The Role of Civil Society in Climate Change Governance: a Comparative Case Study of REDD+ in Ghana and Liberia**

Proposed starting date: **June 2014** Proposed finish date: **February 2015**
(June 2014 – September 2014 in Ghana and November 2014–February 2015 in Liberia)

Brief description of Project (maximum 250 words):

Reducing deforestation and forest degradation has become a key mechanism in the climate change policy circles of how to address the crisis. Various countries including Ghana and Liberia have engaged in the process and are currently at stages of implementing pilots that can feed into policy and strategy designs for actual REDD+ projects yet to kick off in the future.

The research objective is to examine how governance considerations relate to the performance of REDD+ programmes and projects both from the viewpoint of responding to climate change and in terms of contributions to local sustainable development and environment.

The research examines the institutions, governance approaches and stakeholder processes that are underway in Ghana and Liberia. In meeting with this aim, the study objectives are:

- Determine the institutional structures that support and/or constrain REDD+ readiness and implementation
- Identify the various consultation and participation models adopted by Ghana and Liberia
- Evaluate the local risks and trade-offs to people from proposed REDD+ global ideas and how these are tackled
- Explore the climate governance and justice implications on heterogeneous (e.g. gender) local communities of reforming REDD+

The study will feed into policy discussions on REDD+ as a contribution towards the “learning by doing” approach adopted by certain countries engaged in the mechanism.

Selection of participants in the Project [maximum 250 words]:

1. Policy Level Research

Actor mapping would be carried out to identify the relevant stakeholder groups.

Having worked on climate change and REDD+ specifically for 5 years in Ghana, I have personal and professional relationships and contacts in the sector. Emails would be sent a month ahead of fieldwork to schedule interview appointments. In instances of non-response, reminder emails would be sent once a week to the stakeholder in question. In Liberia, my contacts, Silas Siakor who works with Sustainable Development Institute and Benjamin Karmoh who is the Liberia focal person for Climate Change, would facilitate introduction via emails to policy level actors needed for interviews.

Once I am in the countries, I would further utilise snowballing technique to identify other relevant actors that may have been missed. In each country case, approximately 15 key informant interviews (n=30) will be conducted with local, regional and national authorities, scientific institutions and international institutions.

Any follow-ups post-fieldwork will be done remotely via e-mails, Skype and/or on phone.

2. Community Level

For community level study, one community would be chosen from each country (decisions to be finalised in April). The communities of interest must be engaged in or earmarked for REDD+.

In Ghana, Yaw Kwakye, the REDD+ Manager in the Forestry Commission and the government appointed pilot implementation agency would assist my community entry. In Liberia, Silas Siakor and Julie Weah (Foundation for Community Initiatives), who both work on REDD+ and with communities, will facilitate my community entry.

In both countries, local community fieldwork will involve participatory observation, engaging key local and project stakeholders to identify risks, trade-offs and co-benefits of REDD+. There would be 25 community in-depth interviews in each community (n=50) and these will target local dwellers and traditional and community leaders (e.g. Sub chiefs and village elders). Participants would be chosen based on purposive sampling with the help of "village champions" (usually very agile and well known person who drives the community in activities).

In addition, 4 focus groups of 8 participants per group in each community (n=64) will be organised. Participation for focus groups would be announced to the community with respective meeting times by means of community radios and gong-gong beating where applicable.

Rural women who are mostly caretakers of the home and rely most often on forests for livelihoods reportedly do not express their views when combined with men due to socio-cultural norms. To ensure best results of focus groups, women will be separated from men. In addition, each sex will also be divided along generational lines of matured and youth. The groups will consist of the following criteria:

- Mature men (35 years and above)
- Mature women (35 years and above)
- Male youth (18-34 years)
- Female youth (18-34 years)

In as much as English would be encouraged during focus groups, researcher understands and speaks local language in Ghana and so participants who desire to speak in a local language would be permitted to ensure that the research gets the best out of the engagement process. However in Liberia, a field assistant who can double as translator will be recruited on the study at a cost of £600 for 3 months. *where do the funds come from.*

Snacks, drinks and water would be provided under the events to show appreciation to participants for their time and knowledge shared. The estimated cost of this is £384 (£6 per head).

How will the receipts be provided?

Ethics to Keep

- Before commencing any interview, interviewees would be made to understand what the study is for, how it will be used and assured that the information would not be passed on to third parties.
- Oral consent will be sought from local community members before interviews whereas higher-level authorities including government workers, NGOs, private sector will give consent via signed agreement.
- All in-depth interviews and focus groups with any stakeholder will be recorded using an audio device and notebook but only after interviewees sign and give express permission to be recorded and for information to be used accordingly for the purposes of the study.
- All data and information obtained from the field would be securely kept on pass worded laptop and drop-box for audio files and physical files under lock and key from third parties both in the field and during analysis and write-up on the University of Reading campus.
- Any field assistant engaged in the field or for transcription purposes would be made to understand the ethics considerations of this study and sign to abide by the said considerations.
- Community members will be encouraged to communicate any grievances to the local leader that assists the study.

Anticipated number of people that will participate in this project

144

In submitting this form, I confirm the following:

1. To the best of my knowledge, I have made known all information relevant to the SAGES Research Ethics Committee and I undertake to inform the Committee of any such information which subsequently becomes available whether before or after the research has begun.
2. If this project is an interventional study, a list of names and contact details of the subjects in this project will be compiled and that this, together with a copy of the Consent Form, will be retained within the School for a minimum of five years after the date that the project is completed.
3. The Consent form includes a statement to the effect that the application has been reviewed by the University Research Ethics Committee and has been given a favourable ethical opinion for conduct
4. I have made arrangements for the storage and disposal of confidential information generated by my project
5. The proposed research will not generate any information about the health of participants
6. The proposed research does not involve children under the age of 16

Appendices

7. The proposed research does not involve any person with learning difficulties or with any other mental impairment
8. The proposed research does not involve anyone in their capacity as an NHS patient or social services client
9. The proposed research does not involve anyone who is employed by, or is a student of, the investigator
10. I have made arrangements for expenses to be paid to participants in the research

If you are not able to confirm all of the above, please contact Maria Shahgedanova
(m.shahgedanova@reading.ac.uk) as soon as possible.

Signed

.... . (Researcher) Date 17/2/14

.... . (PG Supervisor) Date 17/2/14

This form should now be returned, electronically and in hard copy, to Carol Speight, Department of Geography and Environmental Science (c.p.speight@reading.ac.uk)

It will be reviewed at the next SAGES Research Ethics Committee meeting and you will be notified of the outcome immediately.

SAGES Research Ethics Committee meetings take place on the first Wednesday in November, February and June. If you require express approval, please contact Dr Maria Shahgedanova to discuss the possibility of arranging this.

*Approval
Clarification
is requested on the availability
of funds.*

Appendix D: Sample of consent forms and introductory letter



Steven Musson BA (Hons) PhD
Lecturer in Human Geography
+44 (0)118 378 7753
s.musson@reading.ac.uk

Department of Geography and Environmental Sciences
School of Archaeology, Geography and Environmental Sciences
Whiteknights, PO Box 227
Reading RG6 6AB

phone +44 (0)118 378 8733
fax +44 (0)118 975 5865
email geography@reading.ac.uk
web www.geog.rdg.ac.uk/

Abdul-Razak Saeed

The role of civil society in addressing climate change; a comparative study of REDD+ in Ghana and Liberia

Thank you for helping with my research project

Your help is entirely voluntary and you have the right to withdraw from the project any time. You can do this right now, or by contacting me using the details above at any time in the future.

About my project

Reducing deforestation and forest degradation has become a key mechanism in the climate change policy circles of how to address the crisis. Various countries including Ghana and Liberia have engaged in the process and are currently at stages of implementing pilots.

This research examines the institutions, governance approaches and stakeholder processes that are underway in Ghana and Liberia both from the viewpoint of responding to climate change and contributing to local development. The study will feed into policy discussions on REDD+ as a contribution towards the "learning by doing" approach adopted by Ghana.

How I am selecting people to participate

At the policy level, I am employing actor mapping and snowball sampling technique to identify and interview key stakeholders. I will use a community gatekeeper to select participants for focus groups and other participatory research methods in the local REDD+ pilot community.

About the information you supply

The University of Reading will keep any information you supply in a secure place until December 2017, when it will be destroyed. Nothing that you tell us in this research will be disclosed to anyone other than those directly involved in the project. All information will be treated in the strictest confidence.

If you would like to know more about the information you provide, please contact the University of Reading using the details above.

This project has been subjected to ethical review, according to the procedures specified by the University Research Ethics Committee, and has been allowed to proceed.

Yours faithfully,

Abdul-Razak Saeed

Dr Steve Musson

Chair of SHES Ethics Committee

Appendices

**UNIVERSITY OF READING SCHOOL OF ARCHAEOLOGY, GEOGRAPHY AND
ENVIRONMENTAL SCIENCE**

Participant Consent Sheet

Abdul-Razak Saeed

The role of civil society in addressing climate change; a comparative study of REDD+ in Ghana
and Liberia

I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date	I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date
I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date	I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date
I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date	I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date
I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date	I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date
I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date	I have been offered an information letter and can withdraw from this research project at any time, by contacting the University of Reading. Signed..... Date

Appendices



Professor Emily Boyd
School of Archaeology, Geography and
Environmental Science, Department of
Geography and Environmental Science,
Russell Building, University of Reading
Whiteknights, PO Box 233, Reading, RG6
6DW, UK

Emily.boyd@reading.ac.uk

18 July 2014

To whom it may concern,

RE: PERMISSION TO CONDUCT FIELDWORK RESEARCH

Saeed Abdul-Razak is a current PhD student at the University of Reading with a Commonwealth Scholarship Commission funded project focusing on a comparative research on REDD+ governance in Ghana and Liberia. Saeed will be conducting semi-structured and some in-depth interviews with policy and governance actors as well as undertaking community fieldwork in Ghana. The fieldwork period in Ghana runs from mid-July 2014 to September-end 2014.

The aim of the fieldwork is to understand Ghana's REDD+ institutions (structures and processes), the value of consultation and participation within and across levels of REDD+ stakeholders and in the context of REDD+ 'readiness' pilots, the emerging risks and trade-offs including the safeguards recognised.

This project has been subjected to both ethical and risk reviews, in accordance with the procedures of the University of Reading Research Ethics Committee and I am glad to say it has been approved to proceed.

Your assistance to this project in any way possible to move it forward would be valuable and much appreciated.

Yours sincerely,

Emily Boyd

Professor of Resilience Geography
Affiliated Senior Scientist at the Stockholm Resilience Centre

www.reading.ac.uk

Appendix E: Fieldwork protocols

Sample of policy level interview questions

1. Work of organisation generally and in REDD+
 2. Current state of REDD+ in Ghana/ How REDD+ 'ready' is Ghana
 3. Who leads and decides on different aspects of REDD+ policy (social, technical, financial)? (Multi-Scalar institutions)
 - Who are the key actors?
 - How politically high is the institutional support for REDD+?
 - What are the structures for decision-making?
 - What are the policies and strategies governing REDD+ institutions?
 4. How do REDD+ stakeholders interact across and within scales and build relationships?
 - What platforms and mechanisms are there for building relationships?
 - How is trust built amongst stakeholders?
 - What structures are in place for addressing conflicts or grievances?
 - Gender issue?
 5. What role do institutions play in REDD+ implementation? What are the barriers and how are they overcome?
 - What role do informal institutions play in REDD+?
 - What institutional challenges are there or key bottlenecks?
 - How can the challenges be overcome?
 6. Who drives the consultation and participation? (Consultation and Participation)
 - How is consultation and participation operationalized?
 7. What are the power dynamics in REDD+ and how are these manifest through consultation and participation challenges?
 - What Consultation and Participation models or plans are used?
 - What unique challenges does REDD+ present for C&P?
 8. How is consultation and participation managed to include local actors and how is it institutionalised, what actions are put in place?
 - How are issues, concerns and views used to feed into REDD+ process?
 - How is consultation and participation built into the law?
 - What evidence is there in terms of activities to show ways of building in community participation?
 9. How are losses minimised and gains improved?
 - What laws, policies and strategies reflect the recognition of safeguards?

- Are safeguards recognised and implemented?
- What challenges do safeguard implementation present?

10. Local outcomes

- Value of forests
- Understanding of REDD+
- Any visible trade-offs between REDD+ and community priorities?
- How are trade-offs to be addressed?

Talking points: Focus Groups

Definitions

1. What does community mean to you?
2. What is forest use, conservation and management to you?
3. What is your understanding of REDD+/what does REDD+ mean to you?
4. What does development/resilience priorities mean to you?

Forest management

1. What do you perceive are drivers of deforestation and degradation of the forests?
2. What benefits does the community derive from the forest?
3. How were decisions for forests taken before the REDD+ mechanism? (Violations/sanctions; rules and enforcement; GRM, etc?)
4. What models or ways of sharing benefits existed in the recent past before REDD+?

How do communities shape REDD+?

1. What are the key local livelihoods and how do these livelihoods impact the forests?
2. How important is community and what is one special thing about this place you live in? And why? How does this affect your engagement with REDD+ activities?
3. How does the community take decisions on REDD+ design and engage with REDD+ activities? - existing forms and local knowledge + expert knowledge
4. Who is considered powerful to influence the REDD+ process and who actually drives the REDD+ process?
5. What innovative approaches have evolved to manage forests since REDD+ came to the community?

How is REDD+ shaping communities?

1. Should REDD+ be working with communities or individuals?
2. How different is forest management now under REDD+ implementation?
3. Who is invited to engage in REDD+ discussion and implementation, how and why?
4. How is information shared under REDD+ and how are you putting this information to practice? Please share with examples
5. What do you feel and think when those leading on REDD+ talk/give information about the initiative?

Structural inequalities exist or (re) produced?

1. Who has gained benefits from REDD+ and who has not? Why?
2. How is the design of REDD+ taking into account local uses and values, local institutions and benefits sharing?
3. What are the constraints to REDD+ providing development to your community?
4. How are these challenges/constraints addressed?

Early benefits?

1. How do you (communities) imagine REDD+ will change your (their) live(s)?
2. What is the REDD+ benefits sharing system?
3. How are community development priorities/resilience priorities reflected in the REDD+/forests benefits system?
4. What models or ways of sharing benefits existed in the recent past in the community for forest management before REDD+ and is this perceived to be fair/effective?

Appendix F: Sample of transcribed interviews coded in Nvivo

Information Sharing, decision making processes and instruments

Attobrakrom

What gives us hope in it is that right now, they have seen that the stage at which it is, no matter what, there will be benefits from it and so then everyone must gear up and plant. The truth is that, the thing is if we do not see authorities come in, then sometimes our minds are not made up, what it means is when we see you like this, then we know that there is a truth to the programme that we are being told to engage in and so then I have to help and send all my focus to it for it to succeed. You asked something about Forestry Commission...the greater part of what they have brought is that this year the Forest Officer has made us write the names of all farmers on the basis that the Forestry Commission is ready to supply us with seedlings, that is what we are expecting to come through...it is free of charge and so this man for instance we have told him not to take any seedlings. So we have taken ~~names~~ names and they have made us take photographs...~~the~~ the Forestry Commission, the part they have played. So since we started, it is now that they have come in. The whole initiative advise has been especially from IUCN and sometimes when we go for meetings, they invite the Forestry Commission to provide a lecture to us. Since we started, it has been IUCN.

Internals\Attobrakrom\Attobrakrom Adult Female Focus Group - § 6 references coded [6.27% Coverage]

Reference 1 - 1.01% Coverage

We place issues before the elders and then they meet over it and discuss and then they announce rules or for matter of concern to be addressed successfully. ~~The chief and his council of elders plus the Unit Committee and the linguists who take decisions~~

Reference 2 - 0.77% Coverage

They have an announcement and we all go to a meeting. At the meeting everybody shares ~~their~~ opinions and views. When they lay an issue before us, if you have opinions and thoughts then you share.

Reference 3 - 0.83% Coverage

I will take it that sometime last year, a certain man came from Accra, ~~there~~ was a public announcement and he met with some of the community people concerning REDD+. We all contributed to the discussions.

Reference 4 - 1.74% Coverage

No they do not give the seedlings for free. If you register and your name is in the book, then maybe the government would bring you some of the seedlings. But if you do not register then that is not something that you will gain any benefits from. And also if you want to get any benefits from it, register for your name to go to the government so that in case the government brings some small money for the trees then you will also get your small share

Reference 5 - 1.55% Coverage

They call a meeting...they have all our names and so he goes to the information centre and then makes an announcement for us to meet and so when you hear it and you feel you are part of it, then you go to see him or to the meeting. Sometimes he does really well; he calls on everyone at their homes to give us the information of the issues and then communicate a day for a bigger meeting for discussions.

Reference 6 - 0.38% Coverage

Yes we have heard of that. When we go for meetings even in ~~Asanko~~, they teach us all these things.

Internals\Attobrakrom\Attobrakrom Female Youth Focus Group - § 4 references coded [4.32% Coverage]

Reference 1 - 0.74% Coverage

~~All~~ So everyday...there is an information centre here so we make announcements for people to not set fires and it is the same way that we add the forests to it.

Reference 2 - 1.38% Coverage

That one was set up by the community itself...when the CREMA people come they educate us...call the whole community to a meeting and advise us on that. Elder ~~Acheampong~~ always calls for meetings when he goes and comes back and they advise us on it and so it makes us refrain from burning ~~unnecessarily~~.

Reference 3 - 0.85% Coverage

We meet. The REDD+ elders after they go to meetings and listen to information, upon their return they make a public announcement for the whole community to meet and then they inform us.

Reference 4 - 1.35% Coverage

What we are doing here is exactly how he does it. They make a public announcement but sometimes we will be at home and they make house calls and tell us what information they have. Or sometimes there are some meetings going on and then they come to that and inform us. For me he comes to my house a lot.

Appendix G: Actor mapping of Ghana REDD+ stakeholders

Name	Actor Type	Operational Scale	Main Interests	Focus Area	Level of REDD+ involvement
Forest Research Institute of Ghana	Government Research	National	Hub for forest and forest products research and networking in humid tropics to ensure sustainable management and use of forest resources	Forestry	Policy
Conservation Alliance	Conservation NGO	Regional (West Africa)	Improving Cocoa and agriculture sector, integrating biodiversity into mining, business biodiversity offset programme, research and monitoring, water, sanitation and hygiene, Sustainable energy, REDD and climate change, Public policy. Intend to do this by empowering communities to lead.	Environment and natural resources	Mostly implementation, Bits of policy
Portal Forest Estates Limited	Private Business	Local	Generating carbon credits through agro-forestry practices. Sustainable agriculture. Training farmers and students through experiential approaches	Agro-forestry	Mostly implementation. Bits of policy
African Development Bank	Multilateral Donor Agency	Regional (Africa)	Financing interventions for Social and economic development of Africa including doing this in an environmentally sustainable approach	Green growth	Policy and implementation (supervising AfDB pilots)
Ministry of Lands and Natural Resources	Government Public	National	Formulation and reviewing of natural resource policy. Formulate programmes	Forests	Policy and implementation (FIP AfDB project)
Price Water House Coopers	Private Consultant	International	Advisory and tax auditing for professional services firms.	Business, finance, human resource, sustainability in climate change	Policy

Swiss Embassy (State secretariat for economic affairs)	Foreign Government Donor	International	Trade competition and investment climate. Basic infrastructure regulation and public utilities improvement in energy sector. Financial sector development and strengthening. Microeconomic policies and transparency of public finances.	Trade. Economic development, empowerment, environmental stewardship.	Policy
Civic Response	Social-justice CSO	National	Advocating for community rights in natural resources backed by evidence-based research, policy analysis. Work to promote fair benefits sharing, participatory governance, resource access and civil society mobilisation.	Forests, Climate change and Minerals.	Policy
HATOF Foundation	Rights-based NGO	National	Promoting community education. Multilateral environmental agreement negotiations. Policy and practise. Supporting government and communities in addressing climate change	Environment and sustainable development	Policy and implementation (Soft)
Forestry Commission	Government Public Agency	National	Maintain our natural heritage and leave generations unborn with even better natural heritage than we inherited you know. It is part of our duty to make sure that we have a driving timber industry that embraces sustainable forest management	Forests	Policy and implementation
Nature Conservation Research Centre	Research& Conservation NGO	Regional	Conservation embedded with cultural values to create economic revenue streams. Spearheading eco-tourism and NTFP revenue opportunities. Also engaged in climate smart agriculture and research.	Natural resource conservation, cultural and historic preservation	Policy and implementation
National House of Chiefs	Civil Society/ Chieftaincy Institution	National	Administering land at the local level and assisting national government on issues that require traditional ruling	Traditional culture and governance	Policy and implementation
Ghana Integrity Initiative	Transparency and Rights NGO	International	Promoting anti-corruption measures, holding government accountable to ensure transparency in various aspects of sectors of the economy.	Governance	Policy and implementation level

Tropenbos International Ghana	Conservation and Research NGO	International	Engaged in productive landscapes; forest dependent livelihoods, forest governance and sustainable financing for forestry mainly via evidence based research. Also carries out training and facilitates platforms to bridge the gap between forest policy, management and science.	Forests	Policy
Vicdoris Pharmaceuticals/ Pure Company	Private Business	Local	Import and distribute medicines in Ghana. Subsidiary company (Pure) processes Shea butter for export. Teach farmers agronomic practices	Human Health (Medical) and livelihoods	Implementation and policy (passive)
Cocoa Research Institute of Ghana/COCOBOD	Government Public/Research	National	Develop technological packages that would enable farmers achieve the optimum or the best from their practices by way of developing packages that would offer the opportunities for farmers to adopt good agricultural practices on their farms. Promoting farming that ensure environmental integrity.	Cocoa, Coffee, Cola, Shea and Cashew	Policy and implementation (REDD+ Cocoa Carbon)
Hamilton Resources and Consulting	Private Consultant	National	Undertake consultancies in the natural resources and environmental sector to advance policy making by state and non-state actors.	Natural resource management and environment	Policy and research
SAL Consult	Private Consultant	Regional	Ensuring best environmental practices for governance of natural resources, water and sanitation and also civil engineering works	Water and environment	Policy
Resource Management Support Centre (RMSC)	Government Public Department	National	Collaborative forest management including monitoring with other stakeholders from a developed integrated management system. It is also in charge of institutionalization and also exchanging technical knowledge nationally and internationally.	Integrated forest management development & collaborative forestry	Policy
Environmental Protection Agency (EPA)	Government Public Agency	National	Technical focal point for climate change. Backstop policy from Ministry. Report to the international bodies on climate change in Ghana.	Environment	Policy

Ghana Timber Association	Private Business Group	National	Timber trade. Processed timber for exports and also domestic market.	Business silviculture	Policy
Ministry of Environment, Science, Technology and Innovation	Government Public	National	Ensure accelerated socio-economic development of the nation. Formulate policies and a regulatory framework to promote the use of appropriate environmentally friendly, scientific and technological practices and techniques	Sustainable development and environment	Policy
Ministry of Food and Agriculture	Government Public	National	Build synergy between forest management and food production systems.	Sustainable agriculture and agri-business	Policy
International Union for the Conservation of Nature (IUCN)	Conservation NGO	International	Environmental conservation, improving natural resource governance, solving developmental issues, law, policy and best practice development.	Environment and development	Policy and Implementation
National Forestry Forum	Civil society NGO	National	The sustainable management of forest resources and the recognition of community rights to access and participation in governance.	Forest management	Policy
WWF Ghana (Now Nature and Development Foundation)	Conservation NGO	International	Engaging multiple stakeholders to maximize the benefits of REDD+. Build capacity of forest fringe communities. Promoting responsible forest management through partnerships.	Forest and biodiversity conservation	Policy
Arocha Ghana	Conservation NGO	International	Collaborative natural resource governance, climate change mitigation and adaptation, livelihood development and enhancement, carrying out environmental education and advocacy, species and ecosystem conservation and management.	Sustainable natural resource management, livelihoods, and empowerment	Policy and Implementation
World Bank Forest Carbon Unit	Multilateral Donor	International	Serves intermediary role between OECD countries and developing countries for the generation and sale of carbon credits. Reduce poverty.	Emission reductions, carbon finance	Policy
Touton Cocoa Company	Private Business	International	Delivering responsibly sourced cocoa. Increasing engagement in cocoa processing operations. Address stakeholder needs along supply chain.	Agro-industry, sustainability	Policy and Implementation

Appendices

Solidaridad Network	Private	International	Focuses on stimulating sustainable supply chains through innovations in production, marketing and trade relations, landscapes management and policy enabling.	International development cooperation	Policy
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Appendix H: Sample of tree certificate issued to farmers

TREE CERTIFICATE: FARMER'S COPY TO KEEP

FORESTRY COMMISSION

PRIVATE PLANTATIONS LOCATED OUTSIDE FOREST RESERVE

REGISTRATION FORM

REGION DISTRICT

PERSONAL INFORMATION

Title	Dr./Mr./Mrs.	Registration No	Affix two passport Photos		
First name					
surname					
Address/Contact details					
Postal:					
<table border="1"><tr><td>Housing Address:</td></tr><tr><td>Telephone</td></tr></table>				Housing Address:	Telephone
Housing Address:					
Telephone					
E-mail:					
INFORMATION ON THE PLANTATION					
Location of the plantation		Site plan attached	YES	NO	
1	Species	Spacing (mm)	Year of Establishment	Stocking	Area (ha)
2					
3					
4					
Date	Registered by:				

Note: In the case where the plantation is owned by an Association or institution please indicate the name of the Association or institution in the space provided for First Name.