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# REDD+ integration, implementation, and interaction in the Congo basin: Evidence from Cameroon

By

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The candidate confirms that the work submitted is her own, except where work which has formed part of jointly authored publications has been included. The contribution of the candidate and the other authors to this work has been explicitly indicated below. The candidate confirms that appropriate credit has been given within the thesis where reference has been made to the work of others.

Chapters 4, 5, and 6 are based on work from jointly authored publications as follows:

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Josiane GAKOU KAKEU is the principal researcher and first author of the above cited publications. she identified the research topics, developed the conceptual framing for each paper or chapter, designed the methodological approach, collected and analysed the data. The supervisors (Dr Monica Di Gregorio, Prof. Jouni Paavola, and Dr Denis Jean Sonwa) provided guidance, feedback, and support.

*To my parents,*

*the late Nestor Kakeu and Dr Marie Makougang*

*who instilled in me their steadfast faith in education.*

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# Abstract

The outcome of global environmental policies is contingent on their integration into domestic policies and implementation at the grassroots level. This thesis scrutinises the deployment of the UNFCCC-led *Reducing Emissions from Deforestation and Forest Degradation* (REDD+) programme in the Congo basin. Taking Cameroon as a case study, it assesses the extent of REDD+ integration into land use sectors driving deforestation and probes the potential for REDD+ organisational arrangements to facilitate the integration process. It further investigates the contextual factors shaping local REDD+ outcomes and interactions with existing forestry institutions, building on qualitative research methods and the frameworks for environmental policy integration, organisational structures for environmental integration, policy implementation and institutional interactions.

The findings indicate that REDD+ integration has been derailed by the limited will of forest actors to transfer forest-related responsibilities to other sectors, as well as competence and interest deficits within land use sectors. REDD+ integration has also been compromised by dysfunctional policy instruments and the predominance of horizontal organisational arrangements underlying sectoral resistance and funding challenges. The study further reveals that local REDD+ implementation epitomises political and experimental implementation, suggesting that cultural understanding, local knowledge and social capital would matter for REDD+ outcomes. The latter have also been affected by rules regarding community forests, reforestation and timber processing.

The thesis posits that a disincentive instrument internalising carbon costs in the cost-benefit analysis of land use projects would support REDD+ integration into land use sectors. The study has contributed a hybrid organisational design featuring horizontal and vertical integration mechanisms to enhance sectoral REDD+ integration and recommends further analyses on its applicability to other settings. The thesis equally submits that local REDD+ institutions need to be grounded in customary institutions, and that efforts to expedite the decentralisation of forest governance and promote local timber processing would improve local REDD+ implementation.

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# Abbreviations

| | |
|---|---|
| AFHAN | Association of Sons and Daughters of Nkolenyeng |
| ATIBT | International Tropical Timber Technical Association |
| CDM | Clean Development Mechanismm |
| CED | Centre for Environment and Development |
| CO2 | Carbon dioxyde |
| COP | Conference of Parties |
| CPI | Climate Policy Integration |
| EI | Environmental Integration |
| EIA | Environmental Impacts Assessment |
| EPI | Environmental Policy Integration |
| EU | European Union |
| FAO | Food and Agriculture Organization of the United Nations |
| FCPF | Forest Carbon Partnership Facility |
| FG | Focus Group |
| FIP | Forest Investment Program |
| FLEGT - VPA | Forest Law Enforcement, Governance and Trade - Voluntary Partnership Agreement |
| FMUs | Forest Management Units |
| GDP | Gross Domestic Product |
| GHG | Greenhouse gases |
| Ha | Hectare |
| ICE | Interministerial Committee for the Environment |
| IPCC | Intergovernmental Panel on Climate Change |
| IUCN | International Union for Nature Conservation |
| KPMG | Audit and accounting firm |
| MINADER | Ministry of Agriculture and Rural Development |
| MINEE | Ministry of Water and Energy |
| MINEPAT | Ministry of Economy, Planning and Land Planning |

| | |
|---|---|
| MINEPDED | Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) |
| MINEPIA | Ministry of Livestock, Fisheries and Animal Industries |
| MINFI | Ministry of Finance |
| MINFOF | Ministry of Forestry and Wildlife |
| MINMIDT | Ministry of Mines, Industry and Technological Development |
| MINRESI | Ministry of Scientific Research and Innovation |
| MLG | Multilevel Governance |
| MRV | Monitoring Reporting and Verification |
| NDC | Nationally Determined Contributions |
| NEPIs | New Environmental Policy Instruments |
| NGOs | Non-Governmental Organisations |
| NRSC | National REDD+ Steering Committee |
| NTFPs | Non-Timber Forest Products |
| ONACC | National Climate Change Observatory |
| PES | Payment for Ecosystem Services |
| PFE | Permanent Forest Estate |
| PNDP | National Participatory Development Programme |
| PNG | Papua New Guinea |
| QSR | Software developer for qualitative data analysis |
| REDD+ | Reducing Emissions from Deforestation and forest Degradation |
| SDGs | Sustainable Development Goals |
| SIGIF 2 | Forest Information Management System 2 |
| UCCC | United Councils and cities of Cameroon |
| UK | United Kingdom |
| UNFCCC | United Nations Framework Convention on Climate Change |
| UN-REDD | United Nations Collaborative Programme on REDD+ |
| USA | United States of America |
| WCED | World Commission on Environment and Development |
| WFR | Warsaw Framework for REDD+ |
| WRI | World Resource Institute |

# Chapter 1: Introduction

## 1.1. Overview

The introductory chapter sets the scene for this thesis which contributes knowledge to improve the governance of the *Reducing Emissions from Deforestation and forest Degradation* (REDD+), a global mechanism for climate change mitigation. It begins by spelling out the imperative of addressing the climate emergency and outlines its causal mechanism. The contribution and mitigation potential of forests are then clarified, leading to the presentation of REDD+ as a global solution to mitigate forest-based emissions, including within the Congo basin. The rationale for investigating the fundamentals for successful REDD+ outcomes is articulated next, culminating in the main research questions of the thesis on the extent of REDD+ integration into national land use sectors, the determinant of REDD+ implementation outcomes within local communities and the effects of interactions with existing forestry institutions.

## 1.2. Climate change and the role of forests

Climate change is widely acknowledged as one of the most pressing and defining threats of our time. Human-induced global warming has led to profound alterations to human and natural systems, marked by increases in the frequency and intensity of droughts, floods, and biodiversity loss (IPCC, 2018). The adverse impacts on water supply, food security, health, livelihoods, human security and the overall economy have been manifest worldwide and are predicted to intensify with projected global warming of 1.5℃ to 2°C (IPCC, 2018). Climate change results from anthropogenic emissions of greenhouse gases (GHG) into the atmosphere, dominantly Carbon dioxide (CO2), 23% of which originate from land use change and deforestation (IPCC, 2019b). Globally, GHG emissions from land use change have increased by 12% from 1970 to 2010 and are more pronounced in African and Latin American regions where the world's largest tropical rainforests occur (Blanco, 2014).

Tropical forests play a central role in the global carbon cycle; they absorb CO2 from the atmosphere which is stored in biomass (Brown & Lugo, 1982). In so doing, they hold about twice the amount of carbon in the atmosphere, acting as carbon sinks and mitigating

further catastrophic climate change (Erb et al., 2022). Yet, demographic pressures and forest conversion for agriculture, logging, mining, and infrastructure building in the quest for poverty alleviation and economic recovery compromise the climate regulatory function of tropical forests and exacerbate climate change (Gupta et al., 2013). Hence mitigating forest-based emissions became a priority of the United Nations Framework Convention for climate change (UNFCCC) (IPCC 2007).

Forest-based emissions were initially addressed within the Clean Development Mechanism (CDM) of UNFCCC's Kyoto protocol, the first international agreement on climate mitigation that entered into force in 2005 (UNFCCC, 1998). The CDM enables industrialised countries with GHG reduction targets to carry out emission mitigation projects in developing countries, which help mitigate climate change (Boyd et al., 2008). However, eligible forest projects under the CDM only included new plantations ie afforestation and reforestation activities, excluding the protection of existing natural forests (Forberg, 2006). Controversial within the climate change regime, including natural forests as carbon sinks encountered technical and ethical difficulties (Pedroni, 2005). Technical challenges involved the accurate accounting and permanence of carbon stocks. Estimating emissions and carbon sequestration by terrestrial sinks posed considerable uncertainties, further compounded by the risk of emissions reversal through forest fires and pests. Thus, whether temporary carbon storage in natural forests proved an appropriate option to reduce permanent GHG emissions from other sectors was questioned (Forberg, 2006). Ethically, offsetting fossil fuel emissions by mere avoidance of deforestation was perceived as a permit to pollute (Pedroni, 2005). On the other hand, much of the same debate was relevant to reforestation activities included in the CDM (Fearnside, 2001). In other words, the international community recognised the importance of forests in mitigating climate change but ignored carbon emissions from clearing natural forests and resulting losses in biological diversity (Forberg, 2006). The need for a more comprehensive approach that addresses the concerns of deforestation and forest degradation prompted the design of a novel scheme, the *Reducing Emissions from Deforestation and forest Degradation* (REDD+) (Downard, 2010).

## 1.3. Reducing Emissions from Deforestation and forest Degradation: A solution to forest-based emissions

REDD+ emerged in the post-Kyoto years as an improved strategy to support forest-based climate change mitigation through sustainable management of existing forests and enhancement of forest carbon stocks (Corbera & Schroeder, 2011). Acknowledging the economic fostering of forest clearing in tropical countries and the financial difficulties that undermine forest protection efforts, the REDD+ scheme creates a financial value for the carbon stored in trees and not released into the atmosphere. It aims to provide monetary incentives encouraging developing countries to protect and sustainably manage their forest resources (Ghazoul et al., 2010). REDD+ negotiations began in 2005 at the 11th Conference of the Parties to the UNFCCC (COP11); the scheme was officialised in 2007 at the 13th COP in Bali, prompting seed funding for deployment across tropical countries.

With over 30 billion metric tons of carbon, the Congo basin, the second largest rainforest in the world after the Amazon, appeared as a prime location for REDD+ (Brown et al., 2011). Its forest expanse of approximately 200 million ha is predominantly found in the Democratic Republic of Congo, Cameroon, Equatorial Guinea, Gabon, and the Central African Republic. Congo basin forests are increasingly destroyed or degraded by shifting agriculture, mining, logging, agri-business expansion, and infrastructure development (Fobissie et al., 2014). REDD+ is deployed across Congo basin countries and engages state and non-state actors at national and local levels (Brown et al., 2011).

The REDD+ mechanism represents contemporary international environmental regimes involving multiple actors operating at different jurisdictional scales. As has been the case for most such scientifically informed global environmental agendas set to permeate multiple layers of decision-making, REDD+ has been expected to encounter diverging interests, from global expectation for carbon mitigation through national aspirations for economic growth and through to local needs for livelihood improvement; all of which shape REDD+ implementation outcomes (Ghazoul et al., 2010; Mustalahti et al., 2012). This thesis examines REDD+ deployment in the Congo basin, taking Cameroon as a case study. It evaluates how the mechanism integrates national systems, resonates with grassroots communities, and interacts with existing forestry institutions.

## 1.4. REDD+ in a national context: integration into land use sectors

From its inception, it was recognised that successful REDD+ implementation requires wide policy changes to incorporate REDD+ objectives into land use sectors driving deforestation, most of which are external to the forest domain (Korhonen-Kurki et al., 2016; Weatherley-Singh & Gupta, 2017). Prevailing concerns among developing countries about the economic impacts of policy reforms that focus on conservation suggest incorporating REDD+ into alternative land use sectors demands strong political backing and dedicated policy instruments (Peskett & Brockhaus, 2009; Runhaar, 2016). While various studies have surveyed political or decision makers' discourses and views on different features of REDD+ such as benefits-sharing schemes and carbon monitoring approaches (Di Gregorio et al., 2013; Tiani et al., 2015; Vijge et al., 2016), whether and how far they support REDD+ integration into land use sectors causing deforestation has been understudied. This thesis fills this gap, drawing from Candel and Biesbroek (2016)'s Environmental Policy Integration (EPI) framework which acknowledges political support and policy instruments as germane to EPI. Candel and Biesbroek (2016) view EPI as a process of policy and institutional change where actors, the medium for integration, play a central role and thus their framing of an environmental problem or acknowledgment of the need to address this through multisectoral means is indicative of their support for integration, beyond cross-sectoral coordination that has been the focus of existing analyses of REDD+ policy integration (Fujisaki et al., 2016; Korhonen-Kurki et al., 2016).

As these previous analyses indicate, a common approach across implementing countries to improve cross-sectoral coordination in REDD+ governance has been the creation of multisectoral platforms led by environment departments and bringing together representatives from various land use sectors to foster cooperation and inter-institutional learning (Korhonen-Kurki et al., 2016; Wurtzebach et al., 2019). However, their effectiveness for REDD+ integration has been compromised by the limited authority of environment departments to instruct policy reforms to land use sectors at the same hierarchical level, prompting calls for higher-level leadership of the REDD+ process (Chia et al., 2019). This highlights the centrality of REDD+ organisational arrangements for sectoral integration which has received little rigorous scrutiny in existing studies. This

thesis bridges that gap by assessing the potential for the organisational arrangements of the Cameroonian REDD+ scheme to facilitate sectoral integration. When national land use policies represent the underlying causes of forest clearing, the direct drivers of deforestation occur at the local level which equally constitute a priority for REDD+ operationalisation.

## 1.5. REDD+ within local settings: The determinants of implementation outcomes

From shifting slash-and-burn for agriculture to bushfire for pasture management, the subsistence needs of rural communities in the tropics are identified as the leading drivers of deforestation, emphasising the importance of incentivising their involvement in REDD+ implementation not least through equitable allocation of accrued benefits (Rantala et al., 2015). Sound benefits-sharing schemes would, among other criteria, reward stakeholders' efforts in reducing deforestation and compensate forest owners for forgone opportunity costs (Sunderlin, Larson, & Cronkleton, 2014). Yet in many tropical countries, the state claims ownership of all forests, disregarding the customary rights of forest-dependent communities (Thompson et al., 2011). Ensuing concerns over REDD+ capacity to achieve equitable revenue distribution in ambiguous tenure contexts have dominated local REDD+ implementation studies, whereas the severity of their repercussions has varied across sites. When insecure tenure has eroded stakeholder involvement and impeded REDD+ implementation in various instances (Lasco et al., 2013), the opposite occurred in others, especially in areas where planting trees as part of REDD+ helped some to assert their occupation of the land, a prerequisite to land right claims (Resosudarmo, 2013). Such differences across sites of the impacts of the same factor concede the need for a deeper understanding of the way implementation contexts determine the factors with the most bearing on REDD+ outcomes. This thesis explores the most influential factors for REDD+ implementation outcomes within select local settings, building on Matland (1995)'s framework for policy implementation which defines several types of implementation contexts and the most influential factors for project outcomes in each.

The market-based REDD+ mechanism is hardly implemented in an institutional vacuum but alongside existing forestry regulations. Resulting interactions between forest regulations in force and the newly introduced mechanism would affect REDD+ outcomes.

## 1.6. REDD+ outcomes: The effects of interactions between forestry institutions and REDD+

The emergence of REDD+ in a context of heightening climate emergency and widespread deforestation evidences the shift from traditional regulatory tools to new environmental policy instruments more attuned to contemporary problems (Gunningham & Sinclair, 1999; Jordan et al., 2005). When the proliferation of policy instruments offers a suite of policy options, their mutual interactions could lead to a variety of effects ranging from complementarity to counterproductivity (Gunningham & Sinclair, 1999). For example, contentious revenue distribution in existing forestry regulations fueling distrust among local communities about REDD+ ability to deliver equitable benefits reflects counterproductive interactions (Awung & Marchant, 2020; Jacob & Brockington, 2020). REDD+ objectives of enhancing forest carbon stocks and improving local stakeholders' involvement in forest governance bear similarities with the aims of existing forestry institutions, including community forest regulations and reforestation rules; yet how their effects have interacted with and shape REDD+ outcomes remains underexplored. To fill this gap, this thesis applies Gehring and Oberthür (2009)'s framework for institutional interaction which theorises the pathway for interactions between two institutions or policies, the effects of which could be synergistic or disruptive.

## 1.7. Research questions and outline

Overall, this thesis addresses the following overarching question: How is the global REDD+ mechanism integrated into national systems and its implementation shaped by local settings in the Congo basin forest?

Taking Cameroon as a case study, it examines four specific research questions:

i. To what extent is REDD+ integrated into land use sectors driving deforestation in Cameroon?

ii. What is the potential for REDD+ organisational arrangements to facilitate sectoral REDD+ integration?
iii. What are the influential factors for REDD+ implementation outcomes at the local level?
iv. How are local REDD+ implementation outcomes shaped by interactions with existing forestry institutions?

The thesis is organised around eight chapters. After this introduction, the second chapter describes the global REDD+ mechanism, reviews existing scholarly outputs on each of the topics covered, further highlights the gaps filled by this research, and introduces the theoretical lenses used to address each research question. The third chapter clarifies the methods, starting by landscaping the study area, then lays out the research design and articulates the methodological decisions. The subsequent three empirical chapters address the research questions as stand-alone outputs: Chapter four focuses on the first research question of assessing REDD+ integration into land use sectors driving deforestation, stressing policy considerations. Chapter five deals with the second research question, focusing on the organisational aspects of REDD+ integration into land use sectors. The third and fourth research questions are treated in chapter six, which turns to local REDD+ implementation, discussing the influential factors for local REDD+ outcomes and the effects of interactions from forestry institutions. Chapter seven offers a broad discussion of all the findings, outlines how they meet the research needs, and lead to the concluding chapter.

# Chapter 2: Literature review

## 2.1 Introduction

This chapter introduces REDD+ and evaluates existing studies on REDD+ implementation and governance. It begins with an essentially descriptive section on the global REDD+ mechanism and the drivers of deforestation in tropical countries. This paves the way for the analytical review of previous research on operationalising REDD+ in the tropics which exposes the gaps filled by this thesis on REDD+ deployment in Cameroon. As figure 1 illustrates, operationalising REDD+ involves integrating the globally negotiated REDD+ scheme into national land use sectors and implementing projects to reduce forest-based emissions at the ground level where they are affected by interactions with existing forestry institutions or regulations (Cerbu et al., 2011; Lescuyer et al., 2021). The arrows in figure 1 represent the 3 ‘i’ for REDD+ integration into land use sectors, its local implementation, and resulting institutional interactions, which constitute the pillars of this thesis and the main themes of the respective bodies of literature analysed from sections 2.4 through 2.7. Each section culminates on the gaps that prompted the four research questions addressed in the thesis and concludes with a brief outlook of the theoretical framework selected to address these.

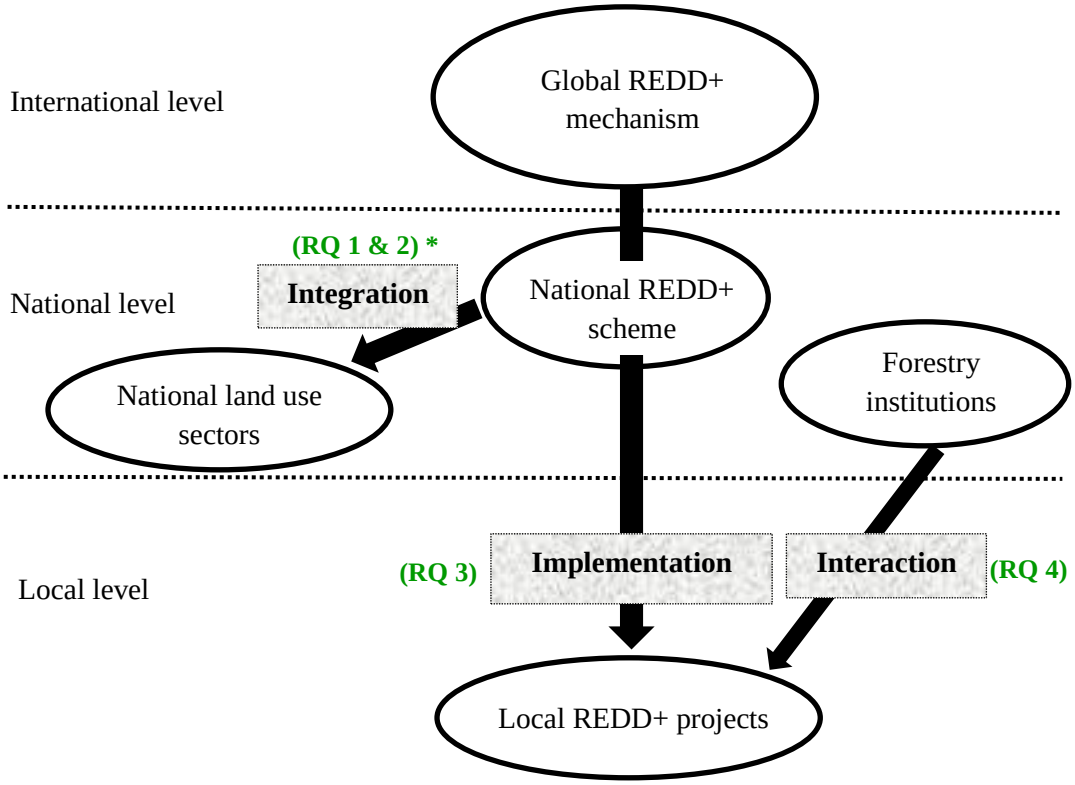


Figure 1: The three 'i' of REDD+ deployment: Integration, implementation, and interaction

*RQ: Research question

## 2.2 The Global REDD+ mechanism

The global REDD+ mechanism is composed of a set of rules embodied in the UNFCCC's COP decisions, representing the global consensus on REDD+ implementation (UNFCCC, 2016). The international REDD+ rules aim to ensure a degree of consistency across implementing countries, provide a basis for harmonisation, and guide the development of domestic REDD+ schemes (Wilder et al., 2014). A compendium of the UNFCCC REDD+ rules adopted at COP 19 in Warsaw in 2013 and commonly referred to as the Warsaw Framework for REDD+ (WFR) synthesises the broad guidelines for REDD+ implementation (UNFCCC, 2016). The UNFCCC REDD+ rules have been complemented and supplemented by standard-setting activities carried out by bilateral and multilateral REDD+ initiatives such as the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) and the Forest Carbon Partnership Facility (FCPF) of the World Bank

(Savaresi, 2016). Together with the WFR, these initiatives shape the international legal landscape of the REDD+ mechanism, setting broad guidelines regarding its objectives or emission scope, governance scale, implementation stages, and country requirements as covered in turn below.

The scope or objective of the REDD+ mechanism was initially restricted to reducing emissions from deforestation (RED), perceived as low-cost or efficient way of achieving carbon emission reductions (Campbell, 2009; Pistorius, 2012). Under pressure from developing countries claiming that forest degradation also represents a considerable source of emissions and the first step toward land use change, the mechanism expanded from RED to REDD to take account of emissions from forest degradation (Pistorius, 2012). The second D further provides opportunities for countries with less pristine forests and those from the dry tropics to join the mechanism (Campbell, 2009). Subsequent concerns about the potential unintended effects of a narrow focus on GHG mitigation led to a further broadening of the mechanism's scope from REDD to REDD+ to include non-carbon benefits or co-benefits such as biodiversity protection and poverty reduction to enhance local livelihoods (Angelsen et al., 2012). Currently, REDD+'s scope covers activities directed at reducing emissions from deforestation and forest degradation, conserving and enhancing forest carbon stocks, and promoting sustainable forest management (UNFCCC, 2014). The mechanism further includes safeguards to ensure that REDD + initiatives address the rights of indigenous peoples and traditional communities, social participation, the permanence of achieved REDD+ results and the risk of displacing the sources of deforestation and forest degradation to other areas through appropriate governance scales (UNFCCC, 2016).

Concerning the scale of governance, the international REDD+ rules stipulate that REDD+ can be operationalised at jurisdictional or project-based scales (UNFCCC, 2016). The jurisdictional approach involves implementing REDD+ in a defined geographical area, within national or subnational jurisdictions (Irawan et al., 2019). In a national approach, emission reduction activities are conducted within a country's boundaries. Reference levels, measurement and monitoring of emissions are established at the national level, and carbon credits awarded based on the overall national performance (Wilder et al., 2014). In subnational approaches, emissions reduction and measurements are established within

a particular region and international credits awarded to the implementing entities which could include a local government or community (Wilder et al., 2014). A combination of both implementation scales can be achieved through the nested approach (UNFCCC, 2016). The project-based approach on the other hand entails stand-alone projects typically in smaller areas than administrative jurisdictions where carbon incentives flow directly to project developers based on performance against a project baseline (Weaver, 2015). REDD+ deployment in implementing countries unfolds in successive phases.

The global REDD+ framework introduces three phases to REDD+ implementation comprising the readiness, implementation, and performance-based payment phases. In the first or readiness stage, implementing countries conduct baseline research on the drivers of deforestation and forest degradation, design national REDD+ institutions and strategies outlining their plans to tackle forest-based emissions and required policy reforms (UNFCCC, 2016). Capacity-building sessions are conducted during the first phase, as well as demonstration activities, which are pilot projects aimed to inform or test the national strategy. The REDD+ strategy is then implemented in the second phase, and national policy reforms carried out (UNFCCC, 2016). Further capacity-building and demonstration activities are envisaged. The implementation of emission reduction activities is expected to result in a change in forest areas and carbon stocks which would be measured, reported, verified and paid for in the third phase (UNFCCC, 2016). To ascertain the accuracy of carbon measurements and facilitate the overall REDD+ development, global REDD+ guidelines outline the specific requirements for implementing countries.

REDD+ implementing countries are required to design national REDD+ strategies and put in place systems to monitor and report on social and environmental safeguards (UNFCCC, 2014). They are further expected to clarify REDD+ institutional and organisational arrangements and establish national or subnational forest reference emission levels or forest reference levels serving as benchmarks against which changes in forest areas and carbon stocks resulting from REDD+ activities would be measured, reported and verified. To receive REDD+ payments either through carbon markets or direct funding, countries are encouraged to design appropriate benefit-sharing mechanisms (UNFCCC, 2016). REDD+ finance is provided by multilateral funds or

through bilateral channels (Angelsen et al., 2012). The World Bank's Forest Carbon Partnership Facility (FCPF), the Forest Investment Program (FIP) of the Climate Investment Funds, and the UN-REDD Programme are the main multilateral funding sources for REDD+ (Streck, 2012). REDD+ finance is increasingly shifting focus toward supporting implementing countries to move from readiness toward demonstration and emission reduction programmes with finance provided on a payment-for-performance basis (Watson & Schalatek, 2019). Funding sources such as the FCPF and FIP have supported this transition. Major contributors to REDD+ finance have included Norway, Australia, Germany, Japan, the USA, France, and the UK, providing resources to multilateral funds as well as through bilateral routes (Streck, 2012). Seed fundings were provided to implementing countries to kick start the REDD+ process with readiness and preparatory activities such as identifying the drivers of deforestation, which stem from a range of land uses in tropical countries.

## 2.3 The drivers of deforestation in the tropics

Deforestation in tropical countries is caused by a range of proximate and underlying drivers. Proximate or direct drivers mostly occur locally by triggering the behaviour of local actors to engage in deforestation or forest degradation (Geist & Lambin, 2002). On the other hand, the underlying drivers affect deforestation indirectly and can originate from the global, national or local levels (Geist & Lambin, 2002). The drivers of deforestation or forest degradation vary across geographic and historic contexts.

Within the Amazon forests in South and Central America and until 1990, forestland conversion resulted from shifting cattle ranching and cultivation, often indirectly driven by government programmes and subsidies (Grau & Aide, 2008). Currently, mechanised cash crop agriculture such as soybean plantations as well as cattle production, timber extraction, gold mining and oil exploration are responsible for forest clearing. Infrastructure projects to expand transport, energy and telecommunications could accelerate deforestation considerably (Gupta et al., 2013). Natural and human-induced fires are also significant drivers of deforestation in South and Central America (Cochrane & Barber, 2009). The historical deforestation drivers in the Amazon remain the current and leading causes of deforestation within the Congo basin in Central Africa (Gupta et

al., 2013). Since 1990, forest loss in Africa accounts for about 55% of global deforestation (Jarosz, 1993; Gupta et al., 2013). Agricultural activities including short cycle slash-and-burn shifting cultivation and cash crops such as sugar cane, coffee, cocoa and oil palm are proximate deforestation drivers (Dkamela et al., 2014). Slash-and-burn shifting agriculture involves clearing the land cyclically and burning natural material to grow crops, followed by fallow intervals to allow the land to rejuvenate naturally (Kotto-Same et al., 1997). In the absence of market forces, extended fallow time allowed farms to grow into secondary forests, minimising its impact on forests; but nowadays, increasing market demand for annual crops has shortened fallow intervals resulting in forest retreat (Kotto-Same et al., 1997). Logging has a significant impact on forest degradation; when selective logging may remove a limited number of trees, it opens up previously remote areas and attracts inward migration, which ultimately results in further clearing for agriculture and settlements (Gupta et al., 2013). Africans' dependence on fuelwood also increases pressure on forests (Dkamela, 2010). The impact of such livelihoods are compounded by the underlying drivers of population growth, national land use policies and the legacy of structural adjustment programs imposed from outside the country (Gupta et al., 2013). The drivers of forestland conversion in South and South-East Asia parallel the trend in the Amazon. The proximate drivers include agricultural expansion for oil palm and other cash crops such as rubber and coffee (Laurance, 2007). Mining and logging equally drive forest clearing. The underlying drivers encompass government development policies, global demand for forest commodities, poor governance, population growth, poverty and forest-dependence (Laurance, 2007).

Since its inception in 2008, the global REDD+ mechanism has been deployed across tropical countries to tackle the drivers of deforestation, prompting a wealth of research assessing its uptake at domestic and local levels and scrutinising countries' progress and performance in devising the needful institutions, competencies, and reforms. The following sections review and analyse existing scholarly outputs on how required policy reforms have integrated REDD+ aim of forest protection into national land use policies underlying deforestation, and on the process, enablers, and challenges to REDD+ implementation among grassroots communities.

## 2.4 REDD+ integration into land use sectors: policy considerations

Putting REDD+ into effect involves identifying and addressing the causes of deforestation and forest degradation. In many developing tropical countries, land use policies designed to achieve economic recovery underlie forest clearing, hence integrating REDD+ policy objectives into competing land use sectors is imperative for successful REDD+ outcomes (FCPF, 2019; Kissinger et al., 2021).

The early work of Underdal (1980) is generally cited as the first academic treatment of policy integration (Lafferty and Hovden, 2003). He defined integrated policy as instances where all significant implications of policy decisions are recognised as decision premises and where the different policy elements are in accord with each other. Although precise, the definition of policy integration is broad and lacks the value hierarchy that characterises environmental policy integration (Lafferty and Hovden, 2003). As mandated at the 1992 Earth Summit, the particularity of EPI lies in its emphasis on and bias towards environmental objectives. When some EPI scholars hold that environmental and non-environmental objectives should be balanced or that any conflicts between the objectives can be resolved to the satisfaction of all affected interests, others sustain that the essence of EPI in the context of sustainable development is to ensure that the long-term carrying capacity of nature is not subsidiary but becomes a principal or overarching societal objective (Adelle & Russel, 2013) and that the principled priority of environmental objectives makes the essential distinction between environmental policy integration and policy integration conceived more broadly (Lafferty and Hovden, 2003). In the REDD+ context, whether REDD+ policy objectives of protecting forests have been integrated into land uses driving forest clearing has attracted various investigations, most of which have focused on coordination challenges among land use sectors.

Sectoral coordination problems have been reported across REDD+ implementing countries as substantial barriers to REDD+ integration into national systems, understood in this thesis as a set of land use sectors, associated policies, and policy actors. The multisectoral nature of deforestation entails that REDD+ is both expected to address and is mired by sectoral coordination challenges (Hogl et al., 2016; FCPF, 2019). These have stemmed from overlapping institutional boundaries and policy inconsistencies (Fujisaki et al., 2016; Korhonen-Kurki et al., 2016). As is the case, the division of responsibilities

between fragmented institutions governing varying land use in a shared space has often been blurred, spurring conflicts of interest that have strained institutional relations with detrimental implications for forest protection (Lestrelin et al., 2013). For example, the agricultural sector's aim of closing the food security gap in developing economies through increased land lease to boost farm production has accelerated forest conversion at a pace contradictory to REDD+ objectives (Korhonen-Kurki et al., 2016). Overlapping land titles among forestry and extractive uses are equally common occurrences in tropical countries, where the financial might of large-scale farming and extractive activities has cast doubts on REDD+'s ability to outcompete the economic forces powering forestland conversion (Saito-Jensen et al., 2015).

In Indonesia, for example, the economic benefits of palm oil plantations and mining which have exceeded the proposed REDD+ payments won over local communities, forest operators, and even the government. Rural residents from Penarung village received USD 4,367 per ha of their farms leased to mining companies, which made enough financial profit to beat any offer from REDD+ bidders (Indrarto et al., 2012). The colossal profits from mining operations and farming lured private forest operators toward converting the logging concessions they were allocated into oil palm plantations and open-pit mines whose attractive tax revenues blinded the governments (Indrarto et al., 2012). In an attempt to brake the race to the bottom, the Indonesia's REDD+ programme arranged a pact between the governments of Indonesia and Norway setting a moratorium on the allocation of new logging or mining concessions on peatland and primary forest (Solheim & Natalegawa, 2010). However, the moratorium was rather ignored (Edwards & Laurance, 2011), prompting the UN-REDD Programme to declare that the opportunity costs of farming and extractive industries in Indonesia were unsurmountably high for REDD+ financial compensations to halt forest conversion (Wulan, 2012).

The UN-REDD+'s conclusion on the viability of REDD+ payments both contradicts the hypothesis and corroborates the findings of a global survey across 13 REDD+ implementing countries to examine whether the promised performance-based funds have boosted REDD+ uptake (Brockhaus et al., 2017). In line with the logic behind REDD+ incentives, the study anticipated that REDD+ development would be advanced in countries where payments have been confirmed by donors and made available. Yet the

results revealed that funding availability matters when there is strong national ownership of the REDD+ process evidenced by the dominance of national actors shaping and supporting the REDD+ policy discourse as in Brazil and Guyana (Brockhaus et al., 2017).

Thus, national ownership, which is an indicator of political support, is a catalyst for REDD+ development (Brockhaus et al., 2017), the lack of which might explain policy inconsistencies that impede REDD+ across many sub-Saharan African REDD+ countries. In Uganda, Tanzania, Zambia, and Kenya where agricultural expansion and the promotion of heavy machineries have proven major deforestation drivers, the agricultural policies seem silent on addressing deforestation, raising questions as to whether land use sectors are abreast of the urgency to curb forest-based emissions (Kalaba et al., 2014; Atela et al., 2016; Namaalwa & Byakagaba, 2019). Axiomatically, REDD-advised policy reforms to integrate forest considerations into land use sectors responsible for the receding of forests rely heavily on political will, corroborating Dalal-Clayton and Bass (2009)'s claim that the most frequently mentioned constraint to environmental integration into economic sectors is the lack of political will to consider longer-term needs. This, they suggest, could stem from a lack of concern for the environment by some politicians, reflecting the realities that environment is seldom a priority for many electorates and that some political leaders either prioritise personal preferences over national interests or tend to focus on achieving economic growth or the short-term objectives that can be delivered within their electoral cycle. In other words, the level and processes underpinning political will in a given setting need to be grasped to tailor interventions appropriately.

Land use planning or zoning has been presented as a viable intervention and a remedy to the conflicting land allocations that hinder REDD+ development (Robiglio et al., 2014; Runhaar, 2016). Land use zoning, Robiglio et al. (2014) hold, constitutes the technical basis for land allocation to varying land uses, which then determines the government department responsible for granting rights including their legal uses. Land use planning, they posit, should be a means to reduce overlapping rights. Accordingly, land use planning would constitute a policy mechanism to integrate forest considerations into various land use sectors; yet, evidence from Ecuador suggests land use zoning has failed to halt forest encroachment and conversion (Loaiza et al., 2017). In fact, land use planning established in the region of the Yasuní Biosphere Reserve features a core zone, a buffer area and a

transition space each assigned with specific uses. The core zone representing the area of high biodiversity and cultural significance was to be dedicated to conservation, research and educational activities. But, a report emerged showing that oil extraction concessions spread over three quarters of the reserve including the core zone, and that oil exploitation plans have practically always been prioritised and approved, even in protected areas (Loaiza et al., 2017). Evidently, in addition to political will, the viability of policy instruments such as land use planning purported to support the integration of environmental objectives or REDD+ considerations into land use sectors need to be closely examined. This thesis fills these research needs by borrowing from Candel and Biesbroek (2016)'s EPI framework which takes account of political support and policy instruments. The framework is presented, adjusted and applied in chapter 4 to address the first research question of assessing the extent of REDD+ integration into land use sectors driving deforestation in Cameroon. Candel and Biesbroek's framework views EPI as a product of i) policy frame which denotes the dominant definition of an environmental problem in macropolitical venues reflecting the level of political support for its integration into national systems; ii) sectors' involvement which assesses land use sectors commitment to overcome an environmental problem; iii) policy goal or more specifically the extent to which an environmental policy goal is incorporated into sectoral policy objectives, and iv) policy instruments referring to the tools designed to facilitate the integration process. High-level political buy-in for REDD+ integration also necessitates high-level steering of the REDD+ process (FCPF, 2019), thus organisational structures discussed next are equally important for EPI.

## 2.5 REDD+ policy integration into land use sectors: Organisational arrangements

Organisational arrangements have a bearing on environmental integration into economic sectors (Lafferty & Hovden, 2003). Part of institutional arrangements, organisational arrangements refer to the formal system of tasks and authority relationships that frame and coordinate actions and resources to achieve the objectives of an organisation (Jones, 2013). Although interlinked with the concept of institution, organisation is understood in this study as a system of hierarchy, bureaucracy or a particular social order within a membership (Ahrne & Brunsson, 2011). On the other hand, an institution governing

natural resources is understood as a set of rights, rules, and decision-making procedures that mediate access to and control over natural resources (Ostrom, 1990; Paavola, 2007; Young, 2008). Organisational arrangements define how responsibilities and activities within an organisation are allocated, coordinated, and supervised (Greenberg, 2011). The fragmentation of forest-related responsibilities across multiple land uses has fostered forest encroachment and sectoral conflicts, undermining attempts to incorporate the REDD+'s aim of forest preservation into alternative land use sectors (Kissinger et al., 2021). In other words, the allocation or distribution of responsibilities in an administrative system - its organisational arrangements - affect REDD+ integration into competing land use sectors. However, existing analyses of REDD+ organisational arrangements have accorded little attention to whether they address the shortcomings of prevailing fragmentation of land use administration to ease REDD+ integration into land use sectors. Instead, they have focused on whether they are conducive to the participation of marginalised stakeholders such as forest communities, and whether they fit the appropriate spatial scale of governance to facilitate stakeholder inclusion and cover the range of deforestation drivers as discussed below.

The smallholder-driven sources of deforestation in tropical countries has elicited various investigations into whether REDD+ organisational arrangements ensure the representation and participation of local stakeholders in governing bodies. Rural communities' livelihoods are deeply intertwined with forest use and forest ecosystem services and affected by the decisions on forest governance (Sunderlin et al., 2008). Thus, communities' participation in decision-making over forest resources has been strongly advocated (Mustalahti et al., 2012).

While some scholars contend that REDD+ arrangements provide formal spaces for non-state actors (Fujisaki et al., 2016), others argue that non-state actors represented in REDD+ decision-making spheres are eclipsed by multilateral funding organisations, bilateral donors and international environmental NGOs, technically and financially equipped to support the REDD+ process, crowding out the private sector, civil society, forest-dependent communities and indigenous groups (Mustalahti et al., 2012; Danielsen. et al., 2013). Further studies have suggested that local stakeholders' representation in governing bodies depends on the spatial scale of REDD+ governance. Aquino and Guay

(2013)'s research in the Democratic Republic of Congo submits that subnational or project-based REDD+ approaches addressing forest-related emissions at localised project scale are more conducive to grassroots participation than nationwide REDD+ arrangements. Commended by numerous international NGOs and the private sector, project-based REDD+ initiatives are further reputed to attract large funding resources and reduce the risk of corruption and mismanagement prevalent in public administrations in developing countries (Saunders et al., 2008). However, REDD+ project-based arrangements incur high transaction costs and face emission leakages, the displacement of emission sources outside a localised REDD+ project area (Vatn & Vedeld, 2013). Hence REDD+ implementing countries have largely followed a national jurisdictional approach, setting up nationwide systems for carbon monitoring, reporting, and verification to better control emission leakages (Tufano, 2012). Contrary to isolated project-based initiatives, national REDD+ approaches enable a broader oversight of vast areas of forests and further support the inclusion of central state departments whose policies underly deforestation (Tufano, 2012). In nationwide REDD+ models, the participation of land use sectors has been pursued through the cr eation of cross-sectoral and joint ministerial platforms bringing together representatives from a range of land use departments (Fujisaki et al., 2016; Špirić & Ramírez, 2021). In theory, such platforms would foster cross-sectoral cooperation, support policy harmonisation and aid the incorporation of the REDD+ objective of forest protection into land use routines. Yet empirical evidence points to the contrary: The REDD+ working group in Brazil, the national REDD+ steering committee in Cameroon, the national REDD+ task force in Tanzania or the REDD+ steering committee in Vietnam have not necessarily delivered on policy alignment between forestry and alternative land uses (Korhonen-Kurki et al., 2016). On close examination, the resolutions of these platforms commonly led by environmental ministries have had little influence on land use sectors (Korhonen-Kurki et al., 2016; Chia et al., 2019). Generally, environment departments occupy a low position in ministries' hierarchies. They tend to have a weak influence on other departments and are unable to push other ministries to address environmental issues (Dalal-Clayton & Bass, 2009). This highlights the implications of the distribution of responsibilities and organisational arrangements for REDD+ integration into competing land uses, and

justifies mounting calls for a higher level leadership of the REDD+ process (Chia et al., 2019). Yet how overall REDD+ arrangements influence REDD+ integration into land use sectors and whether the proposed high-level leadership in REDD+ processes could overcome the limitations of fragmented land use administration are poorly surveyed.

The fifth chapter of this thesis fills this gap, addressing the second research question of assessing the potential of REDD+ organisational arrangements to facilitate REDD+ integration into land use sectors in Cameroon. The assessment draws on the conceptual work on organisational structures for environmental integration that distinguishes two types of organisational solutions for environmental mainstreaming namely horizontal and vertical arrangements (Lafferty & Hovden, 2003; Jacob & Volkery, 2004), with discrete characteristics and abilities to drive environmental integration (EI). When land use sectors and national policies represent the underlying causes of deforestation, in many tropical countries the direct drivers occur at the local level.

## 2.6 Local level REDD+ implementation

Smallholder livelihoods such as slash-and-burn shifting farming have fueled forest clearing, especially in sub-Saharan Africa (Cacho et al., 2014). REDD+ uptake at the local level is thus imperative for successful reduction in GHG emissions from forests (Fearnside, 2008; Cerbu et al., 2013). Previous studies have identified a series of barriers to local REDD+ implementation with varying impacts on REDD+ outcomes across sites. Less understood is how implementation contexts define which barriers have more bearing on REDD+ outcomes in a given setting.

REDD+ scholars have pointed to tenurial conflicts, knowledge deficits, and benefit-sharing disagreements as major barriers to local REDD+ implementation (Lasco et al., 2013). REDD+ aims to reward stakeholders that enhance forest carbon stocks; hence establishing forests or carbon rights holders becomes necessary (Sunderlin, Larson, & Cronkleton, 2014). Yet this has proven complex in contexts of contested, overlapping, and insecure tenure. In many tropical countries, land or natural resource tenure features a duality of statutory and customary systems (Luttrell et al., 2012). Underpinned by the principles of usufruct and ancestral or inheritance rights, customary arrangements allocate land rights to whoever first clears or occupies a land area. In such traditional systems,

land ownership can be subject to lineage transmission from the first occupants to their descendants (Fitzpatrick, 2005). Under customary tenure, a forest would exclusively belong to the family, the clan or the lineage that owns the land (Diaw, 1997). Entities external to the community can gain access to land through negotiation with the owners to arrange deals such as share-cropping agreements on annual crops. After harvest, the land is returned to the owner. The sale of inherited land to outsiders is uncommon (Diaw, 1997). Customary rights are guarded by traditional leaders often surrounded by councils of dignitaries representing the range of clans in a village. They assist the traditional leader in settling land conflicts such as crop damage or property encroachment (Fitzpatrick, 2005). Historically, however, customary arrangements in the tropics have been superseded and undermined by statutory tenure (Saunders et al., 2002; Unruh, 2008). Under statutory systems which usually are vestiges of colonial governments, all land or forests are the property of the state recognised as the guarantor (Javelle, 2013). Communities' user rights on adjacent resources may be acknowledged, but land titles and leases or concessions are the legal means to access land (Javelle, 2013). In practice, however, land areas might still be held and managed through customary arrangements, creating a duality of statutory and customary systems that leads to tenure uncertainty (Sunderlin, Larson, & Cronkleton, 2014).

A number of REDD+ scholars have argued that securing customary tenure through formal recognition or harmonisation with statutory tenure is necessary to design benefit-sharing systems inclusive of forest-dependent communities, prevent land capture by local elites or corporates, and create stronger incentives for sustainable forest and resource use (Doherty & Schroeder, 2011; Holmes & Potvin, 2014). Yet this is seldom straightforward. Attempts to embed customary rules under statutory systems through registration and titling programs in sub-Sahara African countries such as Uganda, Tanzania, Namibia, and Mozambique have proven costly, lengthy, have been challenged by bureaucratic land registration processes and critiqued for disenfranchising or imposing an unsuitable definition of secure tenure on local communities (Streck, 2009). In addition, land or forest ownership does not necessarily guarantee carbon rights (Sunderlin, Larson, & Cronkleton, 2014).

Learning from the consequences of tenure duality on the distribution of benefits accrued from payment for ecosystem service (PES) projects, some REDD+ scholars maintain that ambiguous resource tenure needs to be clarified to secure local stakeholders' involvement in REDD+ (Blomley, 2010; Beymer-Farris & Bassett, 2012). At the same time, REDD+ processes in other settings have improved tenure security (Resosudarmo et al., 2014); in fact, planting trees as part of REDD+ activities has aided some community members to assert their occupation of the land (Resosudarmo et al., 2014). Different outcomes across sites of the effects of the similar variable of tenure duality are also evident with the issue of capacity deficit.

As a technically innovative mechanism, REDD+ implementation requires building the capacity of local stakeholders to minimise the expenses associated with hiring external experts and improve community involvement in REDD+ activities (Lasco et al., 2013). REDD+ scholars have identified training gaps across implementation sites to include establishing tree nurseries, practicing alternative farming techniques, managing projects and finances, and collecting forest data and mapping (Cerbu et al., 2013). Yet whether forest communities possess the prerequisite for receiving training on such technical subjects as forest inventories has been questioned, prompting investigations into the ability of indigenous and local communities to accurately undertake forest measurements and carbon accounting (Pratihast et al., 2013). Danielsen. et al. (2013) conducted experiments among forest communities in Southeast Asia and East Africa, revealing that tree measurements seldom require beyond primary school skills and that residents have proven capacity to collect forest data of comparable quality to professional foresters, even more so at a lower cost. Further advocating for community-based forest or carbon accounting, studies have submitted that professional experts external to local realities may not prize local forests, resources and environment with the same value as forest-dependent communities (Ghazoul et al., 2010).

More controversial, however, has been the idea of training local communities on alternative livelihoods less destructive to forests. Caution was raised earlier about the concept of knowledge transfer to close perceived capacity gaps, which could, in fact, undermine local knowledge and reinforce the state's authority (Thompson et al., 2011b). The need to train residents is acknowledged in global REDD+ rules and is widely stressed

as necessary for REDD+ implementation and evidence shows it has levelled up communities' capacities in numerous instances (Cerbu et al., 2013; Ekowati et al., 2016). Yet in other circumstances, duly trained and equipped communities have reverted to their old lifestyles (Lasco et al., 2013). As is the case, whether addressing a known barrier improves REDD+ outcomes is down to specific contexts, conceding the need to unpick the way implementation contexts determine which factors are most influential for REDD+ outcomes. The sixth chapter addresses this subject, tackling the third research question of identifying the most influential determinants for REDD+ implementation outcomes in various local settings. It draws from Matland (1995)'s framework that defines four types of policy implementation based on the level of clarity and consensus around a policy or a project, and determines the most influential factors for project outcomes in each type. REDD+ outcomes are also affected by interactions with existing forestry institutions.

## 2.7 Institutional interactions from existing forest regulations

As a climate change and forest policy, REDD+ contributes a new instrument to the pre-existing forest regulatory system or institutions. Institutions governing natural resources include sets of rights, rules, and decision-making procedures that mediate, among others, access to and control over natural resources. They determine what is permitted, forbidden or acceptable, as well as the procedures to be used in specific contexts (Ostrom, 1990; Paavola, 2007; Young, 2008). The introduction of a new instrument into an existing institution or policy mix can lead to synergistic or antagonistic interactions (Gunningham & Sinclair, 1999). Previous studies of REDD+ institutional interplay have focused on interactions between the norms or outputs of forest institutions and REDD+, which as the examples below indicate usually occur when decision-makers operating in different institutions exchange ideas and knowledge. However, there is evidence that REDD+ outcomes have been adversely affected by interactions with the outcomes of forestry regulations, occurring when the effects of existing regulations alter communities' behaviour and spill over into local REDD+ projects; yet outcome-driven institutional interactions have been accorded limited attention in existing work.

REDD+ scholars have investigated how REDD+ interacts with the Forest Law Enforcement, Governance and Trade (FLEGT) partnership agreement between the

European Union and forested tropical countries (Tegegne et al., 2014). Conducted in Cameroon and the Democratic Republic of Congo, the study uncovered predominantly synergistic interactions, including FLEGT and REDD+ mutual commitment to land tenure reforms, and FLEGT multi-stakeholder consultation approach serving as a model for REDD+ stakeholder consultation. A further study of interactions between the Sustainable Development Goals (SDGs) and REDD+ reported that the SDGs 13 and 15 calling for climate action and promoting the sustainable use of terrestrial ecosystems support REDD+ objectives (Bastos Lima et al., 2017). Such interactions between policy norms or outputs travelling through or relying on knowledge transfer among decision makers usually yield positive effects since learning from policy models can generally be expected to strengthen institutions (Gehring & Oberthür, 2009). On the other hand, interactions involving policy outcomes usually occur unintentionally, the unintended nature of which heightens the risk for antagonistic effects; but these have been poorly explored. There is evidence that some REDD+ implementation challenges derive from interactions with the outcomes of existing forest regulations such as forest revenues sharing rules.

Broadly, the need to devise benefit-distribution schemes that incentivise the mitigation of forest-based emissions has attracted investigations into the nature of REDD+ benefits, related costs, the legitimate beneficiaries, and envisaged distribution mechanisms (Lindhjem et al., 2010; Vatn & Vedeld, 2011). REDD+ benefits consist of carbon payments or monetary gains from the sale of forest carbon or donors, and non-carbon benefits including the environmental and socio-political outcomes of REDD+ activities (Wilder et al., 2014). These benefits ought to compensate for the costs of operationalising REDD+, which comprise implementation, transaction and opportunity costs (Luttrell et al., 2012). Implementation costs include the upfront and ongoing expenses of running a REDD+ programme or project such as administrative and infrastructure costs, human labour and equipment used to plant, maintain, and conserve forests (Rakatama et al., 2017). Transaction costs refer to the expenses associated with ensuring transparency and the credibility of the scheme by connecting carbon buyers and sellers and certifying carbon stock changes linked to REDD+ activities (Rakatama et al., 2017). Opportunity costs cover forgone revenues from alternative land uses such as income loss from palm

oil plantations and mining (Irawan et al., 2013). REDD+ scholars have suggested two broad dimensions for REDD+ revenue flows: vertical and horizontal streams (Luttrell et al., 2012). Along the vertical dimension, REDD+ beneficiaries would involve various stakeholders spanning from national to the local level; the horizontal dimension is concerned with benefit distribution among community members (Luttrell et al., 2012). Some REDD+ scholars have suggested that beneficiaries be selected to ensure REDD+ effectiveness by incentivising behaviour change; targeted actors would thus encompass those who reduce carbon emissions and generally incur the highest costs (Brockhaus et al., 2014). However, this entails the perverse consequence of rewarding wealthy stakeholders for reducing their ecologically harmful practices; for example, paying forest companies to refrain from logging outside allocated forest concessions has been found to carry the risk of increasing inequalities and undermining the moral and political legitimacy of REDD+ (Loft et al., 2017). Hence suggestions to consider the right holders in allocating benefits, yet challenged by tenure ambiguity across tropical countries and the reality that land or forest rights may not coincide with carbon rights (Luttrell et al., 2012). Thus, determining the legitimate beneficiaries and the exact proportions of benefits that should accrue to each is a conundrum across implementing countries. In the interim, many have proposed that existing schemes utilised for sharing forest revenues serve as a template for allocating carbon payments (Cotula & Mayers, 2009; Holmes & Potvin, 2014). Yet, reports have emerged that frustration among forest communities regarding the mismanagement and embezzlement of revenues accrued from forest exploitation deals have fueled suspicion around REDD+ payments, compromising participation in local REDD+ activities (Dkamela et al., 2009). This has led REDD+ scholars to warn that the limited probity, accountability and transparency in forests revenue distribution may filter into REDD+ benefit sharing (Jacob & Brockington, 2020), and that inequitable distribution of forest revenues is a threat to community participation in REDD+ schemes (Chia et al., 2013). In other words, the outcomes of existing forestry institutions may negatively interact with REDD+ implementation outcomes; yet outcome-level institutional interactions have been understudied. The sixth chapter plugs this gap, addressing the fourth research question of institutional interactions between forestry regulations and REDD+ at the local level. It draws from Gehring and Oberthür (2009)'s

framework for institutional interactions which theorises interactions between two institutions as synergistic or inhibitive, occurring at three levels: the output level triggered by knowledge transfer among policymakers, and the outcome and impact level involving the outcomes and impacts of concerned institutions on local communities.

## 2.8 Conclusion

This chapter has first introduced the international REDD+ mechanism, outlining its key features and requirements for implementing countries. Forest-rich tropical countries are encouraged to define national strategies to address the drivers of deforestation and forest degradation which comprise proximate drivers at the local level and underlying drivers emanating from indirect triggers including national land use policies. Existing work on the operationalisation of the mechanism across tropical countries has equally been reviewed. This has enabled the identification of gaps in previous studies on REDD+ integration into national land use sectors, its implementation in local settings, and the effects of interactions with existing forestry institutions. Previous research on sectoral REDD+ integration has emphasised coordination challenges across land use sectors, paying little attention to the role of political support, policy instruments, and organisational arrangements. REDD+ implementation among local communities has also attracted scrutiny into the potential barriers to REDD+ project uptake, uncovering hurdles with varying effects on REDD+ outcomes across sites. Yet the way implementation contexts determine the most influential factors for implementation outcomes in a given setting remains poorly understood, and so do interactions with the outcomes of existing forestry institutions. Before addressing these gaps, the broad methodological approach of the thesis is outlined in the next chapter.

# Chapter 3: Study area and methodology

## 3.1 Introduction

This chapter introduces the study area and outlines the broad methodological approach of this thesis which takes Cameroon as a case study to examine REDD+ integration, implementation, and the influence of institutional interactions in the Congo basin. Further methodological details are provided in subsequent empirical chapters after the specifics of theoretical frameworks guiding the research strategy have been set out. This chapter begins by introducing the notion of *case study* in section 3.2 and articulates the rationale of a case study approach as well as the suitability of Cameroon as a case study for this thesis. Next, the study area is described in section 3.3, which profiles the geographic and socioeconomic context of Cameroon as well as the main pillars of the Cameroonian economy such as the forest sector that equally plays a key role in global climate change mitigation. The Cameroonian forest governance system is then presented, entailing forestry regulations whose shortcomings and enforcement challenges triggered the introduction of new policy instruments including the REDD+ scheme, best attuned to the emerging climate crisis and to address forest-based emissions. The land use sectors propping the country's economy and driving forest emissions are presented next, followed by a description of REDD+ development, governance, and strategy to address land-based emissions in Cameroon. Section 3.4 turns to the methodological approach followed to address the main research questions assessing REDD+ integration into land use sectors, the determinants of implementation outcomes in selected locations, and the effects of interactions with existing forestry regulations. Data collection and analytical choices are broadly outlined and further expanded in the subsequent empirical chapters. This chapter concludes by clarifying the strategy followed to conduct rigorous research, enhance its credibility, and comply with ethical standards.

## 3.2 Case study

This thesis follows a case study approach to explore REDD+ deployment in the Congo basin forests, the world's second largest contiguous area of tropical rainforest and a key player in climate change mitigation (FAO, 2005; Brown et al., 2011). A case study is an empirical inquiry into a contemporary phenomenon within its real-life context (Yin, 2018). It is described as an intensive and systematic investigation of a single individual, group, community or some other unit to understand a larger class of similar units (Gerring, 2009; Heale & Twycross, 2017). The Congo basin forest is a large bloc of forests predominantly found in the Democratic Republic of Congo, Cameroon, Equatorial Guinea, Congo, Gabon, and the Central African Republic. They feature similar socioeconomic contexts, work to harmonise their forest governance systems, and have all adhered to the REDD+ program (Fobissie et al., 2014). An intensive and systematic investigation of REDD+ deployment within one of these countries could thus improve understanding of REDD+ development in the Congo basin through a case study approach.

As the first Congo basin country to design a forest legal and regulatory framework based on the sustainability principles agreed at the 1992 Earth Summit, Cameroon's forest legislation served as a legal blueprint for other countries (Cerutti et al., 2016). Cameroon has the second largest forest extent and one of the highest deforestation rates in the Congo basin. Further, as one of the first few countries to initiate the REDD+ process (Fobissie et al., 2014; Cerutti et al., 2016), Cameroon proves a suitable case study to understand REDD+ implementation in the Congo basin.

## 3.3 Study area: Cameroon

### 3.3.1 Country profile

Located in Central Africa, Cameroon lies between latitudes $1.7^0$N–$13^0$N and longitudes $8.4^0$E–$16^0$E, stretching over a land area of 475,440 km$^2$ (Yengoh et al., 2011). Its geographical position accounts for its diversified ecology which entails dry sahelian areas in the north, rainforests in the South, savanna and highlands in the West (Shidiki & Unusa, 2020). Cameroon has a population of over 26 million people unevenly distributed across ten administrative regions and governed as a unitary state (Lohkoko, 2013; Fengler,

2021). The Cameroonian economy relies heavily on the export of commodities such as oil, gas, timber, and agricultural products including cocoa and coffee (Bertelsmann, 2022). Agriculture is historically one of the strongest pillars of the country's economy and the main source of revenue for 70% of the population (Timnou et al., 2016). The heavy reliance on agricultural product export explains Cameroon's vulnerability to the decline in world commodity prices which plunged the country into economic recession in the 1990s (GESP, 2009). Plans to diversify the country's economy became necessary and required increased investments in large-scale infrastructures and the intensification of extractive industries (Timnou et al., 2016), heightening the pressure on forest resources.

### 3.3.2 Cameroonian forests: State and governance

The Cameroonian forest extends over approximately 22 million hectares, covering 40 percent of the country's land mass and largely concentrated in the East and South regions (MINFOF, 2012; Carodenuto & Cerutti, 2014). Its economic and socioecological roles are multiform. With an annual production of about 2.3 million $m^3$ of timber, the forest sector generates F CFA 456.9 billion (USD 780.4 million) for the national economy. It contributes 4% to the GDP and creates 22,722 direct permanent jobs, particularly through timber export to Europe and growingly to Asia (Ngeh, 2016; ATIBT, 2018). As part of the Congo basin, the Cameroonian forest plays key ecological services including biodiversity preservation, water recycling, wildlife conservation and carbon capture (Lhoest et al., 2019). Wood and non-timber forest products such as fruits, fish, bush meat, tree bark and medicinal plants are central to the livelihoods of forest communities (Mbairamadji, 2010).

The forest legal framework sought to regulate these varied functions; the legislation was reformed in 1994 against the dual backdrop of the 1990s economic recession that placed the country under enormous pressure to increase the state's production in line with its debt relief plan, and amid amplifying calls from the 1992 Rio Summit urging for environmental and forest protection. As a result, the 1994 forest law and its enabling decrees and implementing policies set out to preserve the economic, ecological, and social roles of the forest (Mvondo, 2009). Yet as indicated below, its shortcomings and enforcement challenges were soon to nurture deforestation.

Enforced by the Ministry of Forestry and Wildlife (MINFOF), the 1994 forest law splits the forest estate into two main domains: the permanent domain, further subdivided into Forest Management Units (FMUs) and protected areas is permanently dedicated to forest uses. The non-permanent forest domain can be converted into alternative uses such as farming. To safeguard the contribution of forests to forest-dependent livelihoods, community forests were introduced within the non-permanent forest estate, each set to cover a maximum area of 5000 ha and to be managed according to a plan approved by the forestry administration. Community forests were instituted as part of the decentralisation process in forest governance and in response to internal and external pressure from donors to improve rural living conditions following the 1990s economic recession (Piabuo et al., 2018). But obtaining a community forest can be a lengthy and costly process; local communities must, among other requirements conduct forest inventories, environmental impact assessments, design management plans, and have these approved by the forestry administration (Nuesiri, 2022). As a result, many communities have come to rely on financial support from donors, international and local NGOs, and often timber companies (Minang et al., 2019).

Under the 1994 forest law, FMUs are allocated to logging operators by auction and must be harvested following approved management plans. The management plan evaluates the potentialities of the resource, the trade-offs among the economic, ecological, and social benefits, and proposes balanced solutions (Cerutti & Tacconi, 2008). The 1994 law stresses that the design of management plans is a prerogative of the State. However, scarcity of financial and human resources consistent with the 1990s economic recession and the ensuing structural adjustment program that halted public service recruitments led MINFOF to delegate the task to logging companies (Cerutti & Tacconi, 2008). As a consequence, the economic benefits generally received more attention than ecological or social considerations, and logging operations have been carried out with little regard for management plans (Cerutti & Tacconi, 2008). Even more concerning, administrative sanctions failed to deter illegal practices (Mvondo, 2009). The fines set by enforcement officers often through negotiation with offenders were found to be so meaningless that they encouraged rather than deter illegal practices (Mvondo, 2009). Poor legal compliance by timber operators compounded by inadequate law enforcement in timber-producing

countries entertained forest clearing in the tropics, prompting the intervention of the European Union (EU) which was an important destination of tropical timber. The EU sets out to halt the flow of illegal timber into European markets by launching a Voluntary Partnership Agreement with timber exporting countries, namely the Forest Law Enforcement, Governance and Trade (FLEGT) initiative (Cerutti et al., 2016). After a decade of development in Cameroon, FLEGT was to be thwarted by reticence from the forestry administration.

Since its launching in 2010, FLEGT implementation in Cameroon has been bogged down in an indefinite preparation cycle of workshops and consultations, compounded by disagreements between the EU and MINFOF over the Forest Information Management System (SIGIF2), the application required to operationalise FLEGT (ATIBT, 2021). Fearing the erosion of its sovereignty over the country's forest, MINFOF rejected the EU-proposed SIGIF2 application deemed poorly adequate for the country's circumstances (ATIBT, 2021). For their part, the EU fearing a spillover into FLEGT of the corruptive and cronyism practices pervading the Cameroonian forestry administration declined the application proposed by MINFOF on grounds of poor reliability (Andong & Ongolo, 2020). The resulting mutual mistrust stalled the FLEGT process while timber was redirected from European to Asian markets (Eba'a-Atyi et al., 2013; Brusselaers & Buysse, 2018). In the face of the limitations of traditional regulatory policies, forest certification schemes took prominence but hardly fared better.

Forest certification schemes sought to act upon both the supply and demand for sustainably produced timber, but their reach has remained modest (Lescuyer et al., 2021). In Europe where campaigns against tropical deforestation have been widespread, certified tropical timber barely accounts for 30% of the market share (Van der Loos, 2018). On the supply side in Cameroon, certified forest areas merely represented 4% of logging concessions in 2020 (Lescuyer et al., 2021). The low uptake of costly and complex forest certification in tropical countries combined with the increased channeling of timber to less stringent Asian markets foiled the influence of certification on sustainable forest management (Savilaakso et al., 2017; Karsenty, 2019).

The continuous erosion of tropical forests amid heightening global concern about forest emissions and climate change prompted the introduction of market-driven instruments including Payment for Ecosystem Services (PES). Unlike previous policy instruments, PES schemes such as REDD+ assign a monetary value to the environmental benefits of forests and broaden their scope beyond illegal logging to other land use sectors all the more responsible for deforestation (Buttoud, 2012). In Cameroon indeed, the biggest pressure on forests emanates from land conversion to agriculture, livestock rearing, mining, and infrastructure development (MINEPDED, 2018).

### 3.3.3 Land use sectors and deforestation in Cameroon

Land use sectors sustaining forest clearing constitute the driving forces of the country's economy (Cameroon, 2020). Agriculture contributes over 20% to the national GDP (MINADER, 2014). Farming in Cameroon is predominantly traditional involving slash-and-burn shifting practices especially in the forested South, a farming practice acknowledged as the leading cause of deforestation (MINEPDED, 2018). The husbandry sector is equally largely traditional, employing 30% of the rural population particularly in the sahelian North and relying on pastoral systems where fire use for pasture management often spread uncontrollably into woodlands (MINEPIA, 2011; Shidiki & Unusa, 2020). The 2014 agriculture policy and the 2011 husbandry strategy sought to modernise and boost farm production hit by austerity in the 1990s (MINEPIA, 2011; MINADER, 2014). Economic recession equally led to dilapidated public infrastructures; yet commitments to substantial investment in the infrastructure sector came at the expense of forests (MINEPAT, 2012; MINEPDED, 2018). Transportation infrastructures are seen as crucial to unlocking the country's mineral potential; but mineral deposits in forested areas have resulted in forest encroachment and clearing (KPMG, 2014; MINEPDED, 2018).

The cumulative effect of land use pressure on forests accounted for 50.44% of Cameroon's total GHG emissions (Dkamela, 2010), exacerbating the country's vulnerability to climate change as evident in the severity and frequency of extreme weather conditions (MINEPDED, 2015). These have engendered drought expansion in the northern sahelian area, poor crop yields from an essentially rainfed agriculture, and power outage from hydropower-reliant electricity generation (Cheo et al., 2013;

MINEPDED, 2015). Hence addressing forest-based emissions through REDD+ became a priority for climate change mitigation in Cameroon's nationally determined contributions (NDC).

### 3.3.4 REDD+ development and governance in Cameroon

Cameroon joined REDD+ negotiations since 2008 and set up the necessary technical, institutional, and policy competencies to implement the mechanism under the leadership of the Ministry of the Environment, Nature Protection and Sustainable Development (MINEPDED, 2018), the coordinating department and focal point of the UNFCCC (Alemagi et al., 2014). The REDD+ readiness concept note prepared in 2008 launched a series of awareness-raising and capacity-building sessions with financial support from the World Bank and bilateral donors including Germany, Denmark, France, and the UK. The national REDD+ program was formally instituted by Prime Ministerial Decree in June 2012, officialising MINEPDED and MINFOF respectively as Chair and vice-Chair of the national REDD+ steering committee which brings together representatives from various state departments, the civil society, and local stakeholders. Supported by a technical secretariat, the steering committee oversaw the design of the national REDD+ strategy released in 2018 (MINEPDED, 2018).

The stated aim of the national REDD+ strategy is to contribute to climate stabilisation by reducing GHG emissions associated with deforestation and forest degradation, conserving or enhancing forest carbon stocks, and promoting sustainable forest management. It further seeks to improve the livelihoods of local communities and forest-dependent populations while ensuring sustainable and low-carbon development across land use sectors (MINEPDED, 2018). The strategy follows both a national and sub-national approach, taking account of the disparity in the causes of deforestation across ecological zones through three main programs. The first program addresses the drivers of deforestation and forest degradation in the forested South region. The second supports resilience and climate change adaptation in the sahelian North, and the third focuses on integrated watershed management in the West. The national REDD+ strategy builds on experiences from a range of pilot projects trialed among local communities across ecological areas by Non-Governmental Organisations (NGOs) and other technical

partners (MINEPDED, 2018). Cameroon has nearly completed the readiness phase of REDD+ development which comprises baseline research on the drivers of forest clearing, the design of national REDD+ institutions and strategies identifying policy reforms required, capacity building and the implementation of pilot projects to trial and inform the strategy. By generating knowledge from pilot projects to inform the national REDD+ strategy, this thesis supports REDD+ development as the country transitions to the implementation phase. The thesis examines several pilot initiatives to inform the REDD+ process of the ways existing forest policies and implementation contexts determine the most influential factors for REDD+ project outcomes, enabling REDD+ practitioners to pay attention to the key determining factors as they prepare to upscale REDD+ implementation across the country. The thesis further informs the globally-prescribed policy reforms by assessing to what extent forest considerations have been woven into land use sectors behind deforestation in order to evaluate the scope and nature of interventions required to incorporate REDD+ objectives into land use routines as part of land use policy reforms. The broad methodological approach is outlined next and further elaborated in subsequent empirical chapters.

## 3.4 Methodology

### 3.4.1 Research philosophy

The research methodology is underpinned by phenomenology, symbolic interactionism, and hermeneutics. Stemming from the work of German Philosopher Edmund Husserl and French phenomenologist Maurice Merleau-ponty, phenomenology is founded on the ideology that people's thoughts are always intentional or directed at some phenomenon (Hesse-Biber & Leavy, 2011). Phenomenological studies examine the lived experiences of people in relation to a concept or a phenomenon of interest to understand how a specific aspect of lived reality is constructed (Liamputtong, 2013). This thesis examines the experience of individuals in relation to the REDD+ mechanism, gaining an understanding of the lived reality of national and local actors in relation to the phenomenon of climate change, deforestation, and the solution of REDD+.

Recognising that the meanings people attribute to their lived experiences are subjective and influenced by their surroundings, the methodology is also grounded in the principle of symbolic interactionism which is based on the notion that individuals construct their perceptions and meaning as a result of their interactions with others. Associated with George Hebert Mead, symbolic interactionism emphasises that human interaction is not based solely on what the external world truly is, but on how humans interpret their world, giving it symbolic rather than concrete meaning (Liamputtong, 2013). Patton (2002) suggests that individuals create shared meanings through their interactions, and those meanings become their reality. Blumer (1969), one of the first few sociologists to use group discussions believed that only through close contact with people in naturalistic enquiry could the symbolic interactionist come to understand the symbolic world of the people being studied.

The methodology of the thesis is further influenced by hermeneutics, built on the theory of interpretation (Liamputtong, 2013). Named after Hermes, a messenger of the Greek God and interpreter of their messages, hermeneutic is premised on interpretative understanding and pays special attention to the cultural context within which meanings are created as well as the context in which they are subsequently interpreted (Packer 2011). Originally applied to the study of sacred texts such as the Bible, hermeneutics has gradually been broadened to include the understanding of human action within its ambit (Packer 2011). According to Van (1990), hermeneutics has its foundation in the act of writing, including lived experiences written in diaries, journals and reports. Phenomenology, symbolic interactionism and hermeneutics have influenced data collection choices.

### 3.4.2 Data collection

To explore REDD+ integration, implementation, and the influence of forest-related institutional interactions in Cameroon, this thesis draws on policy documents and the observations, perceptions, and experiences of relevant actors and stakeholders at the national and local levels. Thus, it follows qualitative research methods. Qualitative research is employed when there is a need to understand how individuals and communities

make sense of their experiences (Liamputtong, 2013). It is carried out in participants' homes or places of work and permits them to tell their personal stories, opinions, and ideas (Creswell, 2012). Qualitative methods are suited for this study which seeks to build on actors' and stakeholders' views on national REDD+ processes, and on local communities' thoughts and experiences of implementing REDD+ projects.

#### 3.4.1.1 Sampling technique

Research participants and REDD+ pilot projects were selected following a purposive sampling approach, a deliberate selection of specific subjects and settings because of the crucial information they can provide and which cannot be obtained so well in other ways (Carpenter & Suto, 2008). Selected participants at the national level held leadership roles in the REDD+ process and within relevant land use sectors. At the local level, participants entailed key informants with sound knowledge of local livelihoods, local representatives of forest and land use departments, the civil society, and community members who partook in the implementation of REDD+ pilot projects. Three pilot projects were selected in the South and West regions to cover i) distinct ecological zones, ii) a range of REDD+ activities where the effects of existing forest regulations materialise and iii) varying sociocultural settings to account for their influence on REDD+ implementation outcomes.

#### 3.4.1.2 Data collection techniques

Three qualitative research methods were utilised for data collection, namely in-depth interviews, focus groups, and unobtrusive methods or document review.

An in-depth interview is a one-on-one interaction between a researcher and a participant to understand a condition, an experience, or an event from a personal perspective (Byrne, 2012). Also referred to as intensive interviews, in-depth interviews allow researchers to access complex knowledge from an insider without the preconceived biases inherent in structured instruments (Schoenberg et al., 2006). As part of this thesis, nine in-depth interviews were conducted at the national jurisdictional level with decision makers from the REDD+ technical secretariat and with key informants from the departments of the environment, forest, agriculture, livestock, mining, and infrastructure. These were carried out for approximately an hour in participants' offices and allowed to probe their support

for and perspectives on varying aspects of REDD+ integration into land use sectors. At the local level, thirteen in-depth interviews were conducted across all three selected sites with traditional leaders, council officials, logging companies, local NGOs, and local officers from the forest, agriculture, and husbandry departments. They permitted to gain deeper insights into stakeholders' perspectives on communities' experiences with REDD+ implementation, and the effects of forestry rules on both local livelihoods and REDD+ activities.

A focus group is a small group discussion focused on a specific topic and facilitated by a moderator. It typically involves six to ten participants from similar sociocultural backgrounds, gathering in a comfortable setting to engage in dynamic discussions for one to two hours (Tonkiss, 2012). Four focus group sessions were conducted across selected REDD+ project sites, including two per region. They sought to engage all community members which took part in REDD+ activities and were attended by seven to twelve participants per session. Access to participants was obtained through the gatekeeper and referral (snowballing) approaches (Liamputtong, 2013); local REDD+ project leads introduced the researcher to some participants which in turn invited their peers. The sessions took place in community halls and enabled participants to discuss their shared experiences with REDD+ project implementation and the effects of forestry regulations on their livelihoods and REDD+ outcomes. Each focus group session took approximately two hours.

Unobtrusive or non-reactive research methods draw social and cultural meanings from existing sources including written records (Liamputtong, 2013). They assume individuals can learn about their societies by examining the material items produced within these, which reflect macro-social views (Hesse-Biber, 2012). Unobtrusive methods serve to take advantage of the data that already exist and can supplement other interactive methods (Liamputtong, 2013). Existing grey literature such as forestry legislations and policies, land use policies, REDD+ policy and project documents were utilised in this thesis to investigate REDD+ integration, implementation, and the effects of institutional interactions (table 1).

Table 1: Data collection methods

| Data collection techniques | Chapter 4/ Research question 1: REDD+ integration - Policy aspects | Chapter 5/Research question 2: REDD+ integration - Organisational aspects | Chapter 6/ Research question 3 & 4: REDD+ Implementation & interaction |
|---|---|---|---|
| In-depth interviews | 9 | / | 13 |
| Focus groups | / | / | 4 |
| Unobtrusive method (document review) | 16 | 10 | 9 |

### 3.4.3 Data processing and analysis

In-depth interviews and focus group discussions were recorded and transcribed verbatim. Transcripts and policy documents were entered into the QSR NVivo data management program for a comprehensive process of data coding. Coding involves labelling sections of information deductively and inductively. Deductive coding uses pre-defined codes from existing literature or frameworks (Skjott & Korsgaard, 2019). The deductive coding process was applied to all the data, using predefined codes from relevant theoretical frameworks. The data set linked to the first research question assessing the extent of REDD+ integration into land use sectors was labelled using codes drawn from the amended EPI framework that views EPI as a product of policy frame, sector involvement, sectoral coordination, and policy instruments. These four EPI constituents served as predefined codes for data labelling. Similarly, the materials related to the second research question on the organisational aspects of REDD+ integration were labelled using codes drawn from the conceptual literature on organisational structures for environmental integration (EI). The later distinguishes horizontal and vertical organisational arrangements and outlines their characteristics and effectiveness for EI. These served as codes to identify and label the features of REDD+ organisational arrangements from relevant documents. The predetermined codes applied to the data supporting the third research question relative to the determinants of local REDD+ implementation outcomes were derived from the conflict – ambiguity framework for policy implementation. It theorises the influential factors for the outcomes of four types of policy implementation defined by the level of conflict and ambiguity surrounding the implementation process.

Thus, the level of conflict and ambiguity around local REDD+ implementation represented the predetermined codes used to establish the implementation typologies of select REDD+ projects and to match these with the corresponding factors for implementation outcomes. The codes applied to the data related to the fourth research question on the interactions between forestry institutions and REDD+ stemmed from the framework for institutional interactions that distinguishes synergistic and counterproductive interactions, both of which served as predefined codes. Deductive coding was performed through content analysis, an analytical approach that attempts to quantify materials' content along the predetermined codes in a systematic and replicable manner (Bryman, 2012).

The inductive coding approach was equally applied. In the inductive process, codes are developed from collected data by identifying the themes emerging from participants' discussions (Skjott & Korsgaard, 2019). While the thesis builds on a set of theorised frameworks, attention was paid to some emerging themes in the research materials. The inductive coding process allowed to draw from some outlying empirical data to improve upon the analytical frameworks applied. It involved thematic analysis, which identifies and reports patterns within the data, allowing for the detection of emerging themes from participants' tales (Liamputtong, 2013). Narrative analyses were performed across all the data; they unfold the ways individuals make sense of their lived experiences and retell their stories in frameworks that make sense to readers (Gibbs et al., 2002). Table 2 summarises the data collection and analytical choices.

Table 2: Summary of data collection and analytical methods

| **Research questions** | **Data collection methods** | **Data processing approach** | **Data analysis methods** | **Relevant chapters** |
|---|---|---|---|---|
| 1-To what extent is REDD+ integrated into land use sectors driving deforestation in Cameroon? | - In-depth interviews<br>-Document review | -Deductive coding; predetermined codes: policy frame, sector involvement, sectoral coordination, and policy instruments<br>-Inductive coding | -Content analysis<br>-Thematic analysis<br>-Narrative analysis | Chapter 4 |

| | | | | |
|---|---|---|---|---|
| 2- What is the potential for organisational REDD+ arrangements to facilitate sectoral REDD+ integration? | Document review | -Deductive coding; predetermined codes: Characteristics and effectiveness of horizontal and vertical integration<br>-Inductive coding | -Content analysis<br>-Thematic analysis | Chapter 5 |
| 3-What are the influential factors for REDD+ implementation outcomes at the local level? | - In-depth interviews<br>-Document review<br>-Focus group discussions | Deductive coding; predetermined codes: Levels of conflicts and degrees of ambiguity<br>-Inductive coding | -Content analysis<br>-Thematic analysis<br>-Narrative analysis | Chapter 6 |
| 4-How are local REDD+ implementation outcomes shaped by interactions from existing forestry institutions? | - In-depth interviews<br>-Document review<br>-Focus group discussions | -Deductive coding; predetermined codes: synergistic and counterproductive interactions<br>-Inductive coding | -Content analysis<br>-Thematic analysis<br>-Narrative analysis | Chapter 6 |

### 3.4.4 Research rigour

In addition to the section above that rationalises the methodological decisions, the rigidity of this thesis has been strengthened by a deep understanding of the research area, triangulation, transparency in the interpretation of evidence, reflexivity on personal position, and ethical considerations.

#### 3.4.3.1 Engagement with the research area, triangulation, and transparency in data interpretation

A sound understanding of the research location usually achieved through a prolonged engagement with the research area helps reduce biases in the study, including the likelihood of participants withholding information (Padgett, 2009). As a native Cameroonian with prior experience in collaborating with decision makers from the forest and land use sectors as well as engaging with rural communities, my familiarity with the research area enhanced my ability to discern the credibility of participants' words. I

equally held informal discussions during the fieldwork to develop a trusting relationship with research participants.

Triangulation was applied to further strengthen the credibility of the research. Triangulation is based on the convergence of information from multiple sources to corroborate the data (Carpenter & Suto, 2008). Two kinds of triangulation were applied to the study: data source and methodological triangulation. They rely on the use of multiple data sources obtained through various data collection methods to develop a comprehensive understanding of phenomena (Patton, 1999). In this thesis, focus groups, in-depth interviews and document review were conducted to collect the data from various participant groups including state and non-state actors.

Further, data were interpreted transparently, using the verbatim quotations of participants in presenting the findings which support evidence of data interpretation and reveal how participants' meanings are expressed in their own words. Other biases in data interpretation can stem from the researcher's position or personal perspectives, as reflected upon next.

#### 3.4.3.2 Reflectivity on positionality

The experiences, beliefs, and personal history of the researcher that might influence the research must be acknowledged (Liamputtong, 2013). Reflectivity makes these explicit, by identifying potential preconceptions brought into the project by the researcher.

With a background in forest management, I have worked for the Cameroonian department of forests to assist with biodiversity conservation. I further supported the Cameroonian branch of the International Union for Nature Conservation (IUCN) in monitoring REDD+ pilot projects. When my academic and professional backgrounds reinforced my beliefs in the importance of environmental protection and forest conservation, my geographical roots from sub-Saharan Africa in the global South keep me aware of the imperative of economic recovery. Thus, I keep a balanced outlook on environmental governance and sustainability, which I perceive to be a means to achieve the triple social, ecological, and economical gains. As such, the REDD+ mechanism that proposes financial compensation to preserve the ecological role of forests in climate change mitigation while supporting

local livelihoods aligns with my vision. Hence, I dedicated this research program to scrutinising REDD+ deployment in the Congo basin with a view to contribute to boosting its potential to lift rural communities out of poverty and support the national economy, all the while mitigating climate change and nurturing the ecological functions of forests.

I was previously involved with one of the three REDD+ pilots examined in this thesis, during my engagement with IUCN. Therefore, as I prepared for field data collection, I anticipated that community members which partook in that project might be guarded in their evaluation of the experience. Thus, I clarified my new position upfront as a student at a UK university and attempted to alleviate their potential fears of critiquing a project I once supported by announcing during the reconnaissance visit that our discussions will also cover anything that may have fallen short of their expectations. Their arrangements of seats on the meeting day mirroring a classroom setting, with my desk at the front overlooking theirs indicated that they still bore memories of the power difference between us. To restore some balance and create a more convivial atmosphere, I suggested we move the seats around in a circle and discuss as a group. During the discussion, I showed approbation for both positive and critical feedback, which strengthened their confidence further solidified in the knowledge that their anonymity was protected by research ethics.

#### 3.4.3.3 Ethical considerations

Before all discussions, participants were informed about the purpose of the research to allow them to make a voluntary decision to participate. Verbal informed consent was obtained as it was more appropriate for the setting. To protect the confidentiality of research participants, their names were not recorded. To preserve the authenticity of their thoughts and words, interviews were conducted in French, the language used in the research area, and recorded with interviewees' consent. Transcription was done by native Cameroonians familiar with the local accent. Transcribers were briefed on expectations and confidentiality requirements, and their signed data protection forms secured.

## 3.5 Conclusion

This chapter has described the REDD+ process in Cameroon, the research area, and charted the methodological approach of the thesis. Cameroon adopted REDD+ to

strengthen previous forest policies and tackle forest emissions driven by competing land use sectors including agriculture, livestock rearing, mining activities, and infrastructure expansion. The extent of REDD+ integration into these sectors as well the determinants of implementation outcomes and the effects of interactions from existing forestry regulations are assessed following a qualitative research approach. The data are drawn from document review, focus group discussions and in-depth interviews with purposively selected state and non-state informants at national and local levels. The results of data analysed through content, thematic and narrative approaches are presented in the subsequent three empirical chapters.

# Chapter 4: REDD+ integration into land use sectors driving deforestation in Cameroon: Policy considerations

## 4.1 Introduction

Forest clearing accounts for 12–20% of global carbon emissions, driven by demographic and economic fostering of land conversion for agriculture, logging, mining, and infrastructure building (Gupta et al., 2013; IPCC, 2019a). Reducing Emissions from Deforestation and forest Degradation (REDD+) emerged under the United Nations Framework Convention on Climate Change (UNFCCC) to financially compensate and support forest-rich developing countries in mitigating forest emissions (UNFCCC, 2011); but addressing forest emissions hinges on the integration of REDD+ policy objectives into competing land use sectors often outside the forest domain (Nkem et al., 2010; Weatherley-Singh & Gupta, 2017), which has proved challenging in tropical countries (Korhonen-Kurki et al., 2016). Almost unanimously, REDD+ scholars have warned that REDD+ integration is challenged by sectoral coordination problems, advising policy reforms and participatory governance approaches (Peskett & Brockhaus, 2009; Gupta et al., 2016; Korhonen-Kurki et al., 2016; Špirić & Ramírez, 2021); but what is the extent of sectoral coordination problems and is there sufficient political backing and appropriate policy instruments to achieve integration? Incorporating REDD+ into broader land use systems would seldom be attained without dedicated policy instruments and staunch support at higher government level and among land use stakeholders (Runhaar, 2016; Weatherley-Singh & Gupta, 2017). Yet stakeholders' backing for REDD+ integration and their adoption of adequate policy instruments have received little scrutiny in existing REDD+ integration studies, while existing surveys of the discursive practices of REDD+ stakeholders have focused on their perception of REDD+ benefit-sharing, carbon monitoring, and finance (Di Gregorio et al., 2013; Tiani et al., 2015; Vijge et al., 2016). This chapter fills this gap by addressing the following question: To what extent are REDD+ policy objectives integrated into land use sectors driving deforestation beyond the forestry sector in Cameroon, namely agriculture, livestock, infrastructure, and mining? The chapter scrutinises the political will of state actors through which policy integration occurs, the policy instruments that support the integration process, and the extent of

integration. This is pursued through four specific research questions: i) To what extent do state actors view or frame deforestation, the source of forest emissions, as an intersectoral problem to be addressed across land use sectors? ii) To what extent are the various land use sectors involved in addressing forest clearing? iii) What is the magnitude of coordination challenges among land use sectors in Cameroon? iv) To what degree are existing policy instruments supporting REDD+ integration into land use sectors?

The next section carries out a conceptual review of the notion of Environmental Policy Integration (EPI) that underlies this research. It goes on to introduce the framework for EPI that forms the theoretical basis of the analyses, highlighting how it takes account of i) the processual nature of integration by assessing the processes shaping the level of integration such as those related to political will and policy instrument, and ii) the dynamic or differentiated character of integration in gauging the extent of EPI. Existing literature on REDD+ policy integration is then reviewed and assessed to i) reveal the gap filled by this chapter, and ii) amend the theoretical framework. The methodological approach is subsequently laid out, which introduces the study area, landscapes the Cameroonian forest context as well as competing land use sectors, then spells out the data collection and analytical choices. The findings are next exposed and discussed, leading to pathways to advance REDD+ policy integration and directions for future research.

## 4.2 Environmental Policy Integration: A framework for analysis

### 4.2.1 Conceptual background and clarification

EPI traces back to landmark documents on sustainable development such as the 1987 Brundtland report and the 1992 Rio Summit Declaration that promote the inclusion of environmental considerations across other sectors (WCED, 1987; Lafferty & Hovden, 2003). In this study, EPI is understood as incorporating environmental concerns into the decision-making of other sectors. EPI foreran the analogous notion of Climate Policy Integration (CPI) and although CPI builds on the theoretical understanding of EPI, it emphasises the dual dimensions of climate change mitigation and adaptation (Kengoum & Tiani, 2013; Di Gregorio et al., 2017) and engages a narrow set of sectors (Ahmad,

2009; Adelle & Russel, 2013). EPI research such as this work involves a wider range of sectors (Candel & Biesbroek, 2016).

### 4.2.2 Theoretical frameworks for EPI assessment

This study amends an EPI framework from existing analytical tools reviewed in this section. Frameworks for EPI have increased in recent decades, theorising how EPI is conceptualised and executed. As outlined below, the literature classifies these into static and dynamic lenses (Nilsson & Persson, 2003).

One of the first practical EPI frameworks was introduced by Lafferty and Hovden (2003), which consists of vertical and horizontal EPI. Horizontal integration assesses how far a central authority has developed a comprehensive cross-sectoral strategy for EPI; this is assessable through such indicators as the existence of (i) a long-term sustainable development strategy, (ii) a central authority entrusted with the supervision, coordination and implementation of the integration process, (iii) clear designations of sectoral responsibility for the overarching environmental goals, (iv) timetables and targets for environmental policies, (v) periodic reporting of progress with respect to targets, and (vi) an active and monitored usage of Environmental Impacts Assessment (EIA) as well as Strategic Environmental Assessment (SEA) for all governmental policies (Lafferty & Hovden, 2003). Vertical EPI relates to individual sectors and measures the extent to which a particular governmental sector has adopted and sought to implement environmental objectives, reflected by how well a government department has merged environmental objectives with its sectoral objectives to form an environmentally prudent decision-making premise (Lafferty & Hovden, 2003). The indicators of vertical EPI entail the existence of (i) a mapping of the major environmental challenges relevant to the specific sector, (ii) a formulation of a sectoral environmental action plan (SEAP), (iii) consistent and regular employment of both EIA and SEA for all sectoral policy-decisions, (iv) timetabled and quantitative indicator-based targets stipulated in the SEAP, and (v) regular reporting of the state of environmentally relevant policies within the sector (Lafferty & Hovden, 2003).

When Lafferty and Hovden's scheme proves practical and comprehensive covering the breadth and depth of EPI, its reliance on the existence of a set of policy outputs poorly

helps to distinguish instances where such outputs are still in development from those where no attempt at EPI is undertaken. Such has been the limitation of approaching EPI as a relatively static policy outcome, a desired state that is reached or else EPI is deemed inexistent (Candel & Biesbroek, 2016). Such obliteration of the differentiated nature of policy integration explains the shift to a more dynamic and processual framework for EPI.

Several examples of such conceptualisation of EPI emerged, which introduced diverse degrees of sectoral coordination ranging from independent decision-making by ministries to shared government strategies, in between which distinct steps were distinguished (Metcalfe, 1994; Keast et al., 2007). While these have provided a logical order of how integration may increase or regress over time and thus offer a tool for comparison, they lack clear criteria or elements on the basis of which degrees could be distinguished (Candel & Biesbroek, 2016). Building on these, Candel and Biesbroek (2016) introduced a theoretical approach that accommodates the dynamic and processual nature of the integration process and would therefore underpin our assessment of REDD+ integration into land use sectors driving deforestation.

### 4.2.3 Processual and dynamic framework for EPI assessment

Candel and Biesbroek (2016) frame EPI as a process of policy and institutional change where actors, the medium for integration, play a central role in shaping the integration process. Their framework consists of four distinct but interrelated dimensions of policy frame, subsystem or sector involvement, policy goals, and policy instruments, presented and amended below.

The *policy frame* refers to the dominant definitions of a societal issue at the macro level (Candel & Biesbroek, 2016). Lack of political will for integration has been identified as a constraint to environmental mainstreaming (Dalal-Clayton & Bass, 2009). This dimension captures the extent to which a cross-cutting problem such as forest clearing is perceived at macro level as requiring multisectoral governance and is articulated in foundational documents or statements (Candel & Biesbroek, 2016). Reflecting the dynamic nature of integration, the framework introduces four degrees of manifestation of

the policy frame that assess the extent to which an environmental problem is integrated within a governance system (Table 3).

Table 3: Manifestations of policy frame (Candel & Biesbroek, 2016)

| Low amounts of policy integration | | | High amounts of policy integration |
|---|---|---|---|
| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
| The problem is defined in narrow terms within the governance system; the cross-cutting nature of the problem is not recognised and the problem is considered to fall within the boundaries of a specific subsystem (sector). | There is awareness that the policy outputs of different subsystems shape policy outcomes. The problem is still predominantly perceived as falling within the boundaries of a particular subsystem. | Increasing awareness of the cross-cutting nature of the problem and understanding that the governance of the problem should not be restricted to a single domain. | General recognition that the problem is and should not solely be governed by subsystems, but by the governance system as a whole. |

EPI also requires that environmental concerns are on the political agenda of sectoral administrations (Hertin & Berkhout, 2003). The *subsystem or sectoral involvement* refers to the range of sectors or actors engaged in the governance of a cross-cutting problem when it arises on the political agenda. It is conceptualized along the sub-dimensions of *subsystems or sectors involved* and *interaction density*. The first assesses the range of sectors engaged in governing the problem, as determined by the extent of their awareness of its cross-cutting nature and their sense of responsibility in addressing the problem. The second captures the level of interaction among sectors, the frequency of which facilitates integration (Table 4).

Table 4: Manifestations of subsystem or sector involvement (Candel & Biesbroek, 2016)

| Low amounts of policy integration | | | High amounts of policy integration |
|---|---|---|---|
| **Row 1-Subsystems or sectors involved** | | | |
| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
| One dominant subsystem or sector, which governs the | Subsystems recognize the failure of the dominant subsystem to manage the problem and externalities, which results in the | Awareness of the problem's crosscutting nature spreads across subsystems, as a result of | All possibly relevant subsystems have developed ideas about their role in |

| | | | |
|---|---|---|---|
| issue independently. | emergence of concerns about the problem in one or more additional subsystems. | which two or more subsystems have formal responsibility for dealing with the problem. | the governance of the problem. |
| **Row 2-Density of interactions** | | | |
| No interactions | Infrequent information exchange with dominant subsystem. | More regular and formal exchange of information and coordination. | High level of interaction between formally involved subsystems. |

Sectoral engagement occurs when environmental objectives are incorporated into sectoral policy goals. The third dimension of *policy goals* reflects the range of sectoral policies that explicitly adopt cross-cutting problems as goals, as well as the coherence between environmental and sectoral policy goals (Table 5).

Table 5: Manifestations of policy goals (Candel & Biesbroek, 2016)

| Low amounts of policy integration | | | High amounts of policy integration |
|---|---|---|---|
| **Row 1-Range of policies in which the cross-cutting problem is embedded** | | | |
| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
| Concerns only embedded within the goals of a dominant subsystem. | Concerns adopted in policy goals of one or more additional subsystems. | Possible further diversification across policy goals of additional subsystems. | Concerns embedded within all potentially relevant policy goals. |
| **Row 2-Policy coherence** | | | |
| Very low or no coherence. Occurs when cross-cutting nature is not recognized, or when subsystems are highly autonomous in setting (sectoral) goals. | Because of rising awareness of externalities and mutual concerns, subsystems may address these to some extent in their goals. | Coordinated sectoral goals, which are judged in the light of coherence. Subsystems attempt to develop synergies | Shared policy goals embedded within an overarching strategy. |

Policy coherence relies on the effectiveness of the mix of instruments designed for the purpose. Adequate *policy instruments* are needed at subsystem and system-levels to harmonize environmental and sectoral policy goals. Policy instruments constitute the

fourth EPI dimension and can be substantive or procedural. Substantive instruments allocate financial, regulative or organisational resources to directly support EPI, and procedural instruments indirectly influence outcomes by shaping policy processes (Candel & Biesbroek, 2016). EPI tools could include sectoral strategies, green budgeting, interdepartmental working groups, environmental assessment, and environmental correspondents in sector departments (Jacob & Volkery, 2004). The dimension of policy instruments is assessed through three indicators: (i) instrument deployment at system level to coordinate subsystems or sectors' efforts, (ii) the range of subsystem or sectoral policies that adopt policy instruments to address the cross-cutting problem, and (iii) the consistency of policy instrument mixes (Table 6).

Table 6: Manifestations of policy instruments (Candel & Biesbroek, 2016)

| Low amounts of policy integration | | | High amounts of policy integration |
|---|---|---|---|
| **Row 1-Policy instruments at system-level** | | | |
| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
| No relevant instruments at system-level. | Some information sharing instruments at system-level. | Increasing number of system-level instruments that facilitate subsystems to jointly address the problem. | Broad range of instruments at system-level that coordinate, subsystems' efforts . |
| **Row 2-Range of subsystem or sector policies that contain policy instruments** | | | |
| Problem only addressed by the instruments of a dominant subsystem. | One or more additional subsystems (partially) adapt their instruments to mitigate negative effects. | Possible further diversification of instruments addressing the problem across subsystems. | Instruments embedded within all potentially relevant subsystems and associated policies. |
| **Row 3-Consistency of policy instruments** | | | |
| No consistency. Sets of instruments are purely sectoral and result from processes of policy layering. | Subsystems consider externalities of sectoral instrument mixes in light of internal and inter-sectoral consistency. | Subsystems seek to jointly address the problem by adjusting and attuning their instruments. | Full reconsideration of subsystem instrument mixes, resulting in a comprehensive, cross-subsystem instrument mix. |

These three indicators have focused on the range of sectors that embed instruments, when EPI effectiveness eventually rests on their implementation. Therefore, a supplementary

indicator has been added which assesses the extent to which existing policy instruments are implemented (Table 7).

Table 7: Manifestation of policy instrument implementation

| **Policy instrument implementation** | | | |
|---|---|---|---|
| Stage 1 | Stage 2 | Stage 3 | Stage 4 |
| There is no or substantial implementation deficit of policy instruments at system and subsystem levels. | A marginal proportion of sectors apply a few integration instruments to some extent. | Decision-making at system level and within several subsystems is increasingly guided by a sizeable mix of policy instruments. | There is consistent and regular use of a broad range of instruments with regular reporting across most to all relevant sectors. |

The amended framework is applied in this chapter to assess REDD+ policy integration within competing land use sectors in Cameroon, filling the research gap in the literature reviewed below.

## 4.3 REDD+ policy integration viewed through an EPI lens

The imperative of integrating solutions to forest emissions into land use sectors at the origin of deforestation sparked research interest on REDD+ policy integration. Most studies have taken a static rather than dynamic approach at EPI, and many equate integration to sectoral coordination, which constitutes only one subdimension in Candel and Biesbroek's four-pronged conceptualisation of EPI, paying little attention to actors' willingness and policy instruments which constitute the processual nature of EPI.

Sectoral coordination challenges stemming from overlapping institutional boundaries and policy inconsistencies are widely reported across REDD+ countries (Fujisaki et al., 2016; Korhonen-Kurki et al., 2016). In Laos PDR, for example, a blurred division of responsibilities between the forestry and the natural resource departments strained institutional relations with detrimental implications for forest protection (Lestrelin et al., 2013). In Papua New Guinea, land lease allocations in the agricultural sector accelerated forest clearing at a pace contradictory to REDD+ objectives (Korhonen-Kurki et al., 2016). REDD+ development in Cameroon has also been marred by overlapping land titles across forestry, agriculture, and mining uses (Kengoum & Tiani, 2013). Instances of

forestland encroachment seldom runs short when the quest for economic growth holds sway, highlighting the centrality of EPI in invigorating environmental considerations. REDD+ studies herald land use zoning – allocating areas of land to specific uses – as a remedy to land use conflicts and key indicator of successful REDD+ governance (Pettenella & Brotto, 2012; Robiglio et al., 2014). Land use planning thus constitutes an important policy instrument for REDD+ policy integration into other land use sectors.

Policy inconsistencies have also brought about sectoral coordination challenges in REDD+ countries. Emissions associated with the use of chemical fertilisers involving a shift of greenhouse gases from deforestation to energy-intensive industrial processes in fertiliser factories, and the use of machinery to increase agricultural production have been found to undermine REDD+ (May et al., 2011; Kalaba et al., 2014; Atela et al., 2016) highlighting policy incoherence.

Efforts at sectoral coordination in REDD+ countries have been hindered by capacity deficit. In Vietnam, limited understanding of REDD+ strategy and how it relates to other government activities left sectoral actors puzzled, and financial shortages hindered sectoral outreach, restricting participation in REDD+ fora to forestry and REDD+ experts (Mcnally & Nguyen, 2016). The latter had been under political pressure to formalise a National REDD+ Action Plan to demonstrate success at COP meetings (Mcnally & Nguyen, 2016). Such "cosmetic" strategy (Mickwitz and Kivimaa (2007, p. 82) should be distinguished from genuine policy integration. The amendment of the fourth EPI dimension of policy instrument facilitates such distinction by including not just the range of policy instruments developed, but the extent to which these are actually implemented.

A common suggestion to enhance cross-sectoral coherence has been to encourage information exchange and inter-institutional learning among sectors (Korhonen-Kurki et al., 2016; Wurtzebach et al., 2019). This relates to the EPI subdimension of interaction density and outlines the role of communicative policy instruments. In REDD+ countries, different types of joint ministerial platforms such as REDD+ steering committees, inter-ministerial working groups, and task forces have been used to support cross-sectoral cooperation (Standing, 2015; Fujisaki et al., 2016; Korhonen-Kurki et al., 2016; Špirić & Ramírez, 2021), but they have not always successfully fostered integration. Land use

sectors often disregard the resolutions of these joint platforms (Resosudarmo, 2013; Korhonen-Kurki et al., 2016). Sectors' resistance to REDD+ platforms' push for integration raises questions about whether existing organisational arrangements are conducive to integration, whether REDD+ integration is endorsed at the macro level, and how sectoral actors frame forest clearing. Yet, other EPI dimensions, such as the policy frame and subsystems or sector's support, and the adequacy of policy instruments have received little attention to date.

This study addresses such shortcomings through a comprehensive analysis of REDD+ policy integration, improving and building on Candel and Biesbroek's framework. The framework amendment draws on the above REDD+ policy integration literature which has focused on sectoral coordination. Although not its sole component, cross-sectoral coordination remains a fundamental EPI feature and yet is not included in the four dimensions of Candel and Briesbrook's framework. Thus, the dimension of sectoral coordination has been added to the framework and the indicators of interaction density and coherence of goals subsumed under this new dimension (figure 2). Finally, the criteria of the extent to which the environmental problem is included into sectoral policy goals has been subsumed under the dimension of sector involvement.

This framework is applied to the forest-rich yet increasingly deforested Cameroon that joined the REDD+ initiative over a decade ago to curb forest clearing. Although this country has been included in multi-countries comparative analyses of sectoral coordination (Korhonen-Kurki et al., 2016) no research to date has specifically investigated REDD+ integration into all main land use sectors behind deforestation across all four key EPI dimensions in Cameroon. This study adopts a processual and differentiated approach that assesses not just whether REDD+ is integrated within concerned land use sectors, but also the extent to which it is. The next section outlines the methodological approach.

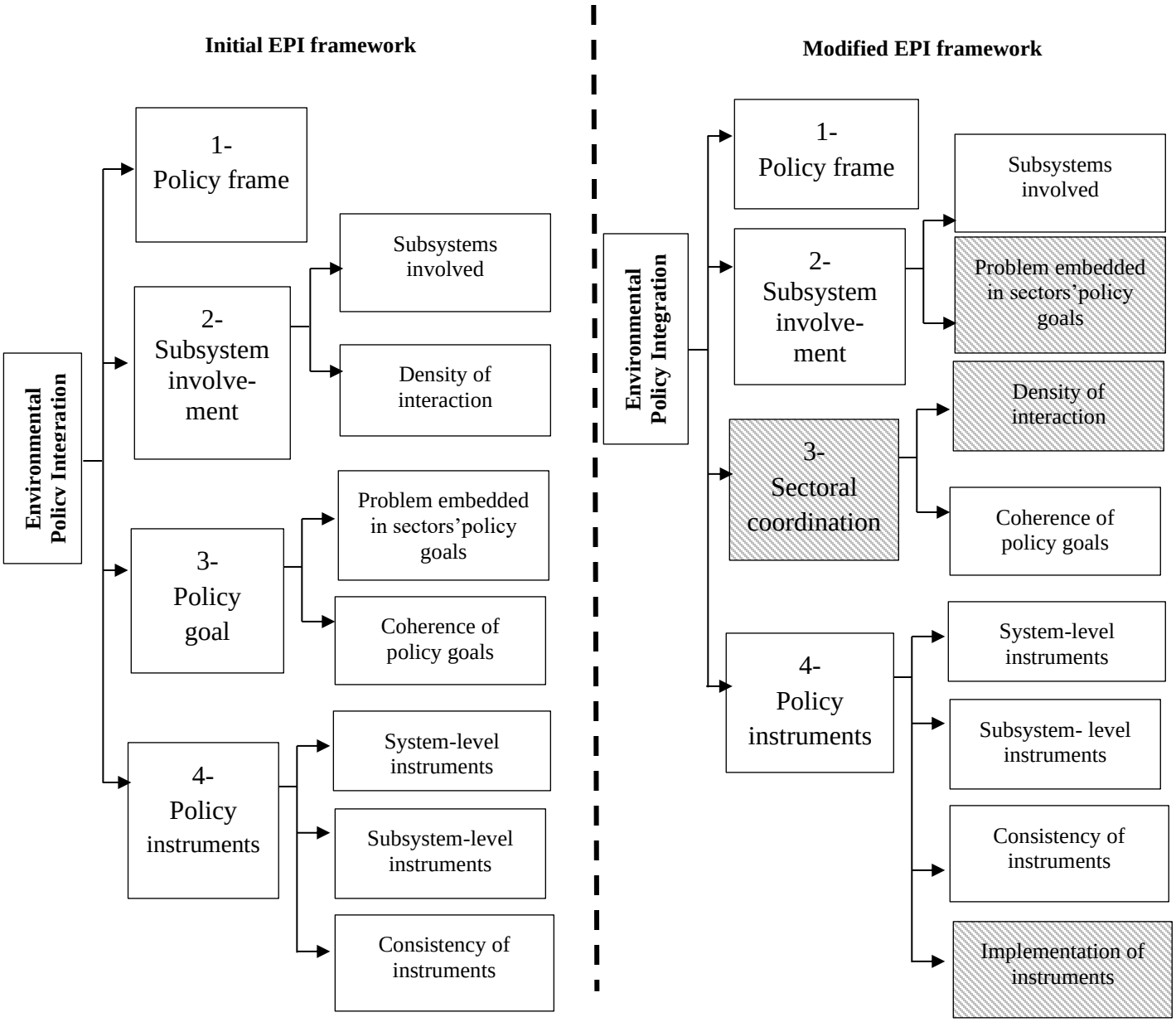


Figure 2: Adjusted framework for Environmental Policy Integration

## 4.4 Materials and methods

### 4.4.1 Study area: Cameroon

#### 4.4.1.1 Cameroonian forests

Cameroon has about 22 million hectares of forest governed by i) the 1994 Forest Law enforced by the Ministry of Forestry and Wildlife (MINFOF), and ii) the 1996 Environmental Framework Law overseen by the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) (MINFOF, 2013; Mosnier et al., 2016). These forestry and environmental state institutions are considered in this study as the main system-level institutions. Besides logging within the forest domain, deforestation drivers outside the forestry sector include agriculture, livestock, infrastructure, and mining (Mosnier et al., 2016; Shidiki & Unusa, 2020), which are investigated as sub-systems or sectors of interests.

#### 4.4.1.2 Land use sectors driving deforestation and the response of REDD+

Land use sectors underlying forest clearing form the backbone of the country's economy (GESP, 2009). Agriculture accounts for 20% of the national GDP (MINADER, 2014), is mostly traditional slash-and-burn shifting culture especially in the forested South, and is considered the leading cause of deforestation (Zapfack et al., 2002; MINADER, 2014; Shidiki & Unusa, 2020). Traditional livestock rearing dominates in the Sahelian North where fire use for feed regeneration causes deforestation (MINEPIA, 2011). Infrastructure development is also detrimental to forests (Tchatchou et al., 2015; Shidiki & Unusa, 2020); when transportation facilities are crucial to unlock the country's mineral potential, mineral deposits in forestlands entail forest clearing (KPMG, 2014; Kamga et al., 2019).

In this context of growing pressure from different land use sectors, REDD+ emerged as a financial mechanism to foster forest protection. In Cameroon, a multisectoral Steering Committee was set up within the environmental department to oversee the design of the national REDD+ strategy aiming to achieve net zero deforestation by 2035 (Shidiki & Unusa, 2020). Evidently, successful outcomes rest on whether such a policy objective is incorporated in policy and practice in the land use sectors driving deforestation (Korhonen-Kurki et al., 2016). The main national state institutions related to these sectors

include the Ministry of Agriculture and Rural Development (MINADER), the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA), the Ministry of Public Work (MINTP), and the Ministry of Mines, Industry and Technological Development (MINMIDT). The section below outlines the methodological approach.

### 4.4.2 Data collection and analytical methods

The study draws from a mix of policy review and in-depth interviews (Byrne, 2012) with key informants to explore the four specific questions through related EPI dimensions of problem framing by state actors, sectoral involvement, sectoral coordination and policy instruments, in the context of REDD+ policy integration in Cameroon. The first specific question on the framing of forest clearing by state actors at the central level is assessed through in-depth interviews with decision-makers from MINFOF and MINEPDED, the system-level bodies. Their framing reflects political support for integration. Interviews are complemented with a systematic review of forestry and environmental legislation and policy documents, as well as broader development policies to interpret decision makers' framing of the problem of deforestation and support for REDD+ integration. Interviews enabled to probe their awareness of the cross-cutting nature of forest clearing and the extent to which they endorse a multisectoral approach to address deforestation.

The second specific question related to the EPI dimension of subsystem or sector involvement is assessed through a review of sectoral policies and in-depth interviews with policy makers from the departments of agriculture, livestock husbandry, public work and mining. They shared their perceptions of forest clearing and the extent to which forest protection is integral to their department goals. Their accounts on their interactions with other sectors and coherence with system level and other land use policies informed the assessment of the third specific question on the extent of sectoral coordination challenges.

Lastly, policy document review and participants' views about the availability and implementation of policy instruments guided the assessment of the fourth specific question on the availability and suitability of policy instruments. Sixteen policy documents were systematically reviewed and nine in-depth interviews conducted with purposively selected (Carpenter & Suto, 2008) national level decision makers holding leadership positions in administrative units directly linked to deforestation and forest

degradation (Table 8). To comply with ethical standards, their names and professional roles have been kept confidential.

Table 8: Research design

| EPI sub-dimensions | Questions | Data sources | |
|---|---|---|---|
| | | **Policy documents** | **Interviewees** |
| **Dimension 1: Policy frame (specific question i)** | | | |
| / | How is deforestation framed in the Cameroonian government system? | **System-level policies:**<br>➢ **Forest**<br>-1994 Forest Law<br>-Decree 95/466 on wildlife provisions<br>-Decree 95/531 on forest provisions<br>-2020 Forest and Wildlife Strategy<br>- 2009 Growth and Employment Strategic Paper<br>-2020 National Development Strategy<br>➢ **Environment**<br>- 1996 Environmental Framework Law<br>-Decree 2001 on the Inter-ministerial Committee on the Environment<br>-Decree 2013 on Environmental and Social Impact Assessments<br>- Order 0070 on Operations subject to ESIA<br>➢ **REDD+**:<br>-2018 National REDD+ Strategy | **System-level participants:**<br>1 representative from<br>-MINFOF<br>-MINEPDED<br>-3 representatives from REDD+ Steering Committee |
| **Dimension 2: Subsystems/sectors involvement (specific question ii)** | | | |
| Subsystems/sectors involved | How is forest clearing framed within the sectors of agriculture, livestock husbandry, public work, and mining? | **Subsystem/sector-level policies:**<br>- 2014 National Agricultural Investment Plan<br>- 2011 Strategy Document for the sub-sector of Livestock, Fisheries, and Animal Industries<br>-2012 Infrastructure Development Strategy<br>-2016 Mining Code<br>- Mining Strategy | **Subsystem/sector-level participants:**<br>1 representative from:<br>-MINADER<br>-MINEPIA<br>-MINTP<br>-MINMIDT |
| Problem embedded in sectoral policy goals | What range of sectoral policies includes forest protection as a goal? | Subsystem/sector-level policies (full list in cell above) | |
| **Dimension 3: Sectoral coordination (specific question iii)** | | | |

| | | | |
|---|---|---|---|
| Density of interactions | What departments do each sector interact with and how often? | -System-level policies (full list in cell above)<br>-Subsystem/sector-level policies (full list in cell above) | -System-level participants (full list in cell above)<br>-Subsystem/sector-level participants (full list in cell above) |
| Coherence of policy goals | To what extent are land use policy goals coherent? | -Subsystem/sector-level policies (full list in cell above) | Subsystem/sector-level participants (full list in cell above) |
| **\|Dimension 4: Policy instruments (specific question iv)** | | | |
| Range of instruments at system level | What range of instruments is available at the system-level to shield forests from competing land uses? | System-level policies (full list in cell above) | System-level participants (see list in dimension 1 above) |
| Range of subsystems/sectors equipped with policy instruments | What range of sectors has adopted policy instruments to address deforestation and related emissions? | Subsystem/sector-level policies (full list in cell above) | Subsystem/sector-level participants (full list in cell above) |
| Consistency of policy instruments | To what extent is the mix of policy instruments coherent? | -System-level policies (full list in cell above)<br>-Subsystem/sector level policies (full list in cell above) | -System-level participants (full list cell above)<br>-Subsystem/sector-level participants (full list in cell above) |
| Implementation of policy instruments | What range of policy instruments is effectively implemented at both system and subsystem/sector levels | -System-level policies (full list in cell above)<br>-Subsystem/sector-level policies (full list in cell above) | -System-level participants (full list in cell above)<br>-Subsystem/sector-level participants (full list in cell above) |

NVivo (QSR 12) was employed to analyse the policy documents and the interview transcripts (Bryman, 2012), and the four EPI dimensions of policy frame, sector involvement, sectoral coordination, policy instruments and their respective subcomponents used as the pre-determined categories for deductive coding (Patton, 2002). Coded texts were then assessed against the varying degrees of manifestations of EPI dimensions ranging from low to high for each indicator (Tables 3 to7). The following section outlines the findings.

## 4.5 Results

In what follows, the extent of REDD+ policy integration into the four land use sectors is assessed across the four EPI dimensions of policy frame, subsystem involvement, sectoral coordination, and policy instruments, dimension by dimension, each addressing the four specific research questions.

### 4.5.1 Framing of deforestation

The framing of deforestation or the recognition of its multidisciplinary character in macropolitical venues at MINEPDED and MINFOF has been divisive. In the environmental department, there is a strong belief in the virtue of a multisectoral approach to tackling deforestation evidenced in the environmental legislation that prescribes sectoral inclusion in tackling broader environmental problems, and in REDD+ respondent's advocacy for greater involvement of land use sectors in the REDD+ process.

> *"The Administration in charge of the environment shall ensure the inclusion of environmental concerns in all [...]plans and programmes."* ***1996 Environmental law, Article 14 (1)***
>
> "*REDD+ cannot be a matter of the environment department alone, but of all sectors involved in natural resource management. MINEPDED shall simply play a supervisory role."* ***REDD+ participant***

The opposite sentiment prevails in the forestry department. While the 2013 forest strategy acknowledges the shared responsibility of land use sectors in forest clearing, the perception that forest matters fit within MINFOF boundaries transpires in both the forestry legislation that assigns forest management responsibility to the forestry institution, and in MINFOF participant's claim that other stakeholders overstep their attributions.

> "*Forest management shall be the concern of the ministry in charge of forests working through a public body".* ***Article 64 (1), 1994 Forest Law***
>
> "*If there are forest-related activities to be carried out as part of REDD+, let the forestry department handle those; the problem is there is a group of people trying to take over MINFOF responsibilities, which is not good".* ***MINFOF Participant***

Overall, growing awareness within the environmental sector of the cross-cutting nature of deforestation and the imperative of a holistic governance approach to addressing forest

clearing matches the third stage of Candel and Briesbrook's EPI assessment index (Table 3). On the other hand, MINFOF's acknowledgment of land use sectors' shared responsibility for deforestation and their belief that forest matters are to be handled by the forestry institution fits the second stage of the EPI index, as outlined in Table 3. Thus, the level of central state actors' support for integrating REDD+ objective of curbing deforestation into land use sectors falls between stages 2 and 3. It appears that the momentum for cross-sectoral integration at system-level might be limited by MINFOF's loyalty to institutional compartmentalisation. REDD+ policy integration is also a function of land use sectors' commitment. The related dimension is assessed next.

### 4.5.2 Subsystem/sector involvement

The second dimension of subsystem involvement captures both the framing of deforestation among land use sectors and their involvement in tackling forest clearing. Bar the public work department, there has been wide recognition of the multi-dimensional nature of forest clearing across land use sectors. Surprisingly, the latter have been casually involved in the REDD+ process, and their policy goals seldom invoke deforestation, as indicated below.

#### 4.5.2.1 Subsystems or sectors involved in addressing deforestation

The departments in charge of agriculture, livestock, public works and mining pledge to conform with natural resource and environmental protection broadly. Queried on their understanding and framing of the specific problem of deforestation, land use actors acknowledged its multi-sectoral character, save the respondent from the public work department who believes roadwork contributes only marginally to forest clearing.

> *"Deforestation contributes to climate change but not significantly; global warming is largely linked to industrialization. Most of the roads we build existed already and only needed widening and tarmacking. So, we do more of road maintenance which marginally impacts trees."* ***MINTP participant***

Land use respondents' recognition of the benefits of a cross-sectoral handling of deforestation has yet to drive participation in the REDD+ process. REDD+ actors report

a rather casual engagement of subsystems in REDD+ meetings, possibly due to limited motivation and expertise in the subject.

> *"Sectoral participation in the REDD+ process is a challenge that might stem from a lack of enthusiasm or a limited mastery of the subject by sectoral departments. To this day, REDD+ comes across as an esoteric language reserved to experts[..] Land use sectors constantly alternate their representatives to REDD+ committee meetings and this hinders progress […] When introduced to REDD+, decision-makers usually query about how much it contributes to the GDP: I don't know if there is currently an answer to that? Hence the lack of enthusiasm."* ***REDD+ participant***

In summary, there is wide recognition of the crosscutting character of deforestation across sectors that contrasts with their limited involvement in tackling forest clearing. Stage three in the EPI grading index would be reached when such awareness translates into more sectors having formal responsibility for dealing with the problem (Table 4 – Row 1), while stage one reflects a lack of recognition of the transdisciplinary nature of the problem. Thus, this case matches stage two of the EPI grading index. The poor involvement of land use sectors in addressing deforestation could be linked to the absence of forest concerns in sectoral policy goals.

#### 4.5.2.2 Subsystem/sector policy goals

The sub-dimension of policy goal assesses the explicit adoption of forest protection goals within sectoral policies. In the case of Cameroon, sectoral policy goals have hardly invoked forest preservation, although they all commit to protecting natural resources and the environment. Varied justifications were provided, including their limited competence in forestry and belief that forest issues would be best handled within a broader environmental package rather than in isolation.

> "*In the livestock ministry, we do not have the confidence to discuss forest matters. Even if we include it in our policy, we will still have it transferred to the forestry department that has more competence in the subject."* ***MINEPIA participant***
>
> *"I don't think singling out forest-related activities would be the best approach."* ***MINADER participant***

As suggested by MINADER respondent, sectors' policy goal of preserving natural resources might indeed encompass forest protection. For example, although MINADER's policy objectives merely mention natural resources, forest protection is visible in the breakdown of related activities.

> *"Activities in line with sustainable resource use include improving access to and use of agricultural land and natural resources [...]securing and conserving the permanent forest estate, wildlife and protected areas."* ***MINADER Policy***

While MINADER policy incorporates forest protection, related activities of securing and conserving the permanent forest estate appear to be clones of MINFOF attributions, corroborating MINEPIA respondent's claim that some forest activities included in land use sector policies would eventually be transferred to MINFOF. Meanwhile, carbon mitigating activities such as curbing slash-and-burn shifting farming practices are seldom addressed in MINADER policy. Forest matters are still viewed across land use sectors as MINFOF competence, matching stage one of the EPI grading index, where addressing a cross-cutting problem is only embedded within the goals of a dominant sector (Table 5 – Row 1). Such limited sectoral involvement could be indicative of latent challenges in coordinating diverging environmental and developmental goals as addressed next.

### 4.5.3 Sectoral coordination

Policy analyses have revealed strong political will for sectoral coordination in Cameroon that spawned dense interaction among ministerial departments at the national level. But this has yet to permeate the deconcentrated administration at the ground level where land use conflicts persist.

#### 4.5.3.1 Density of interaction

Foundational and sectoral policies have created a conducive institutional environment for inter-ministerial cooperation, especially by clustering ministerial departments into functional groups. The 2009 national Growth and Employment Strategic Paper and its recent incarnation the 2020 National Development Strategy groups the four land use sectors of agriculture, livestock, environment, and forest departments into the rural sector

cluster. All four departments have conjointly designed the 2005 Rural Development Strategy for a coordinated use of the rural space.

Sectoral interaction is further reinforced by joint platforms such as the Interministerial Committee for the Environment (ICE) composed of over 15 departments. ICE's stated aim is to ensure environmental considerations are taken into account in the design and implementation of economic, energy and land programs, and to provide advice on environmental impact studies. In the REDD+ context, the National REDD+ Steering Committee composed of different ministries facilitates sectoral involvement in the REDD+ process. These collaborative platforms have paved the way for a dense network of interaction among land use sectors.

These collaborative platforms have paved the way for a dense network of interaction among land-use sectors as evident in participant's quotes below.

> *"We interact mostly with our closest neighbour, MINEPIA. The term agriculture usually encompasses animal husbandry, so one would hardly dissociate animal husbandry from farming. MINFOF provides us with tree nurseries for agroforestry; we also collaborate to develop and domesticate non-timber forest products. Our projects cannot be undertaken without conducting a prior environmental impact assessment, which is overseen by MINEPDED; they regularly invite us to their events as well. Once farm products are harvested, they must be processed; we are currently promoting the value chain approach and local industry development: To this end, we work closely with the ministry in charge of mining and technological development (MINMIDT). Another key area of collaboration with MINMIDT is the protection of intellectual property; we are working on assigning a brand name to the Cameroonian cocoa as we did the Penja pepper, and MINMIDT oversees the process, to generate additional value and thus more income for farmers. Our relationship with MINTP is certainly real but not very formal since their field of intervention is different from ours. They oversee major road constructions while we manage agricultural trails from farms to the main roads."* ***MINADER participant***

> *"In Cameroon, ministries are split into clusters. The rural cluster includes the ministries in charge of husbandry, agriculture, environment, and forests. We work very closely with them. Anytime we set up rangeland projects, we try to involve them to avoid encroachment and conflicts. Likewise, the environment and forestry departments usually try to involve us in natural resource projects such as reforestation or the creation of conservation areas since cattle raisers might be affected. When the ministry of environment carries out land restoration projects, they involve as these areas may be used by pastoralists. We also work*

*with the ministry in charge of defence and trade on a number of projects to ensure farmers' safety along transhumance corridors and to establish cattle markets."* **MINEPIA *participant***

*"For road construction, we interact more with the land registration department to handle expropriations. We are also in regular contact with the agriculture and the housing departments to manage compensations for crops and buildings impacted by infrastructure construction. We collaborate with the finance and the land planning departments as well. The ministry of defence protects us when working in war-affected areas. The mining department assists us with supplies in granular and quarry. The transportation ministry provides us with information on road traffic volumes, and Divisional Officers from the Ministry of territorial administration set up inter-ministerial committees with all these departments to facilitate communication. […] I do not have much knowledge about our involvement with the forestry department, I am new to the job."* ***MINTP participant***

*"We interact mainly with three ministries: The one in charge of finance when dealing with taxes, the environmental department during joint field visits in mining sites where they monitor how mining companies discharge wastewater and dispose of other scrap metals, and the forestry administration that ensures mining activities are not carried out in parks or around active logging sites."* ***MINMIDT participant***

Thus, aside from the apparent loose ties between MINFOF and MINTP, interactions among land-use ministries have proven dense, matching stage three of the EPI grading index. Yet, this still fails to secure coherence among sectoral goals.

Thus, aside from the loose ties between MINFOF and MINTP, all the sectors directly concerned with the problem of deforestation interact with one another. Although the exception of MINTP suggests these interactions hardly reach the high-density level that characterises stage four (Table 4 – Row 2), they are considerably ahead of instances of infrequent exchange of information at stage two. Thus, the density of interaction in this case matches stage three of the EPI grading index. Yet, this still fails to secure coherence of sectoral goals.

#### 4.5.3.2 Coherence of policy goals

EPI aims to address the incompatibilities between developmental policies underpinned by intensive resource exploitation and environmental policies pursuing opposite goals. Inconsistencies are notable between REDD+ goal of achieving net-zero deforestation by 2035 and the development goals within the same timeframe, poised to drive land use

conversion across sectors. In line with the national development vision, the 2014 and 2011 agricultural and livestock policies seek to enhance food production and productivity through modernisation and mechanisation of production infrastructures, with predictable implications for forest conversion.

> *"The strategy seeks to increase livestock and fishery production to meet nutritional needs and provide raw materials for agro-industries and export."* ***2011 livestock policy***

Similar unintended outcomes can be expected from MINMIDT policy goal of intensifying mining exploration and exploitation, and the rail development plan of the public work department to connect mining sites to seaports. Thus, unless steps are taken to attune economic development and environmental goals, policy coherence would not be attained and frictions would intensify.

> *"It may seem like everything works smoothly at the institutional level, but the difficulty lies in operationalising the collaboration. Most problems occur in the field, where everyone tries to pull the blanket on their side, stepping on each other attributions, leading to complaints on end."* **MINADER *participant***

Such low policy coherence clearly fits stage one of the EPI grading index (Table 5 – Row 2). The prevalence of land use conflicts despite strong sectoral interaction could signal defective integration instruments.

### 4.5.4 Policy instruments

In addition to inter-ministerial committees, the national REDD+ strategy has relied on a mix of regulatory and communicative instruments employed at both system and sectoral levels to nudge forest considerations into sectoral routines.

#### 4.5.4.1 System-level policy instruments

At the system-level, regulatory instruments including forest zoning and environmental impact assessment have been instituted by the forestry and the environmental institutions respectively. Reputedly central to addressing forestland encroachment, forest zoning has been undermined by legitimacy problems. Similarly, environmental impact assessment is mired in its application by loopholes and inconsistencies with sectoral regulations.

*Forest zoning*

The Cameroonian forestry legislation introduces a zoning plan setting aside 30% of the forest estate for exclusive and permanent forest use, to maintain a permanent stock of forest carbon and prevent encroachment by other land uses. The forestry legislation stresses that any area of the permanent forest estate (PFE) cleared under exceptional circumstances shall first be declassified then compensated with an area of equivalent extent and ecological characteristics. It further emphasises fire control and prohibits late fires lit in the height of the dry season.

Although land demarcation in forest zoning could ward off forest encroachment, it has only covered the southern half of the country and remains incomplete to this day. Further, the ministry in charge of forests that initiated the zoning process is hardly responsible for land allocation. As acknowledged in the 2013 forestry strategy, this has posed legitimacy problems. Land use zoning is a prerogative of the ministry in charge of land planning, the institution that has yet to consolidate or release a national zoning plan to date. Until then, forest zoning falls short of shielding the PFE from encroachment by other land uses, especially extractive activities that are not prohibited across the whole PFE. The 2016 mining code bans extractive operations within protected areas only (article 126), which amount to only 25% of the PFE.

> *"The mining code states that there are areas where mining should not be carried out, such as national parks; but it does not prevent mining in the rest of the forest. The mining code was not designed solely by the mining sector, the forestry and environmental departments were also involved, then the President signed it."*
> ***MINMIDT participant***

In other words, the incompleteness and uncertainties around the legitimacy of the Cameroonian forest zoning compounded by inconsistencies with mining regulations lie at the root of overlapping mining and forest titles. The extent to which environmental impact assessment prevent forest clearing by competing land uses is examined below.

*Environmental Impacts Assessment (EIA)*

EIA is required in development projects to screen, anticipate and correct any detrimental impacts on the environment, thereby compelling land use sectors to mitigate

deforestation. However, the leading drivers of deforestation have fallen through the cracks of the categories of operations subject to EIA, and prohibitive administrative costs alongside inconsistencies with sectoral practices are poised to deter compliance.

The 2013 Decree on EIA introduces three forms of environmental assessments for three scales of activities: the environmental impact notice for small scale projects; the environmental (and social) impact assessment for large scale operations; and the strategic environmental impact assessment for policies, plans and programmes. While agriculture, livestock husbandry, public infrastructure and mining driving deforestation are covered across all three categories, traditional small-scale shifting agricultural activities identified as major deforestation drivers in Cameroon are omitted, as well as traditional pastoral activities associated with wildfires. While mineral exploitation is covered, mining exploration that could be as ecologically harmful is absent. It is thus evident that EIA would only partially prevent deforestation and perhaps even just marginally considering prohibitive administrative costs.The 2013 EIA Decree mandates project developers to submit the terms of reference of their EIA for review by the Interministerial Committee on the Environment (ICE) that charges examination fees of CFA F 1500000 to 5000000 ($2 400 to $8 063). Such costs on top of the cost of conducting the assessment and addressing environmental impacts may disincentivise compliance in low-income settings.

To conclude, both the forestry and the environment institutions at system-level have regulatory instruments to incorporate forest concerns into land use practices. While these few instruments would hardly be considered as the broad range of instruments that typify stage four (Table 6 – row 1), they are more substantial than the information sharing tools that characterise stage 2 and closely match stage three featuring an increasing number of system-level instruments. However, forest zoning lacking legitimacy, EIA loopholes and prohibitive administrative costs hinder their capacity to address deforestation.

#### 4.5.4.2 Subsystem or sector-level policy instruments

Regulatory instruments designed at system-level have been introduced at sectoral level to address land use conflicts, environmental degradation as well as deforestation. Although EIA is gradually adopted across land use departments, its ability to restore degraded lands has been questioned.

> *"EIAs are conducted prior to any road projects by independent agencies, and mitigation measures follow, including the creation of green spaces or wells for residents; so, there is a lot done to mitigate projects' impacts, although we cannot exactly replace what has been destroyed."* ***MINTP respondent***

In addition to enforcing EIA, the livestock sector envisions mapping out pastoral areas to secure agro-pastoral resources and land. Like forest zoning, pastoral mapping would help avoid land use conflicts and minimise forestland encroachment; but it may also lack legitimacy unless led by the department in charge of land planning. Communicative instruments such as awareness-raising campaigns have also been organised to sensitise pastoralists about wildfire control.

In summary, a mix of regulatory and communicative instruments such as EIA, land demarcation, and sensitisation campaigns have been used across sectors to prevent forest clearing, matching the diversification of instruments across subsystems at stage 3 of the EPI grading index (Table 6 - Row 2). While the instruments are of varying effectiveness, this subdimension is overrated by Candel and Biesbroek's framework that does not take into account instrument effectiveness. Their capacity to foster integration also hinges on their implementation.

#### 4.5.4.3 Instrument implementation

The fourth EPI dimension of policy instrument focuses on the range of instruments in place at system and sector levels, while integration occurs when these are implemented. Hence our addition of the supplementary sub-dimension of instrument implementation, the application of which has exposed inadequate monitoring of existing integration tools due to legislative inconsistencies. Since implementing forest zoning would be impaired by lack of legitimacy, the focus here is on the implementation of EIA and awareness-raising initiatives.

The environmental legislation designates MINEPDED to oversee the design of EIA studies, but delegates relevant sectors to monitor implementation and compliance, ie MINADER in the case of farming projects and MINTP for infrastructure construction. However, land use sector representatives unanimously claim that monitoring EIA

implementation fits the duty of the environmental department that possesses the requisite environmental expertise.

Monitoring has also proven lax with the communicative tools in the livestock department. MINEPIA respondent reported inadequate follow-up of awareness-raising campaigns on dangerous bushfires, raising doubts about whether the guidelines have been adhered to.

The inadequate monitoring of policy integration instruments suggests that not much has been done beyond their design which might explain a respondent's observation that impunity hampers rule adherence. Thus, the subdimension of instrument implementation fits stage one of the EPI assessment index, where implementation deficit prevails (Table 7).

#### 4.5.4.4 Consistency of policy instruments

While awareness raising or communicational instruments and regulatory tools are mutually reinforcing, the evidence above indicates incoherencies between forest zoning and mining regulations regarding mining activities in the PFE, and between the environmental legislation and land use sectors about responsibilities for EIA monitoring. Although mutually reinforcing instruments suggest a step ahead of stage one that features no consistency of instruments (Table 6 – Row 3), there is seldom a perceptible attempt among sectors to address the identified incoherencies as would be the case at stage two. Thus, this subdimension is transitory between stages one and two.

Figure 3 illustrates the overall assessment of the extent to which REDD+ objective of forest protection is integrated into land use sectors in Cameroon, across all four EPI dimensions.

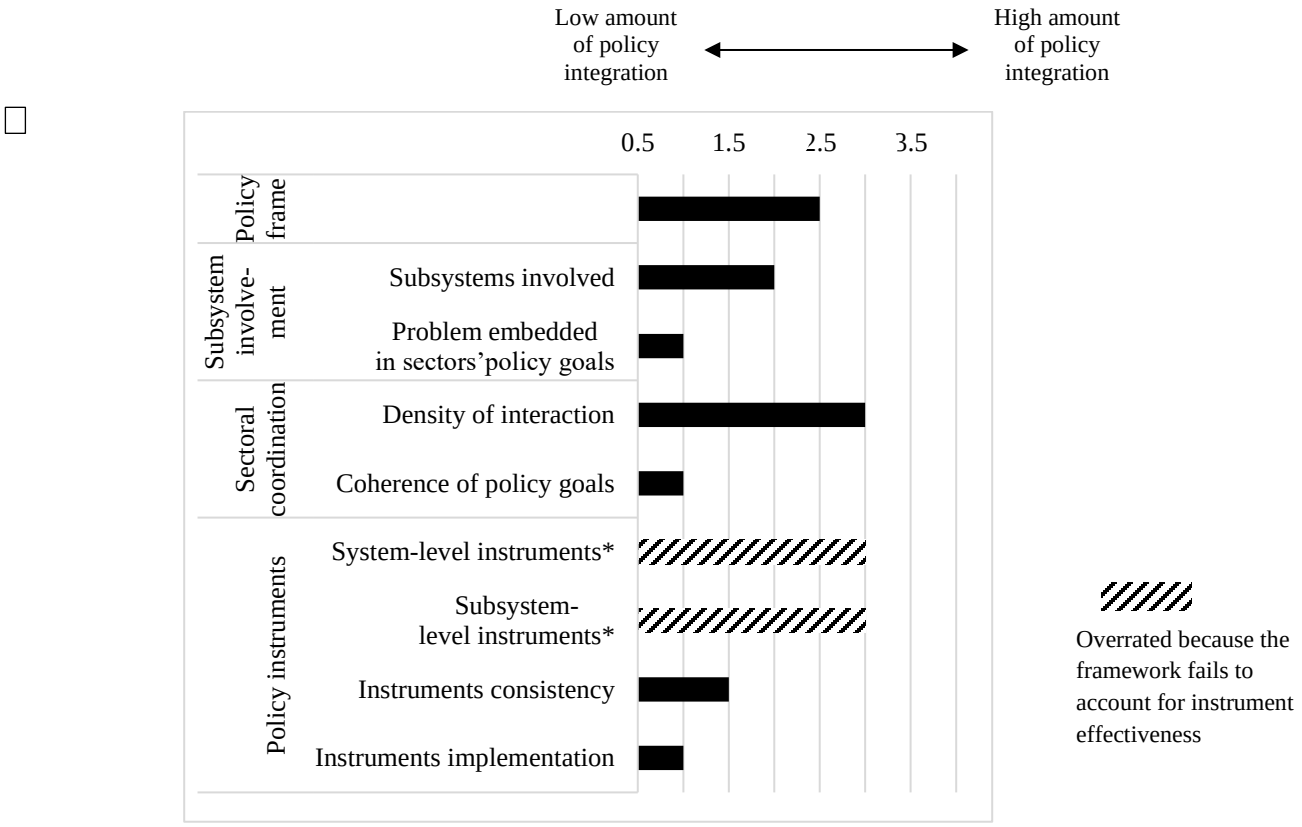


Figure 3: Integration level of REDD+ aim of forest protection in competing land use sectors

The assessment revealed polarised framing of deforestation at system level, moderate to low degree of subsystem or sector involvement and sectoral coordination, and impaired policy instruments. Improvement of policy integration instruments would support cross-sectoral coherence and changing stakeholders' framing of deforestation would enhance their involvement in the REDD+ process.

## 4.6 Discussion

### 4.6.1 Framing of deforestation

The framing of deforestation at the macro-governance level has been polarised, involving a strong belief in the interdisciplinary nature of forest clearing among environmental actors, and the perception in forestry circles that forest matters fall within the boundaries of the forestry institutions. Undoubtedly, the forestry department is best equipped to

handle forest matters as pointed out by other foresters in the tropics (Mulyani & Jepson, 2013; Atela et al., 2016). The advocacy for an intersectoral approach to tackle deforestation by the environment department, an interdisciplinary institution, is unsurprising, but might yield only little in driving the integration of REDD+ objective of forest protection into development sectors if MINFOF, the gatekeeper of forestlands, claims unilateral responsibility over forest matters.

### 4.6.2 Sector involvement

The findings reveal wide recognition of the crosscutting character of deforestation across sectors, contrasting with their limited involvement in tackling forest clearing. Land use sector representatives show little confidence in their technical understanding of forest activities, hence the absence of forest considerations in sectoral policy goals and their disengagement from REDD+. The deficit of expertise to weave environmental objectives into sectoral routine is a common barrier to EPI (Persson, 2004), and is compounded in our case by misconceptions about stakeholders' roles in the REDD+ process. Land use actors question their skills in forestry and yet would seldom be expected to assume a forest management role or duplicate the forestry department. Instead, they are required to design preventive and corrective measures to minimise their forest footprint, such as ecologically fit farming practices. Land use sectors' misunderstanding of their role and forest actor concerns that their attributions are overstepped indicates ambiguity around stakeholders' roles in REDD+ development that has proved obstructive to sectoral integration and is not specific to Cameroon. Similar imprecisions have been stark in Kenya (Atela et al., 2016), Vietnam (Mcnally & Nguyen, 2016), and Peru (Robiglio et al., 2014) and may compromise REDD+ integration in these settings as well, suggesting that informing stakeholders on their roles could alleviate conflicts of interest, level up land use stakeholders and facilitate their adoption of REDD+ objective.

Casual attendance of poorly motivated representatives of land use sector in REDD+ meetings could also explain unawareness of role distribution. Sectoral actors tailoring their involvement in REDD+ to its contribution to the GDP provides evidence that REDD+ integration both seeks to address and is challenged by competing policy priorities (Nunan et al., 2012). Financial incentives are thus vital to integrate forest protection into

development sectors. However, uncertainties regarding the amount and timing of carbon payments still fails to ignite stakeholders' interest across REDD+ implementing countries (Mulyani & Jepson, 2013; Awono et al., 2014).

### 4.6.3 Sectoral coordination

The assessment has revealed strong sectoral interaction, at odds with prevailing sectoral incoherence and land use encroachment. The dense interaction among land use sectors credited to the strong political will for sectoral coordination in Cameroon could be an important asset for REDD+ policy integration. The loosest sectoral ties between the public work department (MINTP) and MINFOF explains the poor awareness or denial by the MINTP respondent of the department's forest footprint. The respondent argued that road construction has consisted of road maintenance and caused only marginal forest disturbance. Budget constraints have impeded road network extension (Dominguez-Torres & Foster, 2011; MINEPAT, 2012), but booming demography and growth of road traffic will change this. MINTP is also responsible for infrastructure development such as Kribi seaport, which has a proven record of driving deforestation (Ngueguim et al., 2017). Inadequate awareness of such impacts within the sector that has little connection with MINFOF highlights the importance of interaction density.

Despite strong sectoral interaction overall, conflicts and overlapping land uses prevail as reported in other REDD+ countries (Fujisaki et al., 2016; Weatherley-Singh & Gupta, 2017). In the absence of functional integration instruments as will be discussed next, political support for cross-sector coordination would avoid conflict at the national level, but merely move it downstream to the implementation level (Nunan et al., 2012).

### 4.6.4 Policy instruments

Previous studies have heralded forest zoning as a robust foundation for REDD+ and a remedy to conflicting land allocations (Topa et al., 2009). Yet, it is failing to halt deforestation in Cameroon. The Cameroonian forest zoning has only covered the forested South, and not the Sahelian North where pastoral activities involving fire undermine reforestation efforts (Shidiki & Unusa, 2020). Further, lack of legitimacy of forest zoning initiated by the forestry administration devoid of land allocation attributions has enfeebled

its ability to shield the permanent forest estate, hence recurrent land use conflicts and overlapping mining and forest titles (Kengoum & Tiani, 2013). This highlights that the land use conflicts undermining REDD+ policy integration have some of their roots at much higher than sector level. The 1994 forest law that bans clearing in the PFE and the 2016 mining law that allows mining activities in 75% of the PFE were both approved by the same high-level institutions that promote sectoral coordination. It is thus hardly surprising that land use encroachment prevails despite dense sectoral interaction.

The effectiveness of EIA has been compromised by loopholes, prohibitive administrative costs and implementation deficit. Concerns about the loopholes in the EIA regulation were flagged early on (Alemagi et al., 2007). In the agricultural sector where deforestation is smallholder driven, EIA has focused on large scale agriculture. Still, outcries over widespread deforestation by environmentally certified large scale plantations such as the 80,000 ha Herakle palm oil farm in Southwest Cameroon (Hoyle & Levang, 2012) raise doubts about the effectiveness of EIA in integrating forest protection in the agricultural sector and development projects. Further, one might question whether the protection or classification status of cleared forests is addressed in EIA; while several protected areas emerged in compensation for the impacts on wildlife of some large-scale infrastructure projects such as the Chad-Cameroon oil pipeline and Lom-Pangar hydroelectric dam, whether the entirety of forest cleared has been restored is uncertain. EIA of the Kribi deep seaport (Ngueguim et al., 2017) hardly states whether any portions of the 26 000 ha of forest cleared pertains to the PFE or encroach on forest management units visible in the project map (WRI, 2013), and whether a declassification and reclassification process has been undertaken in conformity with the 1994 forest law to preserve the forest estate and associated carbon stocks. This highlights the need to integrate spatial zoning and EIA to mutually reinforce their ability to integrate REDD+ and forest protection in sectoral projects (Hapuarachchi et al., 2016; Byambaa & de Vries, 2020).

The results also align with Rutasitara et al. (2010)'s findings that limited resources constrain the potential for environmental integration, and corroborate Alemagi et al. (2007) and Minang et al. (2019) warnings that EIA administrative fees of up to £6000 disincentivise compliance. The fees intended to support member attendance in ICE

(committee) meetings suggest that dense sectoral interaction is not costless, resonating with Korhonen-Kurki et al. (2016) report of collapsing inter-ministerial REDD+ platforms due to high operating costs. Organisational or regulatory instruments require generous use of resources, thus complementing integration instruments with an economic tool that offset such expenses is central (Panayotou, 1994; Runhaar, 2016; Barton et al., 2017). Implementation costs in REDD+ payment (Merger et al., 2012; Rakatama et al., 2017) could thus cover such expenses to secure integration, in addition to opportunity costs offsetting the forgone benefits of competing land uses. REDD+ can thus be seen as an economic incentive instrument facilitating forest integration in a broader land use context. However, whether REDD+ opportunity costs outweigh the revenues of other land uses is uncertain (Angelsen, 2012; Liu et al., 2020) and would demand monetisation of carbon and its deduction from the net revenue of land uses associated with forest emissions (Cosslett, 2013). In other words, the existing mix of regulatory, communication, organisational and economic integration instruments would be strengthened by an additional economic disincentive instrument such as carbon taxation that internalises forest carbon costs in development projects.

This study has shown that the mere existence of policy instruments seldom guarantees REDD+ policy integration, and that EPI analytical frameworks should consider not just the range of designed and adopted policy tools, but their implementation too. The addition of the fourth sub-dimension of instrument implementation highlighted inadequate monitoring of compliance. EIA would be best overseen jointly by the environment department and relevant sectoral institutions.

The contribution of this study is multifold in practical, academic, and theoretical terms. It has conducted a holistic assessment of REDD+ policy integration into land use sectors driving deforestation in Cameroon, offering policy recommendations to improve REDD+ integration and by extension its implementation outcomes in Cameroon and other Congo basin countries which have utilised the Cameroonian forestry legislation and REDD+ design as legal and institutional blueprints (Fobissie et al., 2014; Cerutti et al., 2016). The thesis equally improves understanding of REDD+ integration in various REDD+ implementing countries such as Kenya, Vietnam and Peru which like Cameroon experience ambiguous role division in REDD+ development (Atela et al., 2016; Mcnally

& Nguyen, 2016), affecting REDD+ uptake within land use sectors. Existing global research on REDD+ policy integration has focused on sectoral coordination. This study enriches it with a processual outlook on EPI that considers other EPI components including stakeholders' framing of deforestation, a key indicator of political support for integration, and policy instruments. By probing instruments such as forest zoning and environmental assessment, this research adds nuance to studies that consider land use zoning as a remedy to conflictive land allocation (Pettenella & Brotto, 2012; Robiglio et al., 2014). The differentiated take on REDD+ integration is also innovative. Unlike existing analyses that take integration as an output and merely establish whether REDD+ is or not integrated into land use sectors, this research assesses the extent to which it is, thereby providing a more nuanced picture of the scope and nature of efforts needed to achieve and possibly maintain a desired level of integration in a given setting. Finally, this study contributes an amended framework to EPI analyses; although Candel and Biesbroek (2016) framework enables holistic examination of EPI and provides a processual analytical tool and clear assessment criteria, it omits important aspects of policy integration which have been raised and addressed to ameliorate the assessment of environmental integration in a broader context.

## 4.7 Conclusion

This chapter has adapted and applied an innovative EPI conceptual framework (Candel & Biesbroek, 2016) to assess the extent to which the REDD+ policy objective of reducing deforestation and associated emissions is integrated across the sectors of agriculture, livestock, infrastructure, and mining in Cameroon. Drawing from policy documents and decision makers' interviews, the analyses revealed varying levels of integration across EPI components. The polarised framing of deforestation fuelled by concerns about conflicts of interest around forest management as well as land users' insecurities about their ability to handle forest matters has delayed REDD+ policy integration. Further, motivation deficit compounded by the absence of specific forest protection mandates in sectoral policy goals failed to translate land users' awareness of the centrality of a cross-sectoral approach to addressing deforestation into active involvement in the REDD+ process. This chapter has also revealed that the strong political will for cross-sectoral

coordination in Cameroon has been compromised by inconsistencies in land use regulations and defective integration instruments that entertain forestland encroachment. The study argues that better informing land use stakeholders on their roles in the REDD+ process and clarifying carbon payment arrangements would facilitate and motivate sectoral involvement in REDD+ deployment. Land use conflicts and the ensuing retreat of forestlands could be addressed by legitimising and completing the forest zoning, while alleviating land use inconsistencies and amending loopholes in environmental assessment regulations. Such reforms would advance REDD+ policy integration if the instrument mix is effectively enforced and includes a financial disincentive internalising carbon costs into projects detrimental to forests. Further studies are needed on such instruments, as well as on organisational structures conducive to REDD+ integration into land use sectors. This is tackled in the next chapter.

# Chapter 5: Organisational arrangements of the Cameroonian REDD+ scheme and potential for sectoral integration

## 5.1 Introduction

There is wide recognition of the need to integrate environmental considerations into economic growth strategies to achieve sustainable development and avert environmental crisis such as climate change (Lafferty & Hovden, 2003; Nunan et al., 2012). Global warming is the by-product of greenhouse gas emissions from diverse economic sectors, 23% of which originates from forest clearing (IPCC, 2019a). Hence the United Nations Framework Convention on Climate Change (UNFCCC) designed the *Reducing Emissions from Deforestation and forest Degradation* (REDD+) programme to curb forest-based emissions. REDD+ scheme seeks to offer financial compensation to forest-rich developing countries to support their efforts toward mitigating deforestation driven by agriculture expansion, logging, livestock husbandry, mining and infrastructure development (Gupta et al., 2013). Evidently, weeding out the root causes of deforestation stretching outside the forest sector demands that REDD+ be integrated into competing land use sectors (Robiglio et al., 2014; Korhonen-Kurki et al., 2016). Whether this has been effective has attracted a great deal of investigations. REDD+ studies have exposed various obstacles to REDD+ integration such as the inadequate understanding of the relatively new and intricate REDD+ mechanism within land use sectors (Mcnally & Nguyen, 2016), and sectoral conflicts perpetuating forestland encroachment (Atela et al., 2016; Fujisaki et al., 2016). To alleviate sectoral conflicts, improve coordination among land use departments and ease REDD+ uptake within land use sectors, implementing countries have created multisectoral REDD+ platforms led by the environmental or the forestry departments which spearhead the REDD+ mechanism in most implementing countries (Fobissie et al., 2014; Standing, 2015; Špirić & Ramírez, 2021). REDD+ platforms bring together representatives from different land use sectors to foster inter-institutional learning and facilitate the integration of REDD+ objective of forest protection into land uses sectors driving deforestation (Korhonen-Kurki et al., 2016; Wurtzebach et al., 2019). Yet, these inter-ministerial platforms have fallen short of alleviating conflicting land use legislations that are passed at much higher hierarchical

levels, far beyond the institutional remit of environmental or forestry ministries chairing REDD+ platforms (Kengoum & Tiani, 2013). This has prompted calls for an equally higher-level leadership of the REDD+ process by superior authorities such as the Prime Minister (Chia et al., 2019); but would this be a panacea? The centrality of adequate organisational arrangements to support REDD+ integration into land use sectors is thus plain. Indeed, environmental integration is as much a factor of organisational arrangements as it is of coordinated sectoral policies (Persson, 2004). Yet, policy coordination has dominated existing analyses of REDD+ integration, while REDD+ organisational arrangements have been essentially examined for their inclusiveness of marginalised forest-dependent communities (Ngendakumana et al., 2014; Korhonen-Kurki et al., 2016). The ability of REDD+ arrangements to facilitate REDD+ integration into land use sectors behind forest clearing remains understudied.

This chapter plugs this gap by addressing the following question: What is the potential of REDD+ organisational arrangements to ease REDD+ integration into land use sectors driving deforestation in Cameroon? The country endorsed REDD+ scheme to reduce deforestation driven by a range of land use sectors propping the country's quest for economic recovery. Building on document review and the conceptual framework of organisational arrangements for environmental integration, the study scrutinises the integration mechanisms within the Cameroonian REDD+ organisation then reflect on their potential to facilitate REDD+ integration into land use sectors.

The chapter proceeds in four main sections. First, the conceptual literature on organisational structures for environmental integration that underpins the analyses is reviewed. This unveils the types of organisational mechanisms used to pursue environmental integration and their respective effectiveness, including the viability of the invoked high-level leadership of the integration process. The conceptual review informs the subsequent assessment of existing literature on REDD+ organisational arrangements which exposes the gap filled by the study. The organisational arrangement of the Cameroonian REDD+ scheme is described next, allowing to identify the integration mechanisms within this and reflect on their effectiveness for REDD+ integration into competing land use sectors. The study culminates on a proposal of organisational arrangements to enhance REDD+ integration.

## 5.2 Organisational structure and environmental integration: A theoretical perspective

This section sets out the conceptual understanding of the notions of organisational structure and environmental integration (EI), then discusses the types of organisational arrangements used to achieve EI as well as their respective effectiveness. It ends with a brief discussion on how the types of multilevel governance determine their propensity for EI.

### 5.2.1 Conceptual clarification

Also referred to as organisational structure, architecture, or design, organisational arrangements denote the formal system of tasks and authority relationships that frame and coordinate actions and resources to achieve the objectives of an organisation (Jones, 2013). It defines how responsibilities and activities within an organisation are allocated, coordinated, and supervised to maximise efficiency (Greenberg, 2011). The pursuit of efficiency has led most modern governments to implement organisational arrangements based on workforce specialisation, by separating and clustering tasks and resources into functional or sectoral departments that administer clearly defined policy domains (Hertin & Berkhout 2001; Jacob & Volkery, 2004). If sectoral differentiation has the merit to enhance productivity, it also paves the way for institutional compartmentalisation that poorly fits the governance of multi-sectoral matters (Jacob & Volkery, 2004; Jones, 2013). These include cross-sectoral environmental problems such as deforestation, the roots of which stretch beyond individual sectoral confines, outlining the tangible significance of integrated structural arrangements for REDD+ governance.

Environmental integration gained political traction since the release of the Brundtland Report urging for the inclusion of environmental considerations into economic sectors (WCED, 1987). Used interchangeably with environmental mainstreaming, it is understood as incorporating environmental concerns into the decision-making process of other sectors. Integrated governance systems, Persson (2004) suggests, can be achieved through normative means including change in administrative culture and political commitment, procedural approaches by way of policy coordination as discussed in the previous chapter, and organisational means, the focus of this chapter.

### 5.2.2 Organisational structures for environmental integration

This section reviews and draws on the conceptual literature of EI to design the framework that guides EI assessment in this chapter. The EI literature distinguishes two types of organisational solutions to mainstream environmental considerations in a sectorised government system, namely horizontal and vertical arrangements (Lafferty & Hovden, 2003; Jacob & Volkery, 2004). While they may have an inter-dependent relationship, they exhibit discrete characteristics and abilities to drive EI..

#### 5.2.2.1 Horizontal organisational arrangements for environmental integration

Horizontal integration mechanisms entail the development of a cross-sectoral approach to handle overarching issues (Lafferty & Hovden, 2003). In horizontal arrangements, the ministry responsible for the environment usually leads integration efforts, sometimes in conjunction with the ministry responsible for planning (Nunan et al., 2012). Here, integration is pursued through the creation of inter-ministerial bodies or committees bringing together sectoral ministries to coordinate policies and plans (Jacob & Volkery, 2004; Nunan et al., 2012).

The oversight by the environmental ministry constitutes both a strength and weakness of horizontal arrangements. The leadership of integration efforts by such a technical department procures greater ability to infuse the process with technical expertise, when resources are in sufficient availability (Nunan et al., 2012). However, the environmental ministry is commonly considered to be beneath the standing of other departments and devoid of sufficient power to incorporate environmental objectives in the decision-making process of other sectoral authorities, or to hold other ministerial departments of equal hierarchical rank to account. As a result, horizontal arrangements have been impeded by strong resistance from other sectoral departments that often see little economic or political benefits in adjusting their policies to reflect environmental requirements (Jordan & Lenschow, 2000; Weidner et al., 2002). Sectoral resistance could be further compounded by the limited awareness by the environmental department of the specific circumstances and policy aspects of other sectors (Jacob & Volkery, 2004). In this light, the vertical approach to integration that has the advantage of moving the responsibility for action to

relevant departments that are knowledgeable of their circumstances becomes an attractive avenue (Jacob & Volkery, 2004).

#### 5.2.2.2 Vertical organisational arrangements for environmental integration

Vertical integration takes place within sectoral departments, with relatively loose cross-ministerial coordination at the centre (Nunan et al., 2012). In vertical mechanisms, the lead of integration efforts occupies a higher hierarchical position relative to sectoral ministries, usually within the prime ministry offices, the parliament, or the presidency (Jänicke, 2000; Jacob & Volkery, 2004; Assey et al., 2007). Such stronger political leadership affords a much higher potential to promote EI and not least to have the finance department support the agenda (Nunan et al., 2012). A senior-level leadership equally assumes an impartial third-party role with the necessary power to settle sectoral conflicts that are not uncommon in cross-sectoral integration (Jones, 2013). However, such political leadership also exposes EI to the vagaries of politics, threatening its sustainability (Nunan et al., 2012).

Sector-based environment units are a common feature of vertical integration arrangements, which ensure environmental concerns are integrated into sectoral departments (Nunan et al., 2012). Although environment units within sectoral ministries may also exist where a horizontal integration approach prevails, those would usually be the outcomes of some donor-supported projects rather than intrinsic to a government-wide integration strategy (Nunan et al., 2012). While the purpose of such units is to bolster EI from within a sector while working closely with the environmental department, their effectiveness could be compromised by their allegiance to the sector within which they operate, resulting in the prioritisation of sector concerns over environmental considerations (Nunan et al., 2012). Table 9 summarises the features of both organisational arrangements.

Table 9: Features of vertical and horizontal integration mechanisms

| **Organisational Structure** | **Characteristics** | | **Effectiveness for EPI** | |
|---|---|---|---|---|
| | Driver of the integration process | Integration mechanism | Advantages | Trade-offs |
| Horizontal integration | Ministry responsible for the environment | Formation of cross-sectoral groups such as inter-ministerial committees or task forces | Integration process infused with technical expertise | - Sectors' resistance to weak authority<br>-Limited capacity of chairing body to enforce compliance<br>-Limited knowledge by the chairing department of the special circumstances within other sectors<br>-Limited funding |
| Vertical integration | Senior government officials from the presidency, the prime ministry, or the parliament | Sector-based environmental units | - High-level political support and strong leadership<br>- Higher potential for resource mobilisation<br>- Reduced sectoral conflict | -Vulnerability to political shifts, posing issues of sustainability<br>- High risk of allegiance of environmental units to the sectors within which they operate |

In structural integration analyses, clear vertical or horizontal organisational arrangements hardly exist in pure forms, but in hybrid models; they are either mainly horizontal with elements of vertical structures, or essentially vertical with some features of horizontal arrangements (Nunan et al., 2012). Thus, rather than being mutually exclusive choices, vertical and horizontal integration mechanisms could have a symbiotic relationship if combined, and thus minimise the weaknesses of either a wholly vertical or horizontal approach (Nunan et al., 2012). Such outcomes could be enhanced through a sequencing in time of different arrangements as capacity and commitment to integration extends (Jordan & Lenschow, 2000). In specific terms, the long-term unsustainability of vertical EI could be addressed through a progression from vertical integration coordinated from a higher government level to an increasing reliance on horizontal integration via inter-ministerial working groups, committees, or task forces. Such horizontal coordinating

bodies would at first require a senior level of facilitation and will only gradually become effective means of integration (Nunan et al., 2012).

To sum up, vertical and horizontal organisational mechanisms have varying potential to achieve EI in fragmented or functionally differentiated administrative systems and could have a symbiotic relationship if combined appropriately.

Functionally differentiated administrations could be shaped by prevailing types of multilevel governance (MLG), suggesting, as discussed next, that the types of MLG can be indicative of the propensity of an administrative structure for EI. When the concept of multilevel governance is generally taken in its cross-scale sense, here the focus is merely on its functional features and related implications for EI.

#### 5.2.2.3 Types of multilevel governance and environmental integration

Multilevel governance (MLG) refers to the dispersion of authority from the central government upward and downward to higher and lower governance levels, and sideways across state and non-state actors (Rodriguez-Ward et al., 2018). Such diffusion of decision-making has been conceptualised into two alternative types, namely types I and II (Liesbet & Gary, 2003). Founded on federalism, type I MLG features general-purpose jurisdictions bundling together multiple functions, including a range of policy responsibilities (Liesbet & Gary, 2003). Multipurpose jurisdictions would thus be more conducive for EI than the type II MLG characterised by independent or sectorised task-specific institutions. In other words, administrative structures featuring type II MLG common in unitary states (Liesbet & Gary, 2003) would require organisational adjustments to facilitate EI.

To conclude, this section has introduced the concepts of horizontal and vertical integration mechanisms used to pursue EI in functionally differentiated administrative systems, a feature of type II MLG. It has outlined the characteristics and features of both types of integration approaches, as well as their effectiveness in fostering EI. The chapter draws on this conceptual analysis to identify the types of integration mechanisms within the Cameroonian REDD+ scheme, then assess their effectiveness in supporting REDD+

integration into land use sectors. In the next section, previous studies on REDD+ organisational arrangements are reviewed.

## 5.3 REDD+ organisational arrangements: Global evidence

Institutional designs play a key part in the performance of environmental instruments, including REDD+ (Vatn & Vedeld, 2013). The growing interest in REDD+ organisational arrangements is thus unsurprising and has largely focused on whether they ensure effectiveness, efficiency, and grassroots participation, paying little attention, however, to whether they facilitate REDD+ integration into alternative land use sectors.

The multi-level drivers of deforestation spanning local livelihoods and national policies have elicited investigations into the extent to which REDD+ organisational arrangements ensure stakeholder representation in governing bodies. When some scholars sustain that these arrangements provide formal spaces for non-state actors (Fujisaki et al., 2016), many find them too narrow to accommodate local stakeholders and indigenous communities (Pham et al., 2014; Fujisaki et al., 2016). The debate around stakeholder participation and overall REDD+ performance has fed into a characterisation of REDD+ organisational structures based on jurisdictional scales, distinguishing national versus project-based arrangements with varying potentials to boost local participation, effectiveness, efficiency and even sectoral coordination. From a study conducted in the Democratic Republic of Congo, Aquino and Guay (2013) submit that subnational or project-based REDD+ arrangements addressing forest emissions at localised project scales offer greater opportunity to involve local communities, NGOs, private companies or local governments, and are thus more conducive to grassroots participation. National REDD+ arrangements, on the other hand cover broader state territories and feature a high level of central state actor involvement; such nationwide arrangements are believed to maximise effectiveness and efficiency by controlling leakage and minimising transaction costs (Angelsen, 2009; Vatn & Vedeld, 2013). The high leverage of government actors in nationwide arrangements is further thought to warrant sectoral involvement, hence national REDD+ arrangements have been deemed suitable for cross-sectoral coordination (Aquino & Guay, 2013). Yet empirical evidence suggests otherwise. In Mexico, the coordination of the country-wide REDD+ scheme by the National Forest Commission has

been compromised by a chronic shortage of financial and human resources preventing interministerial group sessions from convening (Špirić & Ramírez, 2021). Similar concerns of resource shortages also emerged in various other countries implementing a country-wide REDD+ approach overseen by national forest agencies (Atela et al., 2016; Korhonen-Kurki et al., 2016). This invalidates the intimation that national REDD+ arrangements guarantee sectoral involvement and exposes the limitation of the jurisdictional characterisation of REDD+ arrangements to evaluate whether they are conducive to sectoral integration. Resource shortages hampering sectoral collaboration in REDD+ processes overseen by forestry agencies are best explained through the lens of organisational structures for EI. Indeed, the leadership of the forestry department characterises horizontal arrangements. In such arrangements, the forestry or environmental departments spearheading the process have relatively limited authority over financial institutions and thus a restricted ability to mobilise the necessary funding for the integration agenda (Nunan et al., 2012). Thus, existing analyses of REDD+ organisational arrangements based on their jurisdictional scales need to be complemented by an assessment of their potential for integration to gain an enhanced understanding of their capacity to support sectoral integration.

A further framing of REDD+ organisational arrangements in the existing literature has been based on their independence; REDD+ scholars have distinguished arrangements relying on existing institutions from new and self-standing REDD+ platforms (Fujisaki et al., 2016). Several countries including Indonesia and Papua New Guinea set up new and independent agencies to oversee REDD+ deployment (Di Gregorio et al., 2015; Fujisaki et al., 2016), an arrangement that has the merit of shielding the scheme from the rigid state bureaucracy in existing institutions, and perhaps attract more private funding (Vatn & Vedeld, 2013). The appeal of independent REDD+ institutions is further explained by their potential to circumvent rampant corruption that mires public administration in many tropical countries and has been reported as a barrier to REDD+ implementation (Vatn & Vedeld, 2013; Williams & Dupuy, 2019).

REDD+ arrangements built on existing institutions have their own advantages. By promoting reduced deforestation and carbon stock enhancement, the REDD+ mechanism is in fact consistent with ongoing governments efforts toward sustainable forests

management and conservation; therefore, anchoring REDD+ to existing institutions permits to take full advantage of available capacities, resources, networks and advances (Fujisaki et al., 2016; Ochieng et al., 2016). Such arrangements would further alleviate potential administrative rivalries bound to cripple independent REDD+ entities duplicating the attributions of forestry or environmental departments, as has been the case in Indonesia (Di Gregorio et al., 2015). This probably explains the choice by various implementing countries to embed the REDD+ scheme under the departments in charge of forests or the environment, as evident in Cambodia, Vietnam, Ghana, and Mexico (Aquino & Guay, 2013; Fujisaki et al., 2016; Vongvisouk et al., 2016).

However, building REDD+ on existing forestry and environmental institutions disserved its adoption in other sectors; in fact, attempts at pressing REDD+ on land use sectors for the stated aim of avoiding dangerous climate change has instilled suspicions among land use actors that the forestry and environment agencies could be utilising REDD+ and the climate cause to advance their own interests and policy agenda (Fujisaki et al., 2016). Allegations also emerged from Tanzania and India that forestry administrations are deploying REDD+ to consolidate their gains in a rapidly changing political and economic context (Kashwan & Holahan, 2014). These accounts are better understood when examined through the lens of organisational structures for EI. REDD+ arrangements embedded in or led by existing institutions in charge of forests or the environment reflect horizontal arrangements; the leadership of the REDD+ process by these departments often perceived as beneath the standing of other sectors justifies sector resistance to a REDD+ agenda at odds with their policy interests, heralding significant challenges to REDD+ integration. Yet, REDD+ arrangements have seldom been examined through the lens of organisational structures for EI.

The EI analytical tool would further better explain accounts that land use sectors have remained largely unaffected by the resolutions of the REDD+ scheme embedded under the forestry administration found to lack the power to exert principled priority or influence sectoral goals outside its institutional boundaries or shape the policies of land use sectors driving deforestation (Kissinger et al., 2021). The weak authority of the forestry or environmental agencies is indeed a pitfall of horizontal integration, hence the suggestion by EI scholars to consider the leadership of either the finance department or the

administration responsible for land planning (Nunan et al., 2012), as has been the case in the Democratic Republic of Congo and Vietnam. Yet, competence deficits have undermined such arrangements in practice. In Vietnam, the finance ministry would reportedly refer most key decisions to the ministry in charge of forests which is more knowledgeable of the REDD+ mechanism (Fujisaki et al., 2016). Thus, although the departments responsible for planning or finance have the potential to strengthen the weak authority inherent in horizontal integration arrangements, their limited knowledge of environmental matters undermines their leadership.

Knowledge deficit is in fact a recurrent barrier to REDD+ implementation and sectoral involvement (Mcnally & Nguyen, 2016). When the forestry and the environmental departments' stronger grasp of the REDD+ mechanism allows them to infuse the integration process with technical knowledge, their limited understanding of the specific circumstances and policy aspects of other sectors undermine their leadership (Jacob & Volkery, 2004). On the other hand, the inadequate knowledge by land use sectors of forest and environmental matters has hampered their involvement in REDD+ development (Mcnally & Nguyen, 2016). As is the case, limited awareness by individual departments of circumstances beyond their sectoral remits usually rooted in functionally differentiated or sectorised government systems impedes the sectoral integration of cross-cutting environmental matters. Fragmented government architectures, a feature of type II or task-specific multilevel governance (Liesbet & Gary, 2003) require the intervention of organisational integration mechanisms to achieve EI, the effectiveness of which is a function of whether they are predominantly horizontal, vertical, or combined.

This study complements existing REDD+ research on organisational arrangements by applying the conceptual framework of organisational arrangements for EI to assess the potential for the Cameroonian REDD+ scheme to facilitate REDD+ integration into land use sectors. While previous studies of REDD+ organisational arrangements in the Congo basin have examined whether they have followed a project-based or national approach (Aquino & Guay, 2013), in Cameroon they have mirrored the global trend outlined above, focusing on establishing whether REDD+ arrangements rely on existing or new institutions (Somorin et al., 2016) and whether stakeholders, especially non-state actors and forest-dependent communities are represented in governing bodies (Freudenthal et

al., 2011; Ngendakumana et al., 2014; Somorin et al., 2014; Dkamela, 2010). Interestingly, these have deplored the poor involvement of logging companies, mining firms, and agroindustries in REDD+ platforms, which could be indicative of a poor uptake of REDD+ within relevant sectors. An assessment of the potential for organisational arrangements to facilitate REDD+ integration into land use departments is thus necessary. In the next section, the organisational structure of the Cameroonian REDD+ scheme is described to identify prevailing integration mechanisms.

## 5.4 Institutional design of the Cameroonian REDD+ scheme

As the second largest forest extent with one of the highest deforestation rates in the Congo basin, Cameroon was among the first central African countries to endorse the REDD+ mechanism as a strategy to curb forest-based emissions and reinforce the protection of the country's forests (Fobissie et al., 2014; Cerutti et al., 2016). After a brief outline of the Cameroonian forest context, the current and envisaged reforms of the national REDD+ arrangements are described and the prevailing types of integration mechanisms identified to determine their effectiveness in facilitating sectoral REDD+ integration.

### 5.4.1 Cameroonian forests and competing land uses

Cameroon is home to about 22 million hectares of forests overseen by the Ministry of Forestry and Wildlife (MINFOF) (MINFOF, 2013). The country holds one of the highest deforestation rates in the Congo basin, reaching 1.1% annually in the last decade (MINEPDED, 2013). Deforestation and forest degradation have been driven by agricultural expansion, logging, livestock husbandry, infrastructure development, and mining activities (MINEPDED, 2018). These land uses form the backbone of the country's economy and are governed by fragmented sectoral departments competing for an ever-receding rural space to maximise their GDP contribution (Djiegni et al., 2016; Cameroon, 2020). Agriculture is overseen by the Ministry of Agriculture and Rural Development (MINADER), mining activities by the Ministry of Mines, Industries and Technological Development (MINMIDT). The Ministry of Public Works (MINTP) oversees infrastructures development, and the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) is in charge of livestock rearing. Despite their joint design

of the 2005 Rural Development Strategy to ensure a coordinated use of their shared rural space, land use conflict and forestland encroachment persist, entertained by inconsistent land use legislations and the absence of an official land use mapping yet to be formalised by the Ministry of the Economy and Territorial Administration (MINEPAT) the coordinating agency.

REDD+ emerged in such context of economically driven pressure on forestland as a market-based mechanism seeking to offer financial compensation in exchange for preserving forests. The leading drivers of deforestation lying outside the forest sector make it plain that successful REDD+ outcomes rest on integrating the scheme into competing land use sectors, the effectiveness of which is to a substantial extent a function of organisational arrangements.

### 5.4.2 Organisational structure of the Cameroonian REDD+ scheme

The REDD+ process in Cameroon debuted in 2008 under the auspices of the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED), the designated national authority of the UNFCCC. REDD+ arrangements took shape in a context where lengthy bureaucracy had stalled previous UNFCCC programmes, including the Clean Development Mechanism (CDM) (Lederer, 2011; Dkamela, 2010).

REDD+ readiness preparation witnessed the creation of the National REDD+ Steering Committee (NRSC) by Prime Ministry Decree No. 103/CAB/PM of 13 June 2012. In order to address the allegations of poor stakeholder outreach in the early stages of the REDD+ process, the NRSC sought to ensure stakeholder involvement and coordination and constitute the main decisional body of the REDD+ scheme (Dkamela, 2010). The NRSC is chaired by MINEPDED and co-chaired by MINFOF whose expertise in forest monitoring, management and role in enforcing forest legislation and policies are seen as essential for REDD+ implementation (Ngendakumana et al., 2014). The steering committee is composed of representatives from the Presidency, the Prime Minister's Office, the Ministry of the Environment, Nature Protection, and Sustainable Development (MINEPDED) the Ministry of Forestry and Wildlife (MINFOF), the Ministry of Economy, Planning, and Land Management (MINEPAT), the Ministry of Agriculture and

Rural Development (MINADER), the Ministry of Finance (MINFI), the Ministry of Livestock, Fisheries, and Animal Industries (MINEPIA), the Ministry of Water and Energy (MINEE), the Ministry of Scientific Research and Innovation (MINRESI), and the Ministry of Social Affairs (MINAS). Non-state members include representatives from civil society organisations, indigenous people, elected representatives, and the private sector (MINEPDED, 2013)(figure 4).

The REDD+ steering committee is supported by a Technical Secretariat, the operational body of the REDD+ scheme, overseen by a board composed of the National REDD+ Coordinator, the Climate Convention Focal Point, and a representative from MINFOF. The technical Secretariat is charged with monitoring REDD+ implementation at the national and sub-national levels (MINEPDED, 2013).

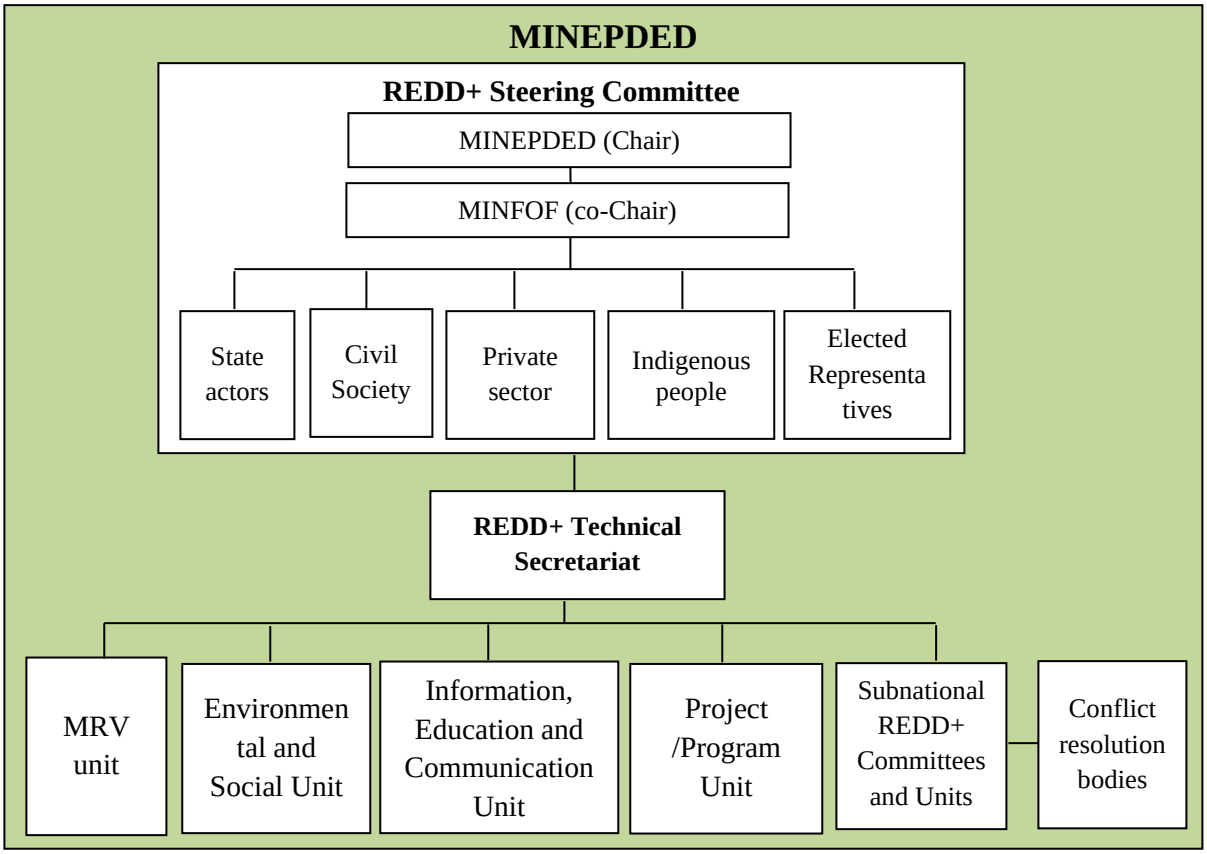


Figure 4: Organisational Chart of the Cameroonian REDD+ scheme

REDD + arrangements at the sub-national level align with the Cameroonian decentralisation system that matches type II multilevel governance (MLG) characterized

by task-specific jurisdictions. Cameroon is a unitary state, a common feature of type II MLG (Liesbet & Gary, 2003). The state administrative apparatus is comprised of the Presidency of the Republic and the government. The government entails the Prime Ministry and fragmented or functionally specific ministerial departments at the national level, represented at the subnational level by task-specific delegations. Subnational REDD+ arrangements feature regional REDD+ Committees and local operational units embedded under the regional and local delegations of the environmental department. Local REDD+ units are thus separated from other local land use delegations.

Both the steering committee and the technical secretariat oversaw the design of the national REDD+ strategy released in 2018, which envisions a transfer of REDD+ leadership from MINEPDED to the Prime Minister's Office (MINEPDED, 2018). The envisaged reform might stems from the reported weak influence of the environmental ministry leading the process to gain the buy-in of other state agencies whose responsibilities are relevant to REDD+ (EIA, 2016). Under this still-to-be officialised arrangement, a representative from the Prime Minister's offices will assume the Presidency of the steering committee and shall be supported by the two prominent departments of MINEPDED acting First Vice-President, and MINFOF as the second Vice-President (figure 5). The steering committee shall then be expanded to include representatives from the Ministry of Economy, Planning and Regional Development, the Ministry of Mines and Technological Development, traditional rulers and local councils. Further, the Technical Secretariat maintained at MINEPDED would expand to accommodate a representative from the National Climate Change Observatory (ONACC).

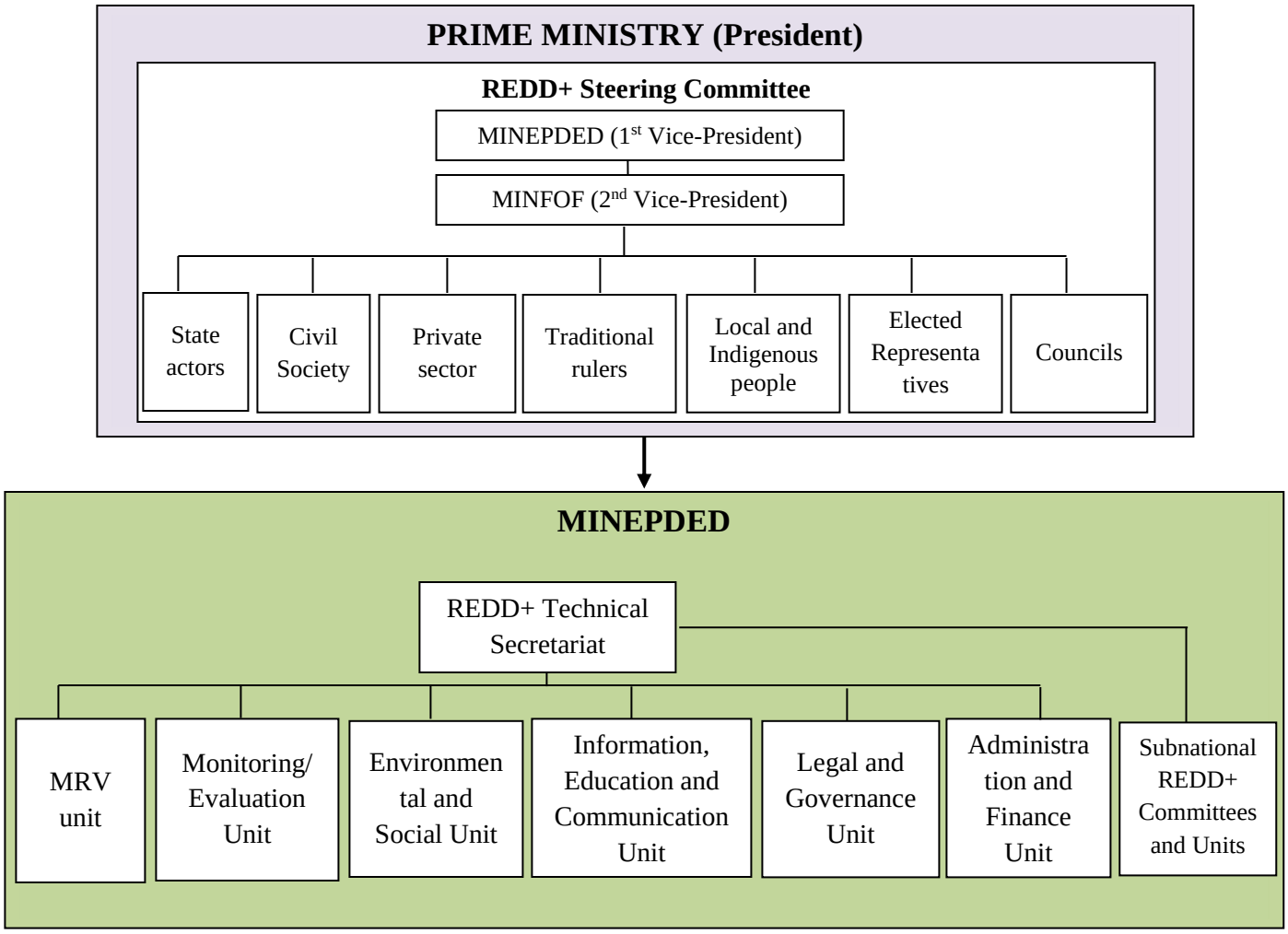


Figure 5: Projected reform of the organisational design of the Cameroonian REDD+ scheme

### 5.4.3 Integration mechanisms in the organisational structure of the Cameroonian REDD+ scheme

From its inception through the readiness preparation process and to date, the Cameroonian REDD+ process has been led by MINEPDED, supported to some extent by MINFOF. The same arrangement prevails at the subnational level where MINEPDED delegations embed and oversee local REDD+ implementation; such leadership of the environmental department is a distinctive feature of the horizontal integration mechanism (Nunan et al., 2012). The sectorised administrative system of Cameroon would be less conducive for EI, and thus organisational measures would be required to facilitate REDD+ integration into land use sectors. This has been pursued through the creation of the interministerial and

multi-actor steering committee bringing together relevant ministerial departments, another discrete characteristic of horizontal integration. Therefore, REDD+ organisational arrangements in Cameroon are currently predominantly horizontal (table 10).

Table 10: Characteristics of the REDD+ organisational structure in Cameroon

| **Current arrangements** | | **Prospected arrangements** | |
|---|---|---|---|
| **Features** | **Integration mechanism** | **Features** | **Integration mechanism** |
| Integration process driven by the Ministry responsible for the environment | Horizontal | Leadership of the Prime Ministry | Vertical |
| | | Environmental department as Vice-president | Horizontal |
| Formation of a cross-sectoral REDD+ steering committee | Horizontal | Cross-sectoral REDD+ committee | Horizontal |

In the proposed reform of REDD+ organisational arrangements, the National Steering Committee currently embedded in MINEPDED would be transferred to the Prime Minister's offices which would thenceforth assume the leadership of the REDD+ process. The projected leadership of the Prime Ministry, a senior-level authority reflects a feature of vertical integration. As the first vice-president, the ministry in charge of the environment would continue to play a preponderant role within REDD+ leadership, which still reflects horizontal integration. Further, the integration mechanism in the envisioned arrangement remains the cross-sectoral REDD+ steering committee, still matching horizontal integration. Thus, if officialised, the proposed reform would evidence a sequencing in time from an almost wholly horizontal integration to a hybrid system of predominantly horizontal integration featuring an element of vertical integration. The next section discusses the implications and effectiveness for REDD+ sectoral integration, building on the conceptual framework of organisational structures for EI.

## 5.5 Cameroonian REDD+ design and potential for sectoral integration

The integration mechanism in the current REDD+ organisational arrangements of Cameroon has been found to be predominantly horizontal. According to the EI conceptual framework, the REDD+ process would benefit from the technical expertise of the leading environmental and forestry departments; however, REDD+ integration into land use sectors is poised to face sectoral resistance and funding difficulties inherent in their weak authority, only partly resolved by the envisaged organisational reform.

### 5.5.1 REDD+ process infused with technical expertise

The merit of horizontal integration arrangements overseen by environmental or forestry departments resides in their ability to infuse the integration process with their technical expertise (Nunan et al., 2012). Such technical assistance is even more crucial when deploying a novel and reputably complex mechanism such as REDD+ (Korhonen-Kurki et al., 2016). In a context where forests have been traditionally valued for timber provision and where high-level government politicians might still have a frail grasp of carbon commodification (Brown et al., 2011), technical expertise from the environmental and forestry leadership is of the essence. Thus, the Cameroonian REDD+ process would benefit from the oversight of departments best skilled in climate change and forestry matters.

Horizontal arrangements further enable the Cameroonian REDD+ scheme to draw on MINEPDED networks and experiences in leading the country in global climate change forums (MINEPDED, 2013) and to capitalize on MINFOF efforts toward sustainable forests management, regeneration, and conservation (Somorin et al., 2014). However, as discussed next, the main drivers of deforestation including agriculture expansion, livestock husbandry, infrastructure development and mining activities lay outside the forest and environment domains, when the ability of both leading departments to influence decision-making in these ministries is restricted (Dkamela et al., 2014).

### 5.5.2 Weak authority to compel land use sectors' involvement

Environmental integration through horizontal arrangements can be prejudiced by the weak authority of the leading environmental department to enforce compliance within sectoral departments with the same hierarchical ranking (Jordan & Lenschow, 2000; Weidner et al., 2002). This has impinged on sectoral REDD+ integration in Cameroon. Studies have documented MINEPDED's struggles to engage land use ministries, which delayed the REDD+ readiness process (Dkamela et al., 2014), fueling concerns about the ability of the environmental department to deliver on the announced ambitious sectoral policy reforms (Chia et al., 2019). This would justify the reported passivity of the agriculture sector yet a major deforestation driver in Cameroon, and the observed disconnection of other sectors from the REDD+ process (Somorin et al., 2014).

The limited involvement of some sectors could also result from their exclusion from the REDD+ steering committee. While the ministries in charge of agriculture and livestock feature among the twelve state departments represented in the current steering committee, the ministry in charge of mining and the department responsible for infrastructure development are missing; and although the mining department has been considered for inclusion in the envisaged organisational reform, the infrastructure department remains sidelined, when road, rail and seaport expansion are directly associated with forest clearing (MINEPDED, 2018). Their absence from the multi-actor REDD+ platform would explain their limited interaction with foresters and reported inadequate awareness of the impacts of infrastructure development on forests as discussed in the previous chapter.

Nonetheless, the weak authority of the leading environmental department seldom aids the engagement of land use sectors represented in the REDD+ steering committee, paralleling concerns from Mexico and across Asia that the poor influence of the environment and forestry administrations entertains inertia (Korhonen-Kurki et al., 2016; Špirić & Ramírez, 2021). Hence calls for senior leadership of the Cameroonian REDD+ scheme (Tegegne et al., 2016; Chia et al., 2019).

Plans to transfer the REDD+ steering committee to the Prime Ministry offices might evidence growing awareness of the frailty of MINEPDED agency. Yet, MINEPDED

would continue to assume a preponderant role in the REDD+ leadership, thus the projected organisational reform which includes a feature of vertical integration still maintains a dominant horizontal hue and may still struggle to overcome some of the pitfalls that prompted the reform.

### 5.5.3 **Limited ability to mobilise funding for REDD+ integration**

Horizontal integration arrangements feature cross-sectoral committees reportedly onerous to run (Mcnally & Nguyen, 2016). Operating costs associated with convening multi-actor meetings regularly have resulted in collapsing inter-ministerial REDD+ platforms (Korhonen-Kurki et al., 2016). Yet MINEPDED's limited budget and capacity to influence funding decisions in the finance department in its favour constitutes a drawback of horizontal arrangements for EI (Nunan et al., 2012). These challenges are poised to foil REDD+ integration in Cameroon. If external seed fundings could represent alternative sources, weak governance indicators in most African countries have been found to decrease external investments in REDD+ (Thompson et al., 2017). Further, the Cameroonian government's emphasis on non-carbon benefits, perhaps to manage stakeholder expectations amid uncertainties around international carbon pricing suggests domestic finance constitutes a central funding source for REDD+ operations. However, its mobilisation has proven challenging under MINEPDED leadership of the REDD+ process (Alemagi et al., 2014).

As a suggestion to the budget constraints and related coordination challenges affecting current REDD+ arrangements, scholars have recommended detaching the national REDD+ steering committee from MINEPDED and subsuming this under the National Observatory for Climate Change (ONACC), which they hold could be transformed into a financially autonomous agency (Alemagi et al., 2014). ONACC was set up by Presidential Decree in 2009 to oversee climate change monitoring, mitigation and adaption, and is embedded in MINEPDED. When the REDD+ scheme may enjoy some financial independency under such arrangements, these would parallel both the 2010 Papua New Guinea Office of Climate Change and the 2011 Indonesian REDD+ agency set up as independent entities to oversee REDD+ development. As these experiences proved, independent agencies for REDD+ deployment have been thwarted by rivalries with

existing department of forest and the environment performing similar forest-related attributions (Di Gregorio et al., 2015; Fujisaki et al., 2016). Funding mobilisation challenges in horizontal arrangements are further compounded by sectoral conflicts.

### 5.5.4 REDD+ integration hindered by sectoral and leadership conflicts

Sectoral conflicts are a common occurrence in horizontal arrangements where the leading environmental department occupying the same hierarchical rank as other sectors lacks the ascendency to mediate conflicting land use interests (Jones, 2013). Under a predominantly horizontal institutional design, the Cameroonian REDD+ scheme has been mired by sectoral conflicts evident through overlapping land uses (Kengoum & Tiani, 2013; Korhonen-Kurki et al., 2016). Forestland encroachment by mining titles is commonly decried and rooted in conflicting land use legislations. While the 1994 forestry law bans extractive activities within the permanent forest domain, the 2016 mining code permits mining operations within most of this area. Since both legal instruments were passed at the parliament which sits at a higher hierarchical level than MINEPDED, the proposed reform toward a senior leadership of the REDD+ process would have an improved ability to mediate related conflicts, which might then facilitate the uptake of forest considerations in competing land use sectors. However, the Prime Ministry leadership of the process could expose REDD+ development to the vagaries of political shifts.

Besides land use conflicts, horizontal arrangements are vulnerable to leadership conflicts. This has been manifest in Cameroon between the environmental department currently leading the REDD+ process and the Ministry in charge of forests whose strong command and experience in forest management make them an equally suitable candidate to spearhead REDD+ implementation (Kengoum & Tiani, 2013). Similar leadership conflicts are reported in Cambodia between the Forestry Administration and the Ministry of Environment, and in Lao PDR between the Ministry of Natural Resources and Environment and the Ministry of Agriculture and Forestry (Fujisaki et al., 2016).

Leadership conflicts in horizontal arrangements have mostly concerned the environmental and forestry departments, both of whose attributions and expertise include climate change and forest protection at the core of REDD+; but the Ministry of Economy

and Land Planning (MINEPAT) has also been perceived as a potential leader; its role in land allocation suggests it could mediate land use conflicts hindering horizontal arrangements (Kengoum & Tiani, 2013). The Ministry of Finance is equally believed to possess the necessary financial power to stimulate environmental or REDD+ integration into other land use sectors through various means, including subjecting funding applications for land use projects to ecological assessments (Dkamela et al., 2014) or evaluating sectoral performance not just in terms of their GDP contribution, but also for their environmental benefits or soundness. This ties in with the suggestion by EI scholars that the leadership of the Ministry of Finance or the department of land planning could strengthen the weak authority of forestry and environmental ministries (Nunan et al., 2012). However, evidence from Vietnam where the Ministry of Finance referred most key decisions to the forest department that has stronger technical expertise in the REDD+ mechanism highlights the limitations of MINFI and MINEPAT leadership of the Cameroonian REDD+ scheme. But as discussed next, a broader leadership board could be considered.

### 5.5.5 Toward a hybrid organisational arrangement of the national REDD+ scheme

The above discussion indicates that each of the Prime Ministry, MINEPDED, MINFOF, MINFI, and MINEPAT have the competence to spearhead the REDD+ process; interestingly, the exclusive leadership of none of these would ease REDD+ integration in land use sectors. Perhaps an institutional design that polls together their political, technical, financial and land arbitration assets could be envisaged. An example of such hybrid of horizontal and vertical arrangement could consist of the Prime Ministry assuming the leadership of the National REDD+ process, supported by a board of vice-chairs including MINFI, MINEPDED, MINFOF, and MINEPAT (figure 6).

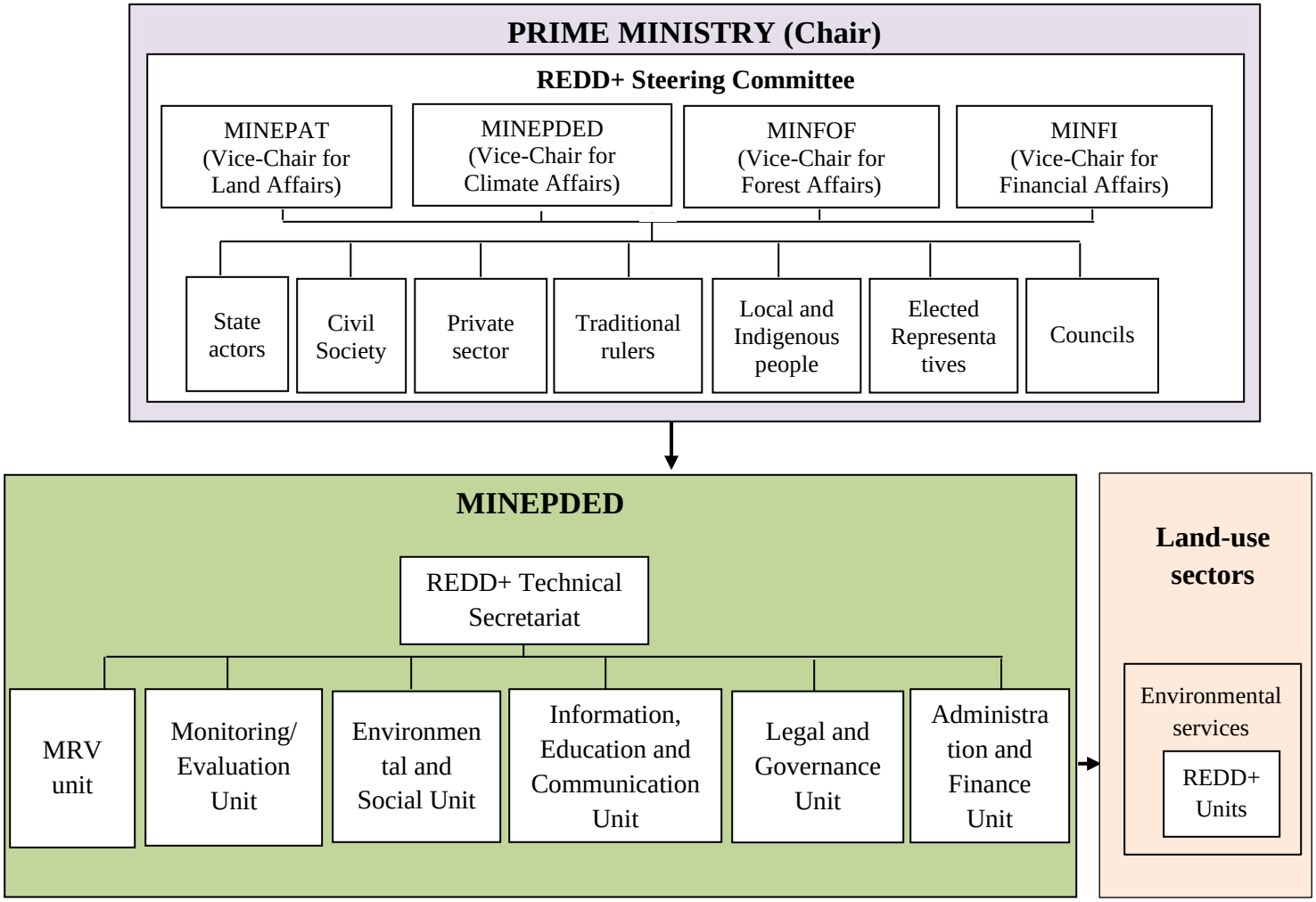


Figure 6: Suggested hybrid institutional arrangements of the REDD+ scheme

Such a hybrid institutional design entails all the features of horizontal and vertical integration mechanisms and maximises their benefits all the while minimising their weaknesses. The weak authority of MINEPDED and MINFOF under current horizontal arrangements that impedes funding mobilisation for sectoral cooperation and undermines their mediation of land use disputes is strengthened by the Prime Ministry leadership supported by MINFI and MINEPAT deputy chairing roles. REDD+ implementation would equally enjoy the technical expertise, experience and advances of MINFOF and MINEPDED all the while shielding REDD+ from potential political instabilities associated with the Prime Ministry leadership in vertical arrangements, buffered here by the board of Vice-Chairs. The integration process would be further improved by setting up REDD+ units within environmental services instituted in land use departments at

national and subnational levels. Such units would additionally address the problem of limited knowledge of REDD+ at sectoral level, which has impeded REDD+ integration (Mcnally & Nguyen, 2016). Weaving environmental services into land use sectors would ultimately facilitate the implementation of policy integration instruments such as the environmental impact assessment which permits to take account of and incorporate forest protection in land use projects, but whose enforcement within land use sectors has been compromised by land use actors' loose grasp of environmental matters. By redeploying the workforce from environmental delegations toward land use administrations, this hybrid design bridges the sectoral segregation gap inherent in the prevailing fragmented model of multi-level governance.

The contribution of this study is multiform. It evaluates the potential for REDD+ institutional design to facilitate REDD+ integration into land use sectors driving deforestation within a Congo basin country. In so doing, it complements existing academic works on REDD+ organisational arrangements that have largely focused on their ability to help deliver emission mitigation efficiently and support local participation. In theoretical terms, it contributes to the theoretical field of organisational arrangements for environmental integration by drawing from the conceptual literature to design a succinct framework outlining the features of vertical and horizontal integration mechanisms as well as their effectiveness for EI. The resulting framework is streamlined and easy to apply to the broader field of environmental integration. Testing this against factual cases allowed to add nuance to EI scholars' belief that the ministries in charge of finance and land planning could strengthen the weak authority of the environmental department in horizontal arrangements. Drawing on empirical evidence, the study has highlighted the caveat that their limited expertise in environmental matters undermines their leadership of EI. This study has further shown REDD+ practitioners and decision makers how REDD+ organisational arrangements play a key part in the leadership difficulties, funding challenges, and sectoral resistance they face. It has revealed that calls for a high-level leadership of the REDD+ process might not necessarily be a panacea and that the envisioned organisational reforms may fall short of addressing the challenges they seek to redress and expose REDD+ development to political uncertainties. The study has ultimately equipped decision makers across REDD+ implementing countries with an

example of hybrid REDD+ organisational structure combining vertical and horizontal integration mechanisms, which has an enhanced ability to achieve REDD+ integration into land use sectors.

## 5.6 Conclusion

REDD+ integration into land use sectors driving deforestation is a function of organisational arrangements. This chapter has assessed the potential for the organisational structure of the Cameroonian REDD+ scheme to facilitate REDD+ integration into competing land use sectors. The analyses have drawn on document review and the conceptual literature for EI that distinguishes horizontal and vertical integration mechanisms with varying potentials to foster EI (Lafferty & Hovden, 2003; Jacob & Volkery, 2004; Nunan et al., 2012). The study has found that the Cameroonian REDD+ scheme currently led by MINEPDED with MINFOF assistance and featuring a cross-sectoral and multi-actor steering committee aligns with horizontal integration. Such arrangements infuse the REDD+ process with the technical expertise of the leading departments. However, they expose REDD+ integration to sectoral resistance and funding challenges inherent in the weak authority of MINEPDED and MINFOF devoid of the authority to influence decision-making within ministries occupying the same hierarchical rank. The proposed organisational reform featuring a Prime Ministry leadership of the REDD+ mechanism might improve political support for integration, but risk exposing the REDD+ process to political shifts. Further, as the first vice-president of the steering committee in the envisaged reform, MINEPDED remains in a leadership role of a cross-sectoral platform. Thus, the suggested reform barely departs from current arrangements and their inherent pitfalls. This chapter has introduced an example of hybrid organisational arrangements combining horizontal and vertical integration features. In the suggested arrangement, the Prime Ministry leadership is supported by a board of chairs including the four ministries in charge of finance, the environment, forests, and land planning which would shield the REDD+ process from political vagaries. The proposed design has the potential to minimise the limitations of horizontal and vertical arrangements while maximising their respective strengths and enhancing REDD+

integration into land use sectors. Further feasibility analyses of the applicability of the proposed hybrid organisational arrangements to other settings would be recommended.

National reforms to integrate REDD+ into land use sectors as advised by global REDD+ rules (UNFCCC, 2016) would contribute to tackling the underlying drivers of deforestation embedded in national systems. The direct drivers of forest clearing occur at the local level, suggesting that local REDD+ implementation deserves as much attention. The next chapter investigates the most influential factors shaping local REDD+ implementation in Cameroon.

# Chapter 6: REDD+ policy implementation and institutional interactions: Evidence from three local pilot projects in Cameroon

(This chapter is based on the following paper: Gakou-Kakeu, Di Gregorio, M., Paavola, J., & Sonwa, D. J. (2022). REDD+ policy implementation and institutional interplay: Evidence from three pilot projects in Cameroon. *Forest Policy and Economics*, 135, 102642. https://doi.org/10.1016/j.forpol.2021.102642)

## 6.1 Introduction

Anthropogenic deforestation and land use change account for 23% of global greenhouse gas emissions and mainly originate from tropical forest-rich developing countries (IPCC, 2019a; Pachauri et al., 2014). Hence, reducing emissions from the forest sector has become a priority for the international climate change regime. Since the 2007 Conference of the Parties to the United Nations Framework Convention on Climate change (UNFCCC), an incentive mechanism to reward developing countries for maintaining and expanding forest carbon sinks, the *Reducing Emissions from Deforestation and forest Degradation* (REDD+) has been rolled out in many tropical forest-rich countries (Mustalahti et al., 2012).

As the world's second-largest tropical rainforest, the Congo Basin has enormous potential to contribute to the global REDD+ mechanism. Cameroon has one of the major forest areas and highest deforestation rates in the Congo Basin (MINFOF, 2012; Fobissie et al., 2014). The country engaged in REDD+ negotiations from early on and started readiness activities in 2008 (Alemagi et al., 2014). Embedded within the Ministry of Environment Nature Protection and Sustainable Development (MINEPDED), the National REDD+ Steering Committee leads REDD+ development in Cameroon and oversees REDD+ pilot projects implemented within local communities with support from NGOs. REDD+ pilots have proliferated worldwide, but their implementation has been mired by varied challenges. Tenure conflicts, for example, are reported from across REDD+ projects, but while in some cases they hamper project sustainability (Lasco et al., 2013), in others, REDD+ projects are successfully implemented despite unclear tenure (Resosudarmo et al., 2014). Inadequate grassroots capacity for REDD+ implementation has also been widely reported, yet improving community capacity have yielded divergent outcomes

across REDD+ sites (Burgess et al., 2010; Luintel et al., 2013). Such differences across areas of the impacts of the same factor concede the need for a deeper understanding of the way implementation contexts determine the factors with the most bearing on REDD+ outcomes. This chapter explores the most influential factors for REDD+ implementation outcomes within three local settings, building on Matland (1995)'s framework for policy implementation which defines several types of implementation contexts and the most influential factors for project outcomes in each.

Equally recurrent in REDD+ implementation are equity concerns, including how contentious revenue distribution in forestry regulations compromises adherence to REDD+ projects (Ostrom, 1990; Jacob & Brockington, 2017; Awung & Marchant, 2020). As is the case, different policy instruments governing interrelated issue areas can interact and impact each other's performances (Underdal, 2008; Bastos Lima et al., 2017). While such interactions can be mutually reinforcing, they can also be disruptive (Rosendal, 2001). Studies of institutional interactions have examined how global institutions and interventions such as the EU sponsored FLEGT initiative interact with REDD+ (Visseren-Hamakers et al., 2011; Tegegne et al., 2014; Bastos Lima et al., 2017). These analyses have primarily focused on policy outputs, and on coordination challenges between REDD+ and other land use sectors (Kengoum & A.M. Tiani, 2013; Tegegne et al., 2014; Atela et al., 2016; Korhonen-Kurki et al., 2016). Ground-level institutional interactions taking into account not just the outputs, but the outcomes of involved institutions or policies remain underexplored (Jacob & Brockington, 2017; Awung & Marchant, 2020). This chapter fills this gap by building on Gehring and Oberthür (2009) theory for institutional interaction to investigate how the outcomes of forestry institutions or regulations affect local REDD+ projects' outcomes in Cameroon. Overall, the chapter addresses the following specific questions:

i. What are the implementation typologies of REDD+ projects in South and West Cameroon?
ii. Based on REDD+ implementation typologies, what are the key determinants of the outcomes of these projects?
iii. How are REDD+ projects' outcomes shaped by interactions between forest and REDD+ institutions?

The following section sets out the theoretical frameworks for policy implementation and institutional interaction that guide the analyses in this chapter, all the while reviewing and assessing previous research on local REDD+ implementation. The methodological approach is then laid out, which introduces the study area, reasons out the selection of case studies, and outlines the material collection and analysis decisions. The findings are subsequently exposed and discussed, leading to policy recommendations to improve REDD+ project outcomes.

## 6.2 REDD+ evidence through a policy implementation and institutional interaction lens

### 6.2.1 Policy implementation framework

#### 6.2.1.1 Conceptual background of policy implementation

Policy implementation refers to the process in which actions are taken to put policies into effect (Goggin et al., 1990). It has been studied either through a top-down or a bottom-up perspective (Van Gossum et al., 2010; Jensen et al., 2018). Under the top-down approach, implementation starts with an authoritative policy decision at the central level and proceeds downwards, with top government actors being the main players (Sabatier, 1986). The top-down perspective considers clear policy goals, limited actor involvement and small policy changes as ingredients for successful implementation (Van Meter & Van Horn, 1975; Sabatier & Mazmanian, 1979). It represents a centralised and exclusive form of constellation of power with a few powerful actors at high levels of governance leading implementation (Mbatu, 2009; Hartter & Ryan, 2010). Yet the passage of legislation often requires ambiguous language, and the focus on central decision makers ignores that implementation takes place locally (Matland, 1995). The bottom-up approach emphasises the role of local actors and context: policy success relies on the autonomy and skills of local policy implementers to adapt policies to local conditions (Lipsky, 1978; Berman, 1980). It envisions a devolved form of implementation, which has been a model for various decentralization programmes across Africa since the ‘90s (Ribot & Oyono, 2012) . In theory at least, such an approach would portray a constellation of power that is less centralised and more inclusive of local interests (Ribot et al., 2006). However,

overemphasising local autonomy risks disregarding the level of policy control of elected representatives (Sabatier, 1986; Ribot, 1999; Crook, 2003).

6.2.1.2 Matland's ambiguity–conflict framework for policy implementation

Matland (1995) proposed a framework that aims to explain the circumstances in which either the top-down or the bottom-up approach is most appropriate. Based on top-down researchers' tendency to study relatively clear policies and bottom-up scholars' inclination for policies with greater uncertainty, Matland's framework categorises implementation according to two main variables: policy ambiguity, understood as the degree of clarity of policy goals or means to frontline implementers, and policy conflict, defined as the incongruity of views between decision makers and implementers on policy goals, means or activities (figure 7). The framework indicates four distinct types of implementation which help identify the most influencial factor for implementation outcomes.

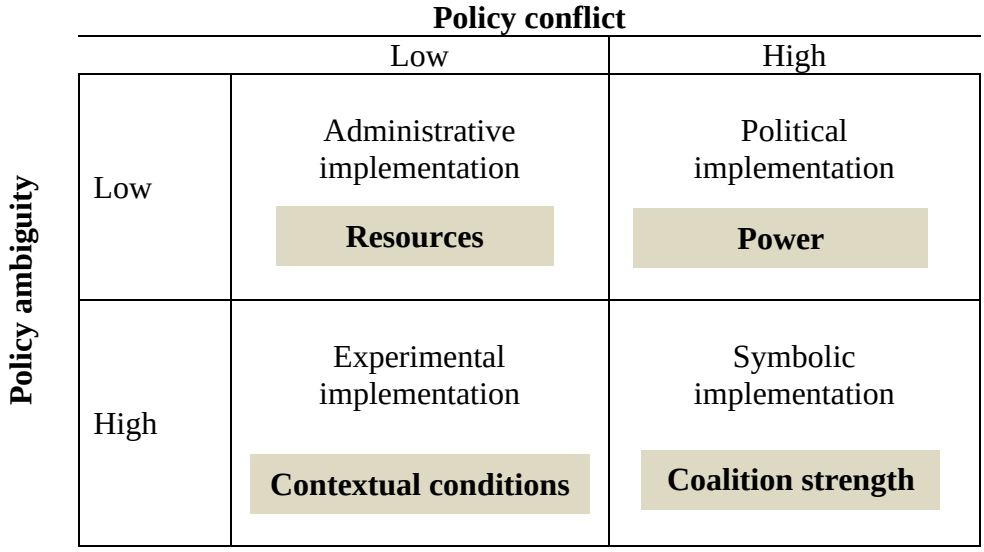


Figure 7: Ambiguity–conflict framework for policy implementation (Matland, 1995)

Conditions of low policy ambiguity and conflict result in administrative implementation. With clear goals and known solutions, adequate central resources like staff and technology are the main determinant of outcomes. When low level of ambiguity is accompanied by high level of conflict, outcomes are decided by power. Such conditions are typical of

political models of decision making (Allison, 1971; Halperin et al., 1974). In political implementation, when an actor or a coalition have sufficient power, they can impose their will through coercion, while when power is more balanced, actors will bargain in order to reach an agreement, which might require remuneration to change incentives (Krott et al., 2014; Prabowo et al., 2016). For policies of this type, compliance may not be straightforward. While an explicit policy exists, essential resources could be controlled by actors opposed to the proposed policy. The implementation programme would consist of securing the compliance of actors whose resources are central to policy success, and would depend on either having sufficient power to force one's will on the others or having sufficient resources to bargain an agreement on means. Coercive mechanisms are most effective when the desired outcomes are easily monitored and the coercing agent controls the resource. The latter, however, may not be in a direct line of relationship with implementers, and coercive mechanisms can fail to bring about compliance. In these conditions, activities are directed toward reaching a negotiated agreement on actions.

High ambiguity and low conflict result in experimental implementation: the context drives implementation; local actors and their resources determine the outcomes, resulting in a broad variation across sites. Policy learning from different outcomes is crucial for overall success (Matland, 1995). Finally, symbolic implementation involves high conflict and high policy ambiguity and might result in serious implementation deficit. Outcomes are determined by competing factions at the local level and who controls available resources. Contextual features thus remain relevant for outcomes, and local power dynamics become key in determining outcomes.

#### 6.2.1.3 REDD+ through a policy implementation lens

Studies of REDD+ implementation have aligned most closely with the bottom-up approach to policy implementation, identifying tenure insecurity and benefit sharing as major barriers to REDD+ implementation and main sources of conflict. For example, the Rufiji Delta forest carbon project in Tanzania features conflicts between statutory rules allocating land rights to the state and indigenous customary rules assigning land ownership to the Warufiji community that settled in the area two millennia ago (Beymer-Farris & Bassett, 2012). In Mount Cameroon, ambiguous land tenure raised concerns

among local communities about the way carbon benefits are to be shared (Awono et al., 2014). The imposition of statutory rules over customary tenure systems can pave the way for land grab and impede community participation in projects (Lasco et al., 2013; Wibowo & Giessen, 2015; Chomba et al., 2016). In the Kasigau corridor REDD+ project in Kenya, conflict emerged as elites appropriated land for ranching, leaving people landless or with land holdings too small for economic viability (Chomba et al., 2016).

How conflicts in policy implementation should be handled diverges between top-down and bottom-up views. Matland (1995) suggests that the top-down school of thoughts treats conflicts as an endogenous factor that policy designers can influence and should minimise, while the bottom-up perspective takes policy conflict as a given that cannot be manipulated, particularly when it is based on incompatibility of values (Berman, 1980). In REDD+ studies, Lasco et al. (2013) and Sunderlin, Larson, Duchelle, et al. (2014) claim that reconciling statutory with local tenure rules is imperative for forest protection and project sustainability. Yet, Resosudarmo et al. (2014) indicate in a study on Indonesia that clarity and security of tenure are not necessary for REDD+ effectiveness. They found that reforestation programmes were feasible despite unclear tenure and that synergies between the lack of land tenure security and the customary practice of planting trees to secure land tenure could be used to incentivise tree planting. Their suggestion illustrates the bargaining mechanism that can at times overcome barriers posed by a high level of conflict, through negotiation to reach agreement on actions as opposed to agreeing on views or values (Matland, 1995; Uggla et al., 2016). Policy conflict hinders participation; it is thus unsurprising that limited involvement has been reported in various REDD+ initiatives (Nantongo et al., 2019). In Cameroon, local communities, indigenous people, small forest enterprises, and people from specific ecological zones such as the savanna are often poorly involved in REDD+ processes (Tegegne. et al., 2017; Satyal, 2018).

Policy ambiguity is also widespread in REDD+ implementation. In Papua New Guinea, lack of common understanding of REDD+ prevented communities from taking advantage of project outcomes and concentrated benefits among elites (Leggett & Lovell, 2012). Cerbu et al. (2013), Chia et al. (2013) and Lasco et al. (2013) highlight the need to reinforce the technical, managerial, and risk management capacities of local communities. However, while capacity building is a determining factor for project outcomes when

ambiguity or knowledge deficit prevails (Matland, 1995), it is less influential in instances of high policy conflict. This emphasises how assessing the type of policy implementation can help aim interventions at the most relevant determinants of implementation outcomes. It also exposes the limitations of studies that have followed a unidimensional approach to REDD+ implementation analysis, following either a top-down or a bottom-up approach. Applying Matland's policy implementation framework allows to combine both approaches and facilitates the prioritisation of the most appropriate solutions in specific contexts.

However, REDD+ policy implementation does not occur in a vacuum; to fully understand implementation outcomes, there is a need to also assess how forestry institutions interact with REDD+. Evidence has shown that conflicts around the distribution of revenues from forest exploitation deals can lead to lack of trust in REDD+ benefit-sharing and hamper local participation (Jacob & Brockington, 2017; Awung & Marchant, 2020). An institutional interaction perspective can improve understanding of how the outcomes of long-established forestry regulations around control of forestlands can affect new forest policy instruments such as REDD+.

### 6.2.2 Institutional interaction framework

#### 6.2.2.1 Conceptual background of institutional interaction

Research on institutional interaction is closely linked to the study of the effectiveness of international institutions (Gehring & Oberthür, 2009). It emerged in the global change research agenda when scholars drew attention to an increasing regime density (Young, 1996; G. R. Young, 1996) and the risk of treaty congestion in international systems (Weiss, 1993). It is now widely recognised that the effectiveness of specific institutions often depends not only on their own features, but on their interactions with other institutions (Young et al., 1999; O. R. Young et al., 1999). Institutions governing natural resources are sets of rights, rules, and decision-making procedures that mediate access to and control over natural resources. They determine what is permitted, forbidden or acceptable, as well as the procedures to be used in specific contexts (Ostrom, 1990; Paavola, 2007; Young, 2008). Because of the cross-sectoral nature of environmental

problems and the proliferation of environmental agreements in the 20th century, many environmental areas are co-governed by multiple institutions (Gehring & Oberthür, 2008). Institutional interaction or interplay occurs when one such institution exerts influence on or affects another (Young, 2002; Gehring & Oberthür, 2009).

6.2.2.2 Gehring and Oberthür's theory for institutional interaction

Institutional interaction involves a source institution or its component from which influence originates, and a target institution or its component, which is affected by the former (Gehring & Oberthür, 2009). Institutional interactions are *synergistic* when they improve the target institution's ability to reach its objectives and *disruptive* when one institution hinders the effectiveness of another. Interactions can occur at output, outcome and impact levels through four mechanisms (Gehring & Oberthür, 2008) (figure 8):

First, cognitive interactions happen at the output level, when ideas or information from the source institution filter into another one by modifying the decision making of actors operating within the target institution and influence its outputs. Interactions between REDD+ and the Forest Law Enforcement, Governance and Trade (FLEGT) agreement in Cameroon and the Republic of Congo illustrate such positive cognitive interaction as consultations throughout the FLEGT process served as a model for multi-stakeholder engagement in REDD+ processes (Tegegne et al., 2014). Similar positive cognitive synergies between the Sustainable Development Goals (SDGs) 13, which calls for climate action, and SDG 15, which promotes the sustainable use of terrestrial ecosystems, and REDD+ were identified in Indonesia and Myanmar (Bastos Lima et al. (2017).

Second, normative interplay takes place at the output level when legal commitments to the source institution affect the decision-making and outputs in the target institution. For example, tenure rules granting private land titles based on proofs of occupation such as land clearing would affect REDD+ rules restricting forest conversion. Third, behavioural interactions occur at the outcome level in three steps. Initially, the source institution produces an output such as a set of prescriptions or proscriptions. Relevant actors then adapt their behaviour in response, which may include unforeseen side effects and deviating behaviour. Eventually, the behavioural changes exert influence on the effectiveness of the target institution. For example, incentives to increase carbon

sequestration under global climate change agreements can lead stakeholders to establish fast-growing tree plantations which drive loss of biodiversity, undermining the outcomes of biodiversity institutions (Jacquemont & Caparrós, 2002). Fourth, impact-level interplay exists when the impact of an institution on its target affects the target of another institution (Gehring & Oberthür, 2009). An example is an effective REDD+ scheme that increases carbon storage and enhances biodiversity conservation (Gardner et al., 2012).

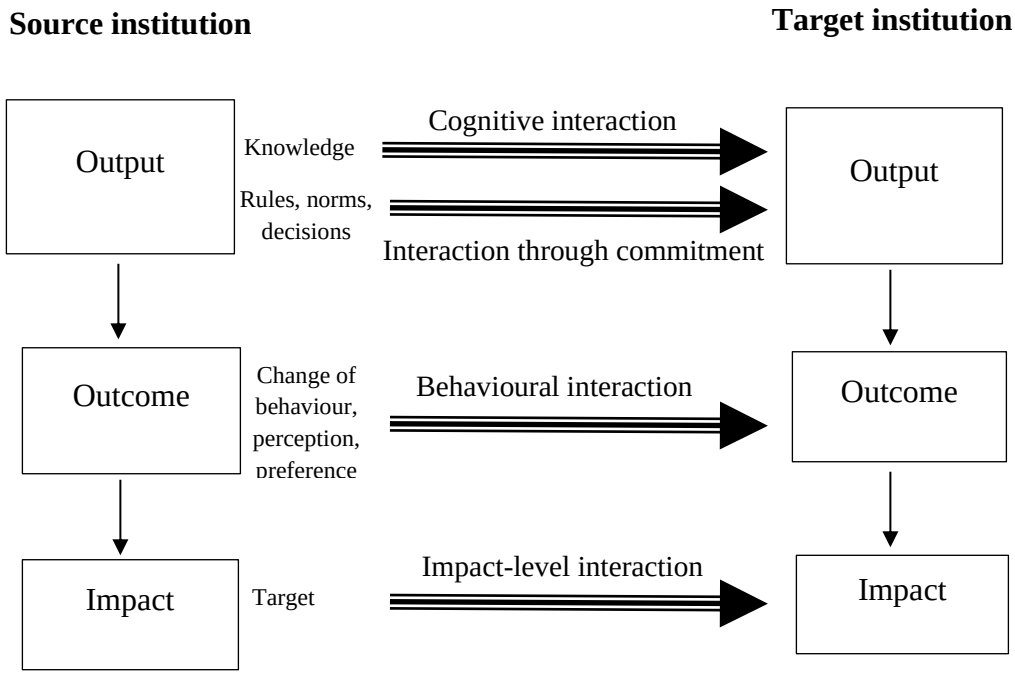


Figure 8: Causal mechanism for institutional interaction (Gehring & Oberthür, 2009)

While many studies examine output-level interplay such as interactions at the policy level (Dkamela et al., 2014; Tegegne et al., 2014; Bastos Lima et al., 2017), outcome and impact-level institutional interactions are understudied (Jacquemont & Caparrós, 2002). This chapter addresses this gap by investigating outcome-level or behavioural interplay between forestry institutions as the source, and REDD+ as the target.

Overall, two theoretical frameworks are applied in this chapter to scrutinise local REDD+ implementation outcomes in Cameroon; first, Matland (1995)'s conflict-ambiguity theory guides the identification of the implementation typologies of three REDD+ projects, which enable to determine the key influential factors of their outcomes. Next, Gehring

and Oberthür (2009)'s theory of institutional interaction is applied to unpack how the outcomes of forestry institutions have affected the behaviour of local REDD+ actors and influenced REDD+ projects' outcomes.

## 6.3 Materials and methods

### 6.3.1 Forest and REDD+ governance in Cameroon

Cameroon offers a rich setting for examining REDD+ projects' outcomes. With over 22 million hectares of forests (MINFOF, 2012), the country is a key player in forest-based climate change mitigation. The forestry sector is overseen by the Ministry of Forestry and Wildlife (MINFOF) and regulated by the 1994 forest law, which establishes a permanent and a non-permanent forest domain. Permanent forests encompass forest reserves, conservation sites and production forests that are subdivided into Forest Management Units (FMUs) and publicly auctioned to logging companies. Selected logging operators are required to create local timber processing factories. Forest reserves include protection sites such as botanical gardens and reforestation areas. Community forests are part of the non-permanent forest estate and were introduced in line with the decentralisation process in forest governance, to transfer powers and means to local entities and improve local communities' involvement in forest management. In this study, forestry rules around community forestry, reforestation areas, and local timber processing are the focus of outcome-level interplay analysis.

The REDD+ process is overseen by the National REDD+ Steering Committee chaired by the Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED). REDD+ pilot projects are implemented within local communities with support from NGOs. Project beneficiaries are local community members and those involved in project activities are also considered local implementers in the analyses. REDD+ projects used as case studies in this chapter were chosen following a purposive sampling approach (Carpenter & Suto, 2008) to cover distinct ecological zones, diverse stages on the forest transition curve (Angelsen, 2007), a range of REDD+ activities, and varied sociocultural settings.

### 6.3.2 Selected case studies

The first two REDD+ projects were implemented in Nkolenyeng and Efoulan in the dense tropical rainforest of Southern Cameroon, and the third in Bana-Bapouh in the Western Savanna region.

#### 6.3.2.1 Case study 1: Nkolenyeng

Nkolenyeng in the Dja and Lobo Division of Southern Cameroon hosted a CED-led PES project. The area is located in an evergreen moist tropical forest and has 500 inhabitants of mostly Fang ethnic group and a minority of Baka Pygmies (Letouzey, 1968; CED, 2012). The main livelihood activities include subsistence shifting agriculture especially cocoa farming, Non-Timber Forest Products (NTFPs) collection, and hunting. Large forest areas are under logging concessions and there is one protected area and a 1,042 ha community forest established in 2005. Nkolenyeng is inaccessible by road during the rainy season, which limits access to markets. Local land use is governed by customary tenure based on ancestral and usufruct rights.

The local Association of Sons and Daughters of Nkolenyeng (AFHAN) manages the community forest with the help of the Centre for Environment and Development (CED), a national NGO. In 2009, CED with approval of AFHAN launched the Plan Vivo PES pilot project which ran until 2015 intending to slow forest cover loss and enhance carbon stocks (CED, 2012). Activities included fruit tree nurseries and the provision of 10,000 improved cocoa seedlings, and community-based carbon monitoring for submission to Plan Vivo (CED, 2012). Carbon credit revenues were shared between agricultural community activity and social benefit groups. The initiative has funded community infrastructures such as rural electrification and water supply.

#### 6.3.2.2 Case study 2: Efoulan

Efoulan, also in the Dja and Lobo Division in Southern Cameroon lies in an evergreen moist tropical forest area with a population density of 30.81 inhabitants per $km^2$ (UCCC, 2014). Local people are of the Fang ethnicity with a minority of Bagyeli and Baka Pygmies. Households rely on subsistence shifting agriculture, NTFP and hunting. A minority is involved in subsistence livestock rearing and fishing. Similar to Nkolenyeng,

land use is governed by customary tenure based on ancestral usufruct rights. Forest exploitation occurs in industrial logging concessions as well as council and community forests.

Efoulan hosted an IUCN pro-poor REDD+ pilot project from 2013 to 2017 in the Fang and Baka community. A total of 30 community members were trained in tree domestication and nursery building, as well as regeneration techniques of fruit tree species such as avocado, oranges, lemon, moabi (*Baillonella toxisperma*) and njansang (*Ricinodendron heudeloti).* The project also promoted low emission agricultural practices and provided agricultural supplies to 20 smallholders (IUCN, 2017). The activities were monitored monthly, but the project ended before crop yields could be assessed.

6.3.2.3 Case study 3: Bana-Bapouh

The third project was implemented in the 4,800 ha Bana-Bapouh eucalyptus forest reserve, a humid forest-savanna mosaic created in 1947 within the Haut-Nkam and Nde Divisions of the West region (Letouzey, 1968). Bana-Bapouh is mostly covered in grasslands with elevations of up to 2,088 m and a population density of 112 inhabitants per $km^2$. Locals are mostly of the Bamileke ethnic group involved in small-scale agriculture. Slash-and-burn farming is less common in the grassland area. Customary tenure is based on traditional leadership, and farming rights are inherited. A minority of nomadic Bororo pastoralists live on mountain ridges and practice burning to induce grass growth for cattle. The local Bamileke community rears poultry and pigs and engages in timber milling, aquaculture, hunting and NTFPs gathering. The eucalyptus reserve was originally planted to stabilise slopes and prevent landslides; in 2012, the local council took over its management as part of the decentralisation process in forest governance.

The National Participatory Development Programme (PNDP)-led REDD+ pilot project started in 2015 to protect the reserve. PNPD has historically assisted local councils in the decentralisation process (PNDP, 2018). The pilot involved the restoration of parts of the eucalyptus reserve. Activities entailed tree nursery and fruit tree planting on local farms, the provision of improved crop seeds to farmers, and training pastoralists on grass cultivation for cattle. The project ended in 2018 when planted trees were still young and vulnerable.

### 6.3.3 Data collection and analytical methods

The research follows a case study approach in combination with triangulation of data sources and methods (Carpenter & Suto, 2008). The fieldwork was conducted from December 2018 to March 2019 and included mixed-gender focus groups as well as key informant interviews.

Four focus groups (FG) (Tonkiss, 2012) were held with all REDD+ project beneficiaries present and were composed of: FG1) Ten Fang project beneficiaries and members of the Nkolenyeng community forests; FG2) Twelve Fang project beneficiaries in Efoulan; FG3) Seven Bamileke project participants in Bana-Bapouh, and FG4) Eight Bororos project participants in Bana-Bapouh (table 11). To triangulate the data and deepen understanding of the effects of forest institutions on local livelihoods, in-depth interviews (Byrne, 2012) were conducted with purposively selected local authorities and land users (Carpenter & Suto, 2008), including one traditional leader in each village, five REDD+ council officers, representatives of a private forest company, a local NGO in Djoum subdivision and five local stakeholders including two forestry officers, two council officers, and a husbandry officer in Bana-Bapouh (table 11).

In the first instance, focus group discussions aimed to determine the implementation typologies of each REDD+ project based on policy conflict intensity and ambiguity level. To assess conflict intensity in REDD+ projects implementation, participants were queried on their thoughts about projects' objectives and the activities they undertook. Their accounts also permitted to evaluate ambiguity levels. Then, for the behavioral institutional interplay assessment, participants were asked to discuss how selected forest regulations affect their livelihoods and how ensuing behavioral change influenced REDD+ projects. In the forested sites, especially with the beneficiaries of Nkolenyeng community forest, emphasis was on community forest rules. In Efoulan closer to local timber factories, participants shared their thoughts on timber processing rules. In the savanna area, Bana-Bapouh residents discussed how they have been affected by rules on reforestation areas. On average, each group discussion lasted two hours.

Interviews took one to two hours and covered participants' role in the village, their main activities, their views on climate change and REDD+ projects, and the effect of selected regulations on livelihoods.

Table 11: Research design

<table>
<tr><th rowspan="2">Research aims</th><th rowspan="2">Assessment</th><th rowspan="2">Data sources</th><th colspan="3">Field data collection</th></tr>
<tr><th>Site 1: Nkolenyeng</th><th>Site 2: EFoulan</th><th>Site 3: Bana-Bapouh</th></tr>
<tr><td>Typology of REDD+ project implementation based on:<br>-Conflict intensity and<br>-Ambiguity level</td><td>- Alignment between implementers' views and projects' goals, means or activities<br>-Clarity of project goals and means to implementers (project beneficiaries)</td><td>-National REDD+ strategy<br>-REDD+ projects' documents<br>-REDD+ projects' beneficiaries<br>-Local authorities and key informants</td><td>-1 FG session, 10 participants (4 female, 6 males)</td><td>-1 FG session, 12 participants (5 female, 7 males)</td><td rowspan="2">-1 FG session with 7 male farmers<br>-1 FG session with 8 male pastoralists<br>- 6 in-depth interviews with:<br>1 traditional leader<br>2 forestry officers<br>2 council officers<br>1 husbandry officer</td></tr>
<tr><td>Behavioral interactions between forestry rules and REDD+ projects:<br>- Outcomes of forest rules and<br>-Their effects on REDD+ outcomes</td><td>- Changes in local behavior induced by forest regulations<br>–Effects of resulting behavioral changes on REDD+ project outcomes</td><td>-Selected forestry regulations<br>-REDD+ projects' documents<br>-REDD+ project beneficiaries<br>-Local authorities and key informants</td><td colspan="2">- 7 in-depth interviews with:<br>2 traditional leaders (1 per site)<br>1 forestry officer,<br>1 agricultural officer,<br>1 council officers<br>1 private forest logging company<br>1 local NGO<br>(From Djoum subdivision that comprises Efoulan and Nkolenyeng villages)</td></tr>
</table>

To preserve the authenticity of participants' thoughts and words, discussions and interviews were conducted in French, the spoken language in West and South Cameroon. Before all discussions, participants were informed of the purpose of the research and made a voluntary decision to participate. Verbal informed consent was obtained as it was more appropriate for the setting. To protect the confidentiality of research participants, their names were not recorded.

Group discussions and interviews were tape-recorded and transcribed *verbatim*. Transcripts were then coded deductively using NVivo programme (QSR 12) (Skjott Linneberg & Korsgaard, 2019). Conflict intensity and ambiguity level served as predetermined codes for implementation typology analyses. Positive and counterproductive institutional interactions were used as predefined codes for institutional interplay assessment. Narrative analysis (Gill & Goodson, 2011) allowed to analyse participants' views, their understanding of REDD+ projects' goals, and evidence on the determinants of implementation typologies on the one hand, then interactions between forest regulations and REDD+ on the other.

## 6.4 Implementation typology of REDD+ pilots

Matland's framework characterises policy implementation typologies according to two main dimensions: ambiguity level and conflict intensity around policy or project goals and activities. The following sections assess these two dimensions for each of the three case studies and culminate in the identification of the implementation type and the corresponding determinants for projects outcomes.

### 6.4.1 Conflict in project goals and activities

A key goal of Cameroon's REDD+ strategy and pilot projects is to introduce alternative land management to shifting agriculture, which is considered a major driver of deforestation (MINEPDED, 2018b). In all three case studies, project activities involved agricultural intensification techniques based on enhanced crop varieties and mineral fertilisers to decrease the need for burning and expanding farms (CED, 2012; IUCN, 2017; PNDP, 2018). The level of agreement of local project implementers with REDD+ projects' goals and activities differs across sites. As set out below, the project goals and activities were highly contested in the dense forest site of case study 1. In the forest-agriculture transition area of case study 2, there was conflict over the introduced farming practices, and in the Savanna region of case study 3, project goals and activities were much less contested.

In case study 1, community members questioned the project narrative that shifting cultivation is the main driver of deforestation and contested the farming techniques

introduced to address it. Beneficiaries claimed that large-scale agriculture and industrial logging clear larger forest areas than smallholding farms:

> *The maximum farm size I can cultivate is 1.5 - 2 hectares, but when the big elites arrive in the village with their big means they do 25 hectares, 30 hectares at once, you see massive deforestation […] You cannot even ask them not to, otherwise they will say that you are expelling people from the village, that you are doing witchcraft, that you are hindering development. (beneficiary)*

Disagreement about promoted farming techniques was also notable. Farmers held onto their local knowledge, suggesting that burning eases clearing, eliminates shadowing of crops and fertilises the land, and that yields are higher in newly converted forestland, as explained by two beneficiaries from case study 1:

> *We are obliged to burn; we really do not know how we can stop burning, because we cannot work under trees and achieve good yields. (beneficiary)*

> *They taught us some farming methods, but when we put them into practice they did not work. Take plantain, for example, they showed us ways to grow them in fallow lands and we did so but they failed, because plantain crops grow best in virgin forests […]. When the new cocoa plants arrived, everyone said it was bad cocoa, […] this variety has so many problems. (beneficiary)*

In case study 2, participants were more ambivalent about the project goal and drivers of deforestation. They neither accept nor deny that local farming practices drive deforestation. They welcomed some REDD+ project activities such as the provision of farm inputs and tree planting, but acknowledged the difficulty of clearing wooded lands without burning. While beneficiaries adopted local tree species such as Moabi, they abandoned citrus plants, which they found demanding to maintain:

> *Citrus need to be weeded every 2 weeks; if you take a look at the nursery outside you will see their leaves dying; they need frequent maintenance and treatment, which is laborious and costly (beneficiary)*

In the less forested West region, participants from case study 3 agreed with the project goal recognising that smallholders' livelihood activities of harvesting wood for lodging and energy, pastoral bushfire lit to stimulate the growth of grass sprouts for cattle in the

forest, put a strain on the forest reserve. While they found tree nursery activities quite complicated, agricultural activities resounded positively with both smallholder farmers and pastoralists:

> *We were taught how to select good quality seeds; in the past, we sourced seeds from harvested crops and would use them repeatedly, which was not good; now we can produce our own good seeds. We were also taught how to apply phytosanitary treatments and mineral fertiliser. (smallholder farmer)*
>
> *The project recommended against bush fires and taught us how to grow grass for cattle. We had never known grass could be cultivated to feed cows; we have now learnt how to grow them. (pastoralist)*

### 6.4.2 Ambiguity level in project goals and activities

Policy ambiguity manifested an opposite pattern to policy conflict. As outlined below, it was low in case studies 1 and 2, and high in case study 3.

In case study 1 all beneficiaries had a clear understanding of project goals and activities as evident in this statement:

> *The PES initiative was suggested as an alternative way of making profit, but by conserving the forest […] The forest was divided into plots and each plot had a known surface area and a management type. There were fallows, secondary forest, and conservation areas where clearing was prohibited. Verifiers were sent to the field to check; they approved full payment when prescriptions were adhered to, or less if not. The money was sent to us through project developers, then distributed across activity groups. (beneficiary)*

Similarly, project beneficiaries in case study 2 were clear about the goals and activities, although they highlighted issues to do with infrequent monitoring that prevented them from raising and addressing certain issues in time.

> *The issue is their visits were seldom. After the training, they left and there was no close monitoring. We pushed for local coordination, offering to host a local bureau if means were put at our disposal, but it was dismissed. (participant)*

In case study 3, project objectives were rather clear to most beneficiaries who explained that tree planting activities undertaken as part of REDD+ project aimed to restore the cooler weather that prevailed in the past and was lost to forest clearing; but a focus group exchange among three farmers suggests ambiguity about whether the goal of REDD+ project was to improve income generation, subsistence, or capacity building:

> *We were taught how to ameliorate farming and cattle rearing, but I think there was a failure in the way the first harvests were handled. They should not have been shared, we should have operated like common initiative groups by reinjecting all the benefits back into the activities to upscale the project. (beneficiary)*
>
> *And what would we eat? We only live out of farming [Having no alternative income sources] (beneficiary)*
>
> *These were only trials; these were pilot farms to demonstrate the teachings rather than a common initiative group... (beneficiary)*

In the same site, pastoralists were perplexed about the means needed to put the training into practice. Although taught forage planting techniques as alternatives to fire use, the nomadic pastoralists were puzzled as to where they were expected to cultivate grass, having no land of their own.

> *We did learn how to grow grass for cattle, but where is the space to grow it? I cannot see any, and eucalyptus trees in this area absorb so much water…*

To summarise, case studies 1 and 2 featuring high conflict intensity and low ambiguity level are instances of political implementation. In these cases, balance of power between central policy designers and local implementers will determine REDD+ outcomes. Depending on power dynamics, interaction might entail coercion or bargaining. Low conflict intensity and high ambiguity level in case study 3 match experimental implementation. In this case, REDD+ outcomes will depend more on the local context, including the resources and skills of local implementers (figure 9).

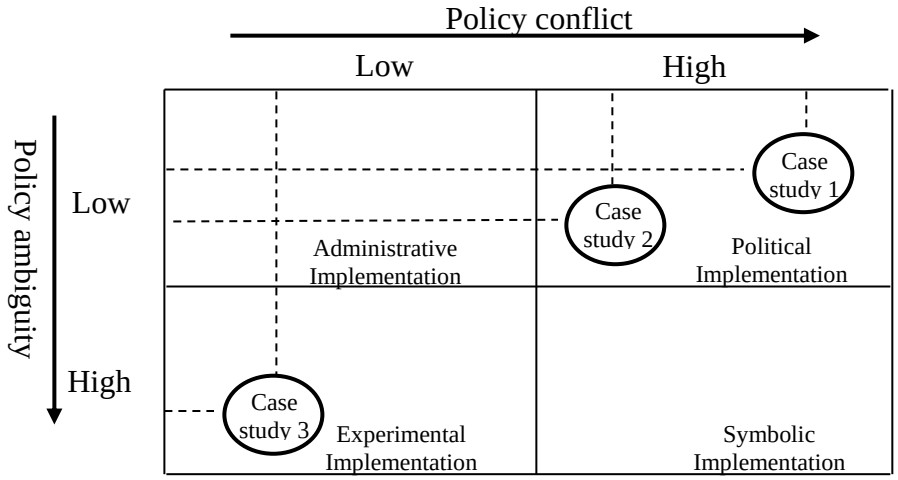


Figure 9: Typology of REDD+ implementation across three case studies

Before elucidating the implications of the identified REDD+ implementation typologies, we demonstrate below how the performance of these forest-related REDD+ activities is also linked to interactions with preexisting forestry regulations.

## 6.5 Outcome-level interactions between forestry institutions and REDD+ projects

Gehring and Oberthür's theory of institutional interaction was applied to investigate behavioural interactions between forestry rules and REDD+, outlining how their outcomes affected the behaviour of local REDD+ actors. The findings suggest that three forestry institutions have considerable impact on the effectiveness of REDD+: community forestry rules, timber processing rules and reforestation rules. As illustrated below, these behavioural interactions largely undermined REDD+ project outcomes.

### 6.5.1 Community forestry rules and REDD+

Three features related to community forest regulations that affect REDD+ project outcomes in select case studies are i) the complexity of procedures; ii) their incompatibility with local norms, and iii) failure to control encroachment by outside loggers. The 1994 Forest Law introduced community forests to meet the objectives of decentralisation, local community empowerment and rural employment (Logo, 2003; de Blas et al., 2011). However, instead of devolving power, new rules such as the

requirement of central approval of community forestry management plans increased state control, weakening the ability of communities to make their own decisions, which impacted livelihoods. This is most evident in the forest-rich area in the South, as indicated by these quotes:

> *We are not on board with this, it is all as if we have been deprived of our freedom. You have to go to the state, you have to do all the paperwork and it is costly. We had always known how the forest was shared among families here, but when they say that it belongs to the state, can someone [logging company mandated by the state] enter into the forest of a village and just start working? That just creates a disorder! We were well organised and the law created social disorganisation at the community level (Local actor from case study 1).*

The frictions between statutory forestry rules and customary rules on access and use of forest resources have further weakened local communal resource institutions leading villagers to establish private plantations within community forests and claim ownership of trees. They then sell these trees to nearby logging operators. The resulting rush in land clearing undermines forests and subsequently REDD+ outcomes as illustrated by a community leader from the South:

> *Villagers have developed a taste for this, you would hear them say "I worked this plot, this is my tree,". This made them lazy, they would spend time walking in the forest in search of certain trees species, and when they find those they clear the area underneath to claim ownership of the plot. What happens then when the government authorises forest companies to extract timber in nearby areas? As they drive through the community forest to their logging sites, if they see valuable tree species they will negotiate sales with the self-proclaimed plot owners. And while the state thinks these operators are logging in the sites they were shown, they are working elsewhere instead. It is pitiful. Before we knew, all the trees were gone." (Local actor from case study 2)*

Timber theft has also spread like wildfire in the region and a new local term has emerged for unauthorised loggers: "*Warap*", which means "*very fast, quickly done, done immediately, speedy forest clearers"* (interviewee). The inability of the administration to enforce its own forest rules and control encroachment further exacerbates the problem:

> *These Waraps make it through all the timber checkpoints and clearance all the way to the port: Would they succeed if the government did not grant them the licenses and consignments? Then they come to the village and say we should preserve the forest. Anyway, I need money and if I find the way I will continue to deal, they will go sort it out up there. (community forest beneficiary).*

### 6.5.2 Local timber processing rules and REDD+

The 1994 forest law also sought to increase local timber processing through tax incentives, restrictions on the export of unprocessed round logs, and compelling logging companies to set up local wood processing facilities. Local timber industries support livelihoods and eases pressure on forest resources. If effectively implemented, it could also synergistically support REDD+ outcomes. However, sawmills in the Djoum subdivision of the South region closed down. People reverted to exploiting forest resources, with adverse effects on sustainable forest management projects in the South and far-reaching ramifications on reforestation projects in the West. A forestry official from the South explained:

> *there was a sawmill here that hired many people, so locals were busy at work. Since the company shut down, people have been jobless and are engaging in all sorts of crimes. That is why I say that illegal practices are to some extent linked to unemployment. […]. The sawmill that closed down was special in that it processed wood within this subdivision and employed a whole team. When timber is processed here, wood waste is collected to supply a local industry: there were charcoal makers who lived out of charcoal production. Some locals were involved in charcoal trade. Those who own a stroller would transport charcoal to the marketplace. Others earned money on loading charcoal on trucks for shipment to major cities. From wood waste, some could make a chair or a bed, so there was something for everybody and fewer problems; poaching or illegal logging were minimal. (forest official)*

The growth of unauthorised logging has compromised the outcomes of sustainable forest management initiatives and is compounded by failures in the timber monitoring chain, which affects the domestic timber market and REDD+ reforestation projects. The

domestic timber market is supplied by artisanal logging from the non-permanent forest estate, which includes community forests (Robiglio et al., 2013; Mahonghol et al., 2017). While domestic timber demand is increasing, unauthorised logging in community forests is mostly for export, which reduces domestic wood supply and increases pressure on trees planted in less forested regions. Participants from case study 3 in the savanna area reported:

> *The reserve is exposed, there are entry points everywhere and heavy pressures from unauthorised cuts for firewood and timber. Residents intrude in the reserve to steal wood to meet their household energy needs, for construction and to sell. (participant)*

### 6.5.3 Reforestation areas and REDD+ projects

In case study 3 within the West region, REDD+ project outcomes have been compromised by outcome-level interactions from reforestation rules. According to the 1994 forest law, reforestation sites are to provide forest products and/or protect fragile ecosystems. The Bana-Bapouh forest reserve in West Cameroon was planted with Eucalyptus to prevent landslips. The plantation negatively affected local livelihoods, which in turn eroded adhesion to REDD+ reforestation activities. Locals suggest that eucalyptus has a number of detrimental effects on both farming and animal husbandry:

> *"Eucalyptus sucks a lot of water, so farmers are now obliged to go down in swampy areas to create farms, and there is not enough space for everyone there."(farmer)*
>
> *"Moreover, grasses do not grow around these trees, because eucalyptus roots are not only very invasive, but their leaves also render the soil sterile when they shed. So now, we have to take our cattle very far away from the village to feed them." (pastoralist)*

Different forms of resistance, such as claiming ignorance, are used locally to avoid open conflict. Conversely, forest officers, who are aware of the impacts of the reserve are reluctant to act against encroachment as reported by a forest officer from the West region:

> *The reserve was created long ago, in 1947, and the Whites who created it did not leave any map; we cannot find the maps and the*

> *boundaries, which hampers reforestation. [...]. The council does not know where the reserve lies, since the people from 1947 are no more, and when we ask the elderly they would rather say they do not know even if they do, for fear of being told they encroach upon the reserve. The reserve has therefore been invaded by people convinced they are on their land. We cannot expel them, where would we relocate them? So, it is a little difficult. (forest officer)*

Figure 10 sums up the outcome-level interactions between forestry institutions and REDD+ projects.

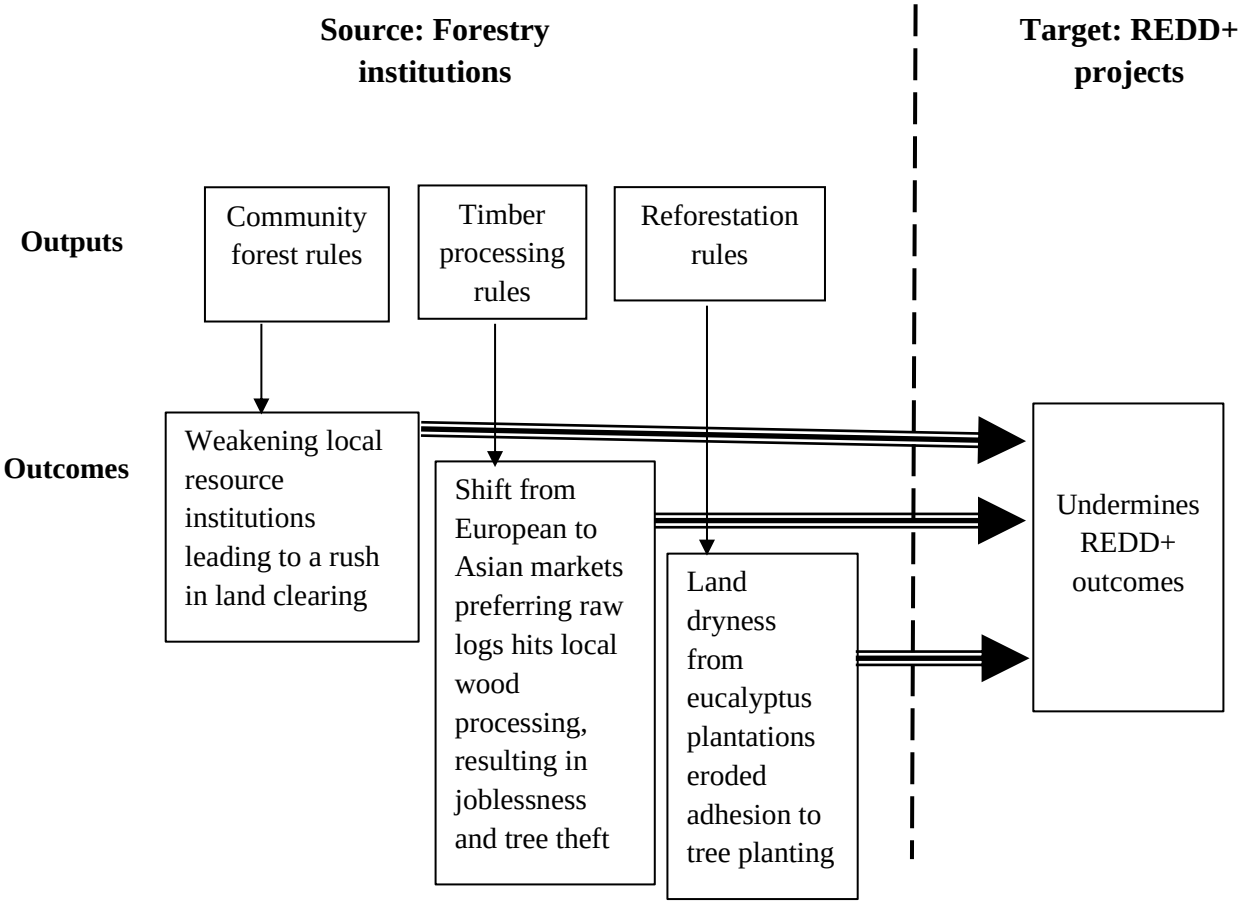


Figure 10: Outcome-level or behavioural interplay between forestry institutions and REDD+

The analysis of institutional interactions shows that central actors have been further ignoring other important drivers of deforestation that are linked to weaknesses in forestry institutions. In the two forest-rich case studies in the South of the country, the weakening of local institutions managing community forests is driving further deforestation. In

addition, the failure to effectively incentivise sustainable local forestry enterprises that can provide local jobs and support livelihoods fuels further deforestation. The findings also reveal important international drivers of deforestation in addition to weakness in enforcement of forestry institutions. Finally, the use of fast-growing non-native species in reforestation projects, while sensible from a productive forestry perspective, denotes another failure in terms of lack of consideration of negative impacts on local livelihoods. The above analysis shows that REDD+ implementation cannot ignore institutional failures in forestry institutions.

## 6.6 Discussion

The identification of REDD+ implementation typologies based on the assessment of conflict and ambiguity indicates that REDD+ projects in case studies 1 and 2 from the South matches political implementation, in which power determines implementation outcomes. Case study 3 from the West region represents experimental implementation, in which contextual conditions determine project outcomes.

Political implementation features low ambiguity and high conflict level. As observed in other settings, high levels of conflict emerged from diverging framing between central and local actors of the main drivers of deforestation (Uggla et al., 2016; Isyaku et al., 2017). By blaming small-scale agriculture for deforestation, central actors in practice support the interests of the large-scale rubber plantation in Djoum that involved the clearing of 40,000 ha of forest, and the Nkout iron ore mining permits in forest zones and associated railroad construction at the expense of forests (Assembe-Mvondo et al., 2015; KPMG, 2013). Similar biases towards small-scale deforestation drivers have been found throughout REDD+ projects (Bos et al., 2020). Conflict in this case is triggered by local actors' perceived injustice linked to such framing (Meierding, 2016). Central policy designers also seem to have limited knowledge of appropriate alternative livelihood activities. They see agricultural intensification as the way to mitigate climate change. Improved crop varieties may, however, not suit local conditions and mineral fertilisation may even contribute to the displacement of greenhouse gas emissions (Gockowski & Asten, 2012; Zhang et al., 2013; Atela et al., 2016).

According to the framework, instances of political implementation are determined by power dynamics. Depending on the balance of power between actors, project goals in the forest-rich cases can be achieved either through coercion or negotiation. In forest-rich tropical countries, central forestry bureaucracies tend to retain most power, because they control substantial resources (Wibowo & Giessen, 2015). However, in the context of voluntary REDD+ initiatives, local implementers retain a level of agency often expressed through forms of resistance such as refusing to take part in REDD+ projects altogether, in selected project activities, or failing to adopt suggested land use practices as evident in selected case studies. Consequently, negotiation remains key for compliance. Policy designers' ability to broker locally appropriate solutions that preserve implementers' preferences and minimise labour would be key for eliciting compliance and improving REDD+ implementation outcomes. Previous studies on REDD+ implementation in Cameroon highlighted the need to enhance local capacity in REDD+ practices (Cerbu et al., 2013; Chia et al., 2013). While capacity building could be sufficient in instances of experimental implementation where contextual conditions and skills determine projects' outcomes, alone they are unlikely to lead to progress in the case of political implementation where projects' aims are contested.

Selected case studies corroborate that policy conflict and ambiguity are often negatively correlated (Regan, 1984). One key reason is that ambiguous policies help to defuse conflicts around policy goals, because they can accommodate different views and interests under the same framing (Uggla et al., 2016). In case study 3 within the Western Savanna area, low level of conflict occurs with high level of ambiguity about REDD+ project objectives. Beneficiaries' lack of awareness about carbon credits in Bana-Bapouh resonates with the findings from a similar project in Mount Cameroon where REDD+ carbon payments were not discussed to avoid disappointment in a context of funding uncertainty (Awono et al., 2014). Indeed, unfulfilled expectations has been a major problem in many REDD+ contexts and management of expectations remains a major challenge (Massarella et al., 2018). Ambiguity could be a common feature of newly introduced forest protection initiatives where implementers adjust to novel practices or venture into unchartered territories as has been the case for FLEGT (Giurca et al., 2013). Policy ambiguity is also often used politically to achieve certain outcomes, while hiding

true intentions. In Ghana, for example, ambiguity around forest decentralisation policies was used to disguise a drive toward recentralization from donors (Teye, 2011).

Low level of conflict in case study 3 is in part explained by well-functioning customary institutions. Among the Bamilekes, traditional chieftainship is deeply entrenched and the moral authority of local dignitaries high, which explains rule adherence (Fowler, 2011). The position of case study 3 on the forest transition curve (Angelsen, 2007) provides further explanation for lower levels of conflict; in the western savanna where there is less forest, slash-and-burn is uncommon, implying limited change to existing practices, and thus easier adoption. In this experimental implementation case, contextual conditions are likely to determine project outcomes, which include availability and local control of resources, as well as human and social capital. Thus, in this case the institutional capacity of local authorities to support communities and adapt the national REDD+ strategy to the local context is central to effective REDD+ outcomes.

Overall, Matland framework has permitted to determine the implementation typologies of three case studies based on conflict and ambiguity assessment, and to identify the factors that influence implementation oucomes in each. The findings have shown that case studies 1 and 2 from the South are instances of political implementation where power determine implementation outcomes (figure 1 and 3); and since power between designers and implementers is balanced due to the voluntary rather than mandatory nature of REDD+ projects, negotiation or policy designers' ability to propose solutions that meet implementers' preferences and minimise labour would be key for implementation outcomes. The case study from the West region features experimental implementation where contextual conditions determine project outomes (figure 1 and 3); thus, resource availability and social capital would matter for REDD+ implementation outcomes. The findings further indicate how local culture and its implications for the scale of change (Mazmanian & Sabatier, 1983) influence implementation typology. In areas featuring high conflict levels in the forested South, local knowhow diverged significantly from introduced practices. The opposite occurred in the western region where limited change to local practices eased project adoption and minimised conflict. Thus, an enhanced understanding of cultural institutions that shape community behavior and influence

implementation typology and outcomes would improve understanding of REDD+ project outcomes.

Matland framework' s narrow focus on factors internal to the policy domain misses important external influences that directly impact REDD+ projects' outcomes. Expanding the analysis to include institutional interplay showed how interferences from forestry regulations and their implementation failures impacted local resource availability and weakened local institutions, jeopardising REDD+ outcomes. Misguided decentralisation processes that criminalise customary forest access and fail to devolve power and resources to local actors are better understood as attempts to recentralise control of community forests which disenfranchise underprivileged forest villages such as Nkolenyeng (Oyono, 2004; Cheka, 2007; Yufanyi Movuh, 2012). Resistance to such recentralisation has been observed across tropical forest countries and translates into lack of compliance with community forest rules, leading to practices that have accelerated forest degradation and reduced the efficacy of REDD+ projects (Benjaminsen, 2014; Asiyanbi & Lund, 2020). Further, the inability to incentivise sustainable local forestry enterprises providing local jobs and supporting livelihoods has also been identified as a common failure of forest conservation as well as REDD+ programmes (Epanda et al., 2019; Sene-Harper et al., 2019).

In Cameroon, the failure to enforce export restrictions of raw logs intended to incentivise local timber processing, and the shift from the European to Asian markets preferring raw logs (Kaplinsky et al., 2007; Cerutti et al., 2011; Eba'a-Atyi et al., 2013) has transformed a policy that could be synergistic with REDD+ into one that worsened local living conditions and fuelled deforestation. This has significant ramifications for reforestation projects facing growing national demand, as timber from the non-permanent forest estate is increasingly channelled towards export due to unauthorised practices and limited enforcement of forest rules (Robiglio et al., 2013). While the EU-led FLEGT agreement which tracks wood from harvest to export is potentially synergistic with REDD+ (Tegegne et al., 2014), it could also reorient trade toward unprocessed timber markets (Eba'a-Atyi et al., 2013), further disincentivising local wood processing. Such unintended consequences would represent a disruptive outcome-level interplay between FLEGT and REDD+.

By combining a policy implementation and institutional interaction framework, this research offers a more comprehensive examination of local REDD+ implementation in Cameroon that takes account not just of factors within the climate change policy boundaries, but also external influences from interrelated institutions. While previous REDD+ studies raised a number of implementation problems recommending they be solved for successful REDD+, this study shows that not all problems are determinative for implementation outcomes in all settings and demonstrates how influential factors for project outcomes are carved by specific implementation circumstances. The study has thereby introduced a prioritisation approach for addressing project implementation challenges that has the merit of maximising the effectiveness and efficiency of interventions and would be particularly important for economically underprivileged tropical countries that host REDD+ programmes.

## 6.7 Conclusion

This chapter has analysed the implementation typology of three REDD+ projects in South and West Cameroon to identify the key determinants of their outcomes and examined how these have been shaped by interactions from the outcomes of forestry regulations. The findings reveal that REDD+ projects represented political implementation in the South and experimental implementation in the West. Thus, central policy designers' ability to propose alternatives that meet implementers' preferences and mitigate labour implications are key to improve project outcomes in the South. In the West, the capacity of local actors, their resources and the level of social capital will matter for implementation success. Opposing views on the drivers of deforestation may call for a comparative assessment of emissions profile between shifting slash-and-burn farming practices and improved agricultural methods often supported by energy-intensive industrial processes. REDD+ stakeholders would equally benefit from social capital assessments in project implementation sites showing signs of experimental implementation.

The analysis has further highlighted the need to look beyond a specific REDD+ policy domain to understand conflict and failures in REDD+. Forestry regulations that pursue the identical goal of sustainable forest management can still conflict with REDD+ at the operational level. The limited devolution of power and of resources that occurred under

Cameroon's approach to decentralisation has exacerbated the community forest crisis and hampered forest carbon emission reduction projects as well as forest restoration activities. This study posits that REDD+ schemes would be aided by measures to improve forest governance and promote local timber industry. The next chapter reflects on the findings of all three empirical chapters on REDD+ integration, implementation and interaction.

# Chapter 7: Discussion

## 7.1 Introduction

This chapter discusses the overall findings of the thesis and reflects on how these meet the initial research needs in line with REDD+ integration, implementation, and the effects of institutional interactions in Cameroon. The first part begins by restating the research questions and summarising the findings in section 7.2. These are then reframed through new analytical lenses in section 7.3, borrowing from the notion of New Environmental Policy Instruments (NEPIs) and Sabatier's theory of the policy process (Sabatier, 1998). The related section illustrates how the identified frictions to REDD+ integration into national settings, and the observed outcomes of REDD+ implementation at the local level exemplify the repercussions of introducing NEPI within a government system. Setting the scene for these analyses, subsection 7.3.1 outlines the background of NEPI in environmental governance. Subsection 7.3.2 then explains how the introduction of NEPI have played into REDD+ integration into land use sectors. Related implications for local REDD+ implementation are discussed in section 7.3.3, which enlists Sabatier's theory of the policy process. Subsection 7.3.4 then draws on the concept of compatibility between NEPI and traditional regulations to shine further light on the outcomes of REDD+ projects implemented within an existing forest regulatory system, further explaining the observed outcomes of institutional interactions. In section 7.4, the findings of the thesis are reconciled with each of the research needs that prompted the study, from subsection 7.4.1 through 7.4.4. These culminate in section 7.5 that highlights the remaining gaps and limitations of the research, and suggests new pathways for future studies.

## 7.2 Revisiting the research questions and findings

The overriding aim of this thesis has been to scrutinise REDD+ operationalisation in Cameroon through four research questions:

i. To what extent is REDD+ policy integrated into land use sectors driving deforestation?
ii. What is the potential for the organisational structure of the Cameroonian REDD+ scheme to facilitate REDD+ integration into land use sectors?

iii. What are the key determinants of the outcomes of REDD+ projects implemented in South and West Cameroon?
iv. How are REDD+ project outcomes shaped by institutional interactions with forestry regulations?

The first research question is addressed in the fourth chapter, which draws on Candel and Biesbroek (2016)'s EPI framework to evaluate REDD+ policy integration across the four EPI dimensions of policy frame, sector involvement, sectoral coordination, and policy instruments. The findings suggest that the framing of or support for sectoral REDD+ integration at the macropolitical level has been polarised. On the one hand, policy actors from the environmental department have expressed faith in the virtue of a multisectoral approach to tackling deforestation. On the other hand, forestry policy actors believe addressing forest matters is incumbent upon the forestry administration. The findings further indicate that decision makers from land use sectors are aware that they should be part of the solution to deforestation, but have been poorly involved in the REDD+ policy process due to knowledge deficit about forest matters and the associated REDD+ scheme, and lack of motivation. Sectoral incoherence and land use encroachment have compromised sectoral coordination, and policy instruments such as land use planning and environmental impact assessment that could have aided sectoral REDD+ integration have been undermined by legitimacy problems and loopholes.

The second research question has been the focus of chapter 5, which built on the conceptual literature on organisational structures for EI (Lafferty & Hovden, 2003; Nunan et al., 2012) to examine the organisational arrangements of the Cameroonian REDD+ scheme and its potential to aid REDD+ integration into land use sectors. The findings have revealed that REDD+ arrangements currently led by the environmental and forest departments and featuring a cross-sectoral and multi-actor steering committee align with horizontal integration. When such arrangements infuse the REDD+ process with technical expertise from the leading departments, they expose REDD+ integration to land use sectors' resistance and funding difficulties inherent in the weak authority of the environmental department devoid of the authority to influence decision-making within ministries occupying the same hierarchical rank.

The third research question on local REDD+ implementation has been treated in chapter 6, building on Matland (1995)'s framework for policy implementation. The findings indicate that REDD+ projects in the South region feature clear goals and high conflict intensity between national policy designers and local project implementers, which according the Matland's framework reflect a specific typology labelled as 'political implementation'. In this case, implementation outcomes are determined by power dynamics between conflicting entities. In forest-rich tropical countries, central forestry bureaucracies tend to retain most power, because they control substantial resources (Wibowo & Giessen, 2015). However, in the context of voluntary REDD+ initiatives, local implementers retain a level of agency often expressed through forms of resistance such as refusing to take part in REDD+ projects altogether, in selected project activities, or failing to adopt suggested land use practices as evident in selected case studies. Consequently, negotiation remains key for compliance. In other words, national policy designers' ability to satisfy community preferences is important for REDD+ outcomes in the South. In the West region, the REDD+ pilot has featured high ambiguity level and low conflict intensity, reflecting the typology that Matland labels as 'experimental implementation'. As such, contextual conditions such as the availability of resources and local expertise to adapt national policies to local realities are central to project outcomes.

The fourth research question is equally addressed in chapter 6 which draws from Gehring and Oberthür (2009)'s framework on institutional interactions to investigate how REDD+ outcomes are shaped by interactions with the effects of forestry regulations. The results illustrate how community forestry rules instituted to meet the objectives of decentralisation have instead imposed new rules such as the requirement of central approval of community forestry management plans, increasing state control and weakening the ability of communities to make their own decisions, which led to a spike in unauthorised logging in the South region. Further, failure to enforce the regulation on export restrictions on raw logs intended to incentivise local timber processing transformed a policy that could be synergistic with REDD+ into one that worsened local living conditions and fueled deforestation in the South. In the West region, the adverse effects on local livelihoods of Eucalyptus plantations supported by reforestation rules eroded

adhesion to REDD+ reforestation activities. The second part of the chapter interprets these findings through new analytical lenses.

## 7.3 Reframing the research findings

This section explains the research findings through the notion of New Environmental Policy Instruments (NEPI) introduced next, and Sabatier's theory of the policy process presented in the relevant subsection.

### 7.3.1 REDD+ within a NEPI framework

The growing dissatisfaction with regulatory policies in environmental governance has prompted a shift toward increased use of non-regulatory tools or NEPIs such as market-based instruments, voluntary agreements, and informational devices or eco-labels (Jordan et al., 2005). Although well suited to deal with point source environmental problems stemming from single identifiable origins, state-controlled regulations have proven inadequate to police diffuse problems generated in multiple locations (Jordan et al., 2003). NEPIs appear more effective and efficient at internalising the externalities of development projects, promote shared responsibility in achieving sustainability, and redress the shortcomings of traditional regulations, which are costly to enforce and hardly ever fully implemented (Jordan et al., 2003). This has been the case with the Cameroonian forestry policy implementation, where understaffing and limited resources following the 1990s economic downturn and related austerity measures compromised forest law enforcement (Cerutti & Tacconi, 2008). The ensuing spike in illegal logging in an increasingly globalised timber trade prompted the adoption of NEPIs, including the EU-led FLEGT voluntary partnership agreement, forest certification programmes, and PES such as REDD+.

The introduction of NEPI entails that the central administration loses its steering ability as control is displaced sideways to other national actors, upwards to international organisations, and downwards to devolved localities (Pierre & Peters, 2000). Unlike regulatory instruments that grant central actors the police power to overcome defiance and attain compliance, NEPIs focus on governing mechanisms that do not rest on recourse to the authority and sanctions of the government (Jordan et al., 2005). Implementing the

UNFCCC-led REDD+, a market-based mechanism involves that the international climate change convention oversees forest governance and stimulates compliance among national and local stakeholders through a price signal. Such displacement of power away from central administration explains why the adoption of NEPIs has been met with opposition from much of the state administrators, with their vested interests in command-and-control regulations (Hanley et al., 1990). As discussed below, this has affected REDD+ integration in Cameroon.

### 7.3.2 REDD+ integration into land use sectors

The treatment of the first research question on REDD+ integration into land use sectors in the fourth chapter suggests the integration process has been derailed by forest actors' territoriality over forest-related responsibilities, which they view as a prerogative of the forestry administration. This is indicative of their opposition to the sapping of their control over forests as has been manifest across Congo basin countries with previous NEPIs. Timber-producing countries in central Africa have reportedly felt threatened by new forms of forest governance (Eba'a, 2004). The deployment of certification programs to address the shortcomings of forestry regulations in these states has been perceived as an attempt to curtail national sovereignty and marginalise the forestry administration (Lescuyer et al., 2021). In Cameroon, the deployment of the EU-led FLEGT voluntary agreement fuelled fear among forest officials of an erosion of their sovereignty over the forest (Andong & Ongolo, 2020). As is the case, forest officials' clinging onto the exclusive authority bestowed on them by traditional regulatory systems has thwarted NEPIs in the forest sector and undermined the integration of the REDD+ objective of forest protection into competing land use sectors.

A further barrier to NEPIs implementation that accounts for the observed REDD+ integration challenges is the lack of expertise in newly introduced instruments (Hanley et al., 1990). The adoption of NEPIs such as REDD+ entails that forest officials share their steering responsibility with a wider set of actors, but whether the latter have the necessary competence and knowledge to take up the newly assigned forest responsibility has bred insecurity among land use sectors in Cameroon. Despite their recognition of their contribution to deforestation, land users' low confidence in their technical understanding

of forest matters has limited their engagement in REDD+ development. Such insecurities equally stem from misunderstandings about their role in the REDD+ process. Land use actors question their forestry skills and yet are seldom expected to engage in forest management activities. Instead, they are required to minimise their forest footprint such as through low carbon farming practices. Thus, a clearer apportioning of roles among a stakeholder base broadened by the adoption of NEPIs could improve REDD+ integration into land use sectors.

Apprehension about the competitiveness and economic burden of NEPIs (Hanley et al., 1990) constitute a further challenge that has affected sectoral REDD+ integration. NEPIs are bound to conflict with developmental goals of enhancing economies dependent on resource extractive industries (Taplin, 2004). In Cameroon, conflicts between the REDD+ objective of forest protection and land use goals of boosting farm production, expanding public infrastructure and intensifying mining activities mirror the sectoral coordination problems reported across REDD+ implementing countries (Fujisaki et al., 2016; Korhonen-Kurki et al., 2016). The resulting forestland encroachment could be addressed with adequate policy instruments, including effective land use planning and environmental impact assessment. In other words, although NEPIs seek to address the shortcoming of national regulations, regulatory systems still provide an important support function for their use (Jordan et al., 2005). NEPIs have to be championed and implemented by the administrative structures and procedural arrangements of governments. In most instances, they are overseen by environmental ministries (Jordan et al., 2003).

Interestingly, whether environmental departments have the required agency to mediate the conflicts of interest arising from the introduction of some NEPIs is questionable and has constituted the substance of the second research question. Land use conflicts undermining REDD+ policy integration are rooted in incoherent land use legislations passed at a much higher hierarchical level than environmental ministries leading the REDD+ process. Thus, as highlighted in chapter five, the organisational arrangements of NEPIs have a bearing on their uptake and have influenced sectoral REDD+ integration in Cameroon. The organisational structure of the Cameroonian REDD+ scheme currently led by the environmental ministry and featuring a cross-sectoral steering committee aligns

with horizontal integration (Nunan et al., 2012). Chapter five has illustrated how such organisational arrangements expose REDD+ integration to land use sectors' resistance and funding challenges inherent in the weak authority of the environmental ministry, which lacks the authority to influence decision-making within finance departments and land use ministries. Organisational reforms envisaged by the national REDD+ strategy featuring a Prime Minister's leadership of the REDD+ mechanism have an improved oversight and potential to mediate the sectoral conflicts and economic burden associated with NEPIs introduction. This would explain the strength of environmental mainstreaming in Tanzania under the leadership of the Vice President's Office (Nunan et al., 2012). However, they risk exposing REDD+ development to political instability associated with changes in electoral cycles and agendas. This thesis has proposed an example of hybrid organisational arrangements combining a vertically high leadership of the REDD+ mechanism supported by a horizontal board of requisite competencies drawn from across the government, with an enhanced capacity to boost REDD+ integration into land use sectors at the national and local levels. Evidently, the specific composition of state departments may vary across countries depending on the allocation of responsibilities among ministries in each setting.

### 7.3.3 Determinants of local REDD+ implementation

As a NEPI, REDD+ implementation entails a displacement of some agencies from central forest actors downward to local communities whose livelihoods are intertwined with deforestation. This creates a constellation of actors across national and local jurisdictional scales with often diverging interests and views (Mustalahti et al., 2012). As Sabatier (1998)'s advocacy coalition framework conceives in such circumstances, actors with similar beliefs congregate into groups and the most powerful coalition sets the direction of policy implementation. On the other hand, Matland (1995)'s policy implementation framework intimates that beyond power dynamics among actor coalitions, the clarity of policy or project goals to frontline implementers equally influences implementation outcomes. By pairing varying degrees of conflict between actor coalitions with a range of clarity or ambiguity levels around policy goals, he defines four types of policy implementation and establishes the key determinants of outcomes for each. In essence,

when the views of different coalitions converge and policy goals are clear, policy implementation is deemed administrative and outcomes are mainly determined by the availability of resources such as staff and facilities (Matland, 1995). As illustrated in chapter six, REDD+ projects from South Cameroon have featured clear goals and high divergence of views or conflict between national policy designers and local implementing communities about the drivers and solutions to deforestation, matching political implementation (Matland, 1995). In such instances, outcomes are determined by power dynamics between conflicting coalitions (Matland, 1995). When power is uneven, the most powerful coalition tends to impose its view through coercion. If power is balanced, negotiation would determine policy outcomes (Matland, 1995). In many forest-rich tropical countries including in the Congo basin, forestry regulations have awarded enormous power and influence to forest officials (Lescuyer et al., 2021). However, NEPIs such as REDD+ shift a level of agency to local implementers (Pierre & Peters, 2000), indicating that power among conflicting national and local coalitions would be balanced in the context of REDD+ implementation, and that negotiation is key for project outcomes in the South. Thus, national policy designers' ability to propose solutions that satisfy implementers' preferences would matter for REDD+ outcomes in South Cameroon. NEPIs hardly operate in an institutional vacuum but alongside existing regulations which equally colour REDD+ outcomes.

### 7.3.4 The outcomes of local institutional interactions

Adding a NEPI to an existing policy system can lead to a variety of effects from complementarity to counterproductivity (Lescuyer et al., 2021). Environmental policy scholars have theorised the compatibility of different mixtures of policy instruments, distinguishing combinations that are inherently complementary, inhibitive, and those whose pairing outcomes depend on the prevailing politico-cultural environment (Gunningham & Sinclair, 1999). Accordingly, the combination of market-based instruments in the form of supply-side incentives and command-and-control regulations that target environmental performance are inherently complementary (Gunningham & Sinclair, 1999). However, the assessment in chapter six of interactions between forestry regulations and REDD+, a supply-side market-based instrument suggests that

Gunningham and Sinclair (1999)'s conjecture is true to an extent. In theory, the community forest regulation that seeks to improve community involvement in forest governance would act synergistically with the REDD+ mechanism that incentivises local stakeholder participation in forest affairs. Yet, statutory bureaucracies in the community forestry regulation such as the requirement for central approval of community forests' management plans have increased state control rather than empowered rural communities, weakening local communal resource institutions, and fuelling timber theft in ways that undermine instead of complement REDD+ outcomes. In a similar vein, regulatory restrictions of raw log export intended to boost local timber processing, create jobs, improve local livelihoods, and relax the pressure on forest resources would conceptually operate in complementarity with REDD+ incentives to reduce deforestation and enhance local livelihoods. However, the tightening of timber flow to the European market because of FLEGT VPA adoption and the resulting rerouting of tropical timber toward less stringent Asian markets that have a considerable preference for raw logs (Cerbu et al., 2011; Eba'a-Atyi et al., 2013) hit local timber processing industries and living conditions, leading to more pressure on forests. These unintended counterproductive interactions stemming from the outcomes of forestry regulations are poorly captured by theories of policy instrument combinations focused on policy outputs or norms. Manifestly, Gunningham and Sinclair (1999)'s claim that regulatory and market-based instruments display complementary tendencies mostly applies to policy outputs. This thesis posits that at the outcome level, the compatibility of related policy instruments might depend on the prevailing politico-cultural context. The next section illustrates how the overall findings of the thesis have met the initial research needs.

## 7.4 Linking the findings to the research needs

As assessed in the second chapter, previous research on sectoral REDD+ integration has focused on the challenges of coordinating across land use sectors, paying little attention to the role of political support, policy instruments, and organisational arrangements. Further, studies on local REDD+ implementation have identified the potential barriers to REDD+ project uptake, but the way implementation contexts determine the most influential factors for implementation outcomes in a given setting remained poorly

understood, as well as the effects on REDD+ of the outcomes of existing forestry institutions. This section reflects on how the findings have filled each of these research needs.

### 7.4.1 Level of political support and adequacy of policy instruments for REDD+ integration into land use sectors

The first research objective of assessing REDD+ integration into land use sectors stemmed from the need to probe the level and underpinnings of political support for incorporating forest considerations into land use sectors, a need born of evidence that agriculture and extractive land use sectors tended to supersede forest protection in various REDD+ countries (Indrarto et al., 2012; Kengoum & Tiani, 2013). Only by unpicking the motives behind such apparent low political will and lack of viable policy instruments to facilitate REDD+ integration could interventions be tailored appropriately.

The analyses in this thesis within the context of Cameroon have corroborated but also contradicted and added new insights to existing conjectures on the low level of political will. Previous studies hinted that political support for forest preservation had been wiped out by the financial might of other land uses and the lack of environmental awareness by land use sectors (Saito-Jensen et al., 2015; Namaalwa & Byakagaba, 2019). Research conducted in Indonesia, for example, reported that revenues from palm oil plantations and open-pit mining were too high for REDD+ payments to outcompete and succeed in boosting government interest and willingness to nudge forest preservation into land use routines (Wulan, 2012). Further studies had revealed that despite the retreat of the forest to farmlands in Uganda, Tanzania, Zambia, and Kenya, national agricultural policies continued to promote agriculture expansion and heavy machinery use while remaining silent on addressing deforestation, indicating a lack of environmental awareness (Kalaba et al., 2014; Atela et al., 2016; Namaalwa & Byakagaba, 2019).

Conversely, this thesis found that there is a reasonable level of environmental awareness among land use sectors in the context of Cameroon, where political will for sectoral REDD+ integration has also proven low. Representatives from the departments of agriculture, livestock and mining recognised their sectors are responsible for deforestation

and acknowledged they should be part of the solution. However, they avowed lacking the skill and confidence to engage in forest activities. Thus, political will to adopt modern environmental policy instruments such as REDD+ that scatters forest-related responsibilities from the forestry administration to other land use actors can be undermined by the feeble grip or limited knowledge of these actors to handle the new responsibility. Further, in a context where NEPI such as the REDD+ scheme attract an array of actors around forest activities, articulating the role of each player can alleviate concerns of overlapping attributions and enhance the sense of ownership necessary to boost support for REDD+. While environmental awareness among land use actors proved perceptible in the sectors of agriculture, livestock and mining, the representative from the department in charge of public work appeared unaware of the impact of public infrastructures on forests, claiming that most road construction projects merely consist of improving existing trails. Their oblivion of the impact of large-scale infrastructures such as seaport and hydroelectric dams, which have involved substantial forest clearing, aligns with existing studies attributing poor political will to limited environmental awareness (Dalal-Clayton & Bass, 2009).

This thesis has further generated new insights on the underpinnings of political will for integrating forest considerations into land use sectors by uncovering that the opposition of forest actors to REDD+ attempts at slicing their once exclusive authority on forest matters weighs down efforts to integrate forest-related responsibilities into alternative land use sectors. An additional and equally important reason behind the limited interest in REDD+ among land use sectors in Cameroon has been the relatively high financial income of alternative land uses, as has been the case for palm oil and mining in Indonesia (Indrarto et al., 2012; Kengoum & Tiani, 2013). In Cameroon where land use sectors form the backbone of the country's economy, actors have questioned whether REDD+ could contribute as much to the GDP. Colossal benefits from alternative land uses reflect market failures that exclude the ecological costs of land use projects in cost-benefit analyses (Sandler, 1993). Hence the importance of introducing policy instruments that internalise carbon costs in land use projects, such as forest carbon taxes, instituting a disincentive on land use projects responsible for forest-based emissions, would level the playing field

between extractive land uses and forests, and thus improve the competitiveness of REDD+ payments and by extension the political will for sectoral REDD+ integration.

### 7.4.2 The role of organisational arrangements for REDD+ integration into land use sectors

The second research objective of evaluating the potential for REDD+ organisational arrangements to aid REDD+ integration into land use sectors stemmed from evidence that the fragmentation of forest-related responsibilities across multiple land uses causes conflicts between forests and alternative land uses (Lestrelin et al., 2013), but remained poorly remedied by existing REDD+ arrangements. These have essentially consisted of cross-sectoral platforms led by the environmental or forestry departments and bringing together representatives from various land use sectors (Fujisaki et al., 2016; Korhonen-Kurki et al., 2016). In theory, such multisectoral arrangements would foster cooperation across sectors and aid policy alignment between forest and alternative land uses, but empirical evidence suggested otherwise. Cross-sectoral REDD+ platforms in Brazil, Cameroon, Tanzania and Vietnam did not necessarily achieve policy alignment among land use sectors (Korhonen-Kurki et al., 2016). Reportedly, the resolutions of these platforms have had little influence on land use sectors due to the weak influence of the environmental department chairing the process, hence calls for a higher-level leadership of the REDD+ mechanism (Korhonen-Kurki et al., 2016; Chia et al., 2019). Taking the case of Cameroon where similar arrangements were adopted, this thesis has scrutinised the shortcomings of these cross-sectoral arrangements and shined a light on whether the proposed higher-level leadership would fare better.

The thesis has illustrated that under the leadership of the environmental or forestry departments, these multisectoral platforms and the overall REDD+ policy process is imbibed with the technical expertise of leading departments, which is crucial to navigating the conceptually novel and reputably complex REDD+ mechanism. This further permits REDD+ policy actors to draw on their networks and experiences in leading the country at global climate change forums. However, land use departments are hardly answerable to the environmental department, which occupies the same hierarchical rank in the ministry pecking order. Thus, the capacity of environmental or forestry ministries to impress policy

reforms within other sectors or influence funding priorities in the ministry of finance has been limited. Equally limited has been their institutional ability to oversee the required policy instruments to incorporate forest considerations into competing land use sectors, such as land use planning and carbon levies. Although presented as a remedy to the conflicting land use allocations that hinder REDD+ development (Robiglio et al., 2014; Runhaar, 2016), land use planning has proven ineffective in addressing forestland conversion for oil extraction in Ecuador and mining in Cameroon (Kengoum & Tiani, 2013; Loaiza et al., 2017). In fact, conflicting land uses are rooted in inconsistencies among land use legislations passed or handled within parliamentary or presidential institutions above the remit of the environmental department. Similarly, it is beyond the purview of the ministry of environment to design and operationalise carbon levies or the financial disincentives needed to internalise forest carbon emissions in the cost-benefits analyses of land use projects responsible for deforestation. On the other hand, the thesis has illustrated that the leadership of the REDD+ policy process by the Prime Minister's office, a higher-level institution as advocated by other authors (Chia et al., 2019) would constitute an improved yet hardly sustainable alternative. Such higher leadership would indeed boost political support for policy reforms, but risks exposing the REDD+ process to political shifts. The thesis has proposed an example of hybrid organisational arrangements for the REDD+ mechanism, outlining how this minimises the weaknesses of existing cross-sectoral arrangements and the contemplated high-level leadership of the REDD+ process all the while maximising their respective strengths.

### 7.4.3 Influential factors to local REDD+ implementation

The third research aim of unpicking the way implementation contexts determine the most influential factors for local REDD+ outcomes arose from disparities in existing literature about the barriers to local REDD+ implementation. While a range of factors including tenure insecurity, knowledge deficit, and benefit-sharing disagreements have been presented as major impediments needing to be fixed for successful REDD+ outcomes (Cerbu et al., 2013; Lasco et al., 2013), in other instances they seldom prove a hindrance for REDD+ implementation (Resosudarmo et al., 2014). In tropical countries featuring a duality of statutory and customary governance or tenure systems, it has been reportedly

challenging to design REDD+ benefit-sharing schemes that take account of right holders (Luttrell et al., 2012). This led many to sustain that solving the problem of ambiguous resource tenure is imperative not just to ensure benefit-sharing schemes reward stakeholders that enhance forest carbon stocks on their lands, but also to create a stronger incentive for sustainable forest use (Sunderlin, Larson, & Cronkleton, 2014). Yet while tenure ambiguity impeded community involvement in REDD+ implementation in various instances (Lasco et al., 2013), in others, REDD+ projects improved tenure security especially when planting trees as part of REDD+ activities aided community members to assert their occupation of the land (Resosudarmo et al., 2014). To unpick such differences, this thesis applied the conflict-ambiguity analytical lens for policy implementation to three cases of REDD+ project implementation in Cameroon where the duality of statutory and customary resource governance also prevails.

The study has uncovered that the ambivalence in resource tenure has both impeded project outcomes in the first case study in Nkolenyeng, where tenure duality sparked benefit-sharing conflicts among community members, but had little repercussions in the second and third case studies in Efoulan and Bana-Bapouh where REDD+ implementation circumstances lessened the incidence of related conflicts. In the first case study, the pilot project was implemented within a community forest and replicated the governance and benefit-sharing approaches of the community forest system. Yet community forest arrangements shaped by statutory forestry institutions misalign with customary resource governance and the traditional systems of revenue acquisition. Under the forestry legislation, community forests grant no ownership rights but management rights to beneficiary communities. They must be represented by a legal body overseen by a management committee usually formed by roles such ad chairs, secretaries, or treasurers (Tegegne et al., 2022). The joint incomes generated by community forests are invested in micro projects for local socio-economic development (Piabuo et al., 2018). On the other hand, customary resource governance is overseen by traditional chiefs surrounded by councils of dignitaries representing the varying clans in a village (Diaw, 1997). Unlike the collective model of benefit generation and management under statutory forest institutions, forest benefits in customary institutions are generated at the family or household level. Land and forest resources belong to clans, and individual households

retain exclusive rights over the benefits accrued from the portion of land they clear (Diaw, 1997). In case study one, however, the distribution of carbon benefits followed the statutory approach embedded in community forest arrangements, sparking conflicts among local beneficiaries. Revenues from carbon sales in the first case study were awarded as a collective lump sum, a share of which covered implementation costs and the rest was invested into community projects such as water supply and rural electrification (CED, 2012). Although motivated by the need to enhance the contribution of carbon revenues to local development, the benefits management approach followed by the pilot project departed from the household-level benefit allocation model rooted in customary institutions, fueling conflicts within the community as evident in the account below from a resident.

> *The power generator that the project bought barely lasted and broke down. The one currently in place is the second, which also broke down; so, despite these investments we are still in the dark and I think this is due to the wickedness of community members. Those who could not afford the wire and meter to have their household connected would practice witchcraft to cause the generator to break down. When the idea emerged that the mechanic could have the broken parts fixed in town, not everyone agreed to contribute to the charges, certainly not those who could hardly afford connection wires. If external funding was provided to fix the problem, this will stay in the hands of a few people and the generator would remain untended. This has been the problem with the community forest management. We work together as a village, but the gains are confiscated by a few people. That is why I walked away*.

In response, the community forest management committee claimed that the alleged confiscated gains had been utilised to cover management costs. As it transpires, the transposition of statutory systems instituting collective resource management into a setting historically governed by customary institutions featuring household-level benefit generation and still poorly abreast of the principles of accountability and transparency that underpin collective resource governance has bred conflicts, repeating the shortcomings of community forest management which they sought to address. Reviews of community forest governance have reported that while upward accountability of the management committee to the forestry administration is often undertaken, downward accountability to the community is scarce, and so is community consultation on decisions regarding the projects to be carried out with the joint revenues (Nuesiri, 2022). The ensuing conflicts

were flagged earlier on as responsible for the shift from a collective to an individual profit-making situation where households resorted to negotiating individual exploitation contracts with local timber companies without prior concertation at the village level, resulting in multiple logging contracts operating concurrently within the same community forest, which accelerated forest clearing (Oyono, 2004). The same phenomenon and related conflicts spilling over into REDD+ projects today have pervaded Congo basin countries, most of which feature the same tenure ambivalence and have drawn from the Cameroonian forestry legislation (Fobissie et al., 2014; Moïse, 2019). A survey from the Central African Republic reported that the imposition of bureaucratic statutory procedures on local communities has further facilitated elite capture by disenfranchising the less educated, benefitting the few and wealthy elites, and concentrating the resulting benefits in their hands (Moïse, 2019). In the first case study that matches political implementation featuring high conflict intensity and low ambiguity level, coercion or negotiation defines implementation outcomes. In the context of community forest, coercion has been applied by withdrawing the management agreement rights from some beneficiary communities (Oyono, 2004). Seemingly, however, this has failed to bring about compliance. In the case of REDD+, negotiation could be envisaged by adapting REDD+ institutions and benefits-sharing schemes to customary systems. Evidently, the individualistic approach of customary benefit distribution could involve splitting carbon payments into small portions hardly viable for local development as had been pointed out in a similar context in Kenya (Chomba et al., 2016). Thus, an improved understanding of customary approaches to communal gain management would guide local REDD+ institutions.

The intensity of related conflicts was minimal in the second and third case studies where REDD+ projects sought to introduce alternatives to local livelihoods by supporting farmers in adopting improved agricultural practices and planting trees within their individual allotments. This parallels settings where REDD+ projects were perceived to allow community members to assert the occupation of their land (Resosudarmo et al., 2014). Thus, while some scholars held that solving the duality of statutory and customary systems is imperative for successful REDD+ outcomes (Lasco et al., 2013), the choice of case studies in this thesis has permitted to i) depict contexts where REDD+ can be implemented despite the ambiguity of tenure systems, ii) elucidate how they differ from

settings where overlapping tenure is influential for REDD+ outcomes, and ii) submit that the effect of ambiguous tenure systems on REDD+ implementation could be addressed by designing local REDD+ governance arrangements grounded in customary institutions.

The same logic applies to the barrier of knowledge deficit. When some authors sustained that building the capacity of local stakeholders is necessary for REDD+ success and while this has improved communities' skills in various instances (Cerbu et al., 2013; Ekowati et al., 2016), in others, trained and equipped communities have reverted to their old lifestyles (Lasco et al., 2013). Building on the conflict-ambiguity framework, this thesis has illustrated that capacity building is influential for REDD+ outcomes in instances of administrative and experimental implementation featuring low conflict intensity such as case study three. In case studies one and two, on the other hand, mismatches between scientific and local knowledge compounded by the poor socio-ecological fit of some proposed REDD+ farming techniques fueled conflicts or disagreement between national project developers and local implementers, matching political implementation and resulting in the abandonment of teachings by the community. Thus, training communities in such instances would seldom influence project outcomes.

### 7.4.4 Spill over into REDD+ of the outcomes of forestry institutions

The fourth research objective of investigating institutional interactions between forestry regulations and REDD+ arose from the evidence that frustration among local communities regarding the mismanagement and embezzlement of revenues accrued from forest exploitation deals fueled suspicion around REDD+ payments, compromising participation in local REDD+ activities (Awung & Marchant, 2020; Jacob & Brockington, 2020). This conceded the need for an improved understanding of the ways existing forestry institutions affect REDD+ implementation outcomes. Taking Cameroon as a case study, this thesis has scrutinised the effects on REDD+ outcomes of regulations concerning community forestry, timber exportation, and reforestation. In theory, the community forestry's objectives of improving the participation of local people in forest management and enhancing the contribution of forests to local livelihoods (Tegegne et al., 2022) would operate synergistically with REDD+. Yet this thesis has illustrated the importance of looking beyond such normative considerations in analyses of institutional

interactions and taking account of interactions involving their outcomes. The subsection above has indicated how forestry institutions shaped by statutory governance systems have disrupted customary institutions, fueling a rush for tree clearing within local communities with detrimental implications for REDD+ outcomes. Similarly, the regulation restricting the export of unprocessed timber in a view to encouraging local timber processing, supporting local livelihoods and easing the pressure on forest resources (Eba'a-Atyi et al., 2013) would normally reinforce REDD+. However, the expansion of the Asian timber market preferring raw timber undermined the outcome of the regulatory restriction and the resulting decline in local livelihoods compromised REDD+ outcomes. The forestry institutions equally encourage reforestation activities, which in theory would reinforce REDD+ aim of enhancing forest carbon stocks. Yet, empirical evidence has suggested that tree planting has had various detrimental effects on both farming and animal husbandry, including inducing drought. The resulting reticence by residents to REDD+ tree planting activities evidences counterproductive outcome-level interactions and the need to pay attention to the selection of tree species in REDD+ projects, and broadly to the influence of the outcomes of existing forestry institutions.

Overall, this thesis has addressed the limitations of previous scholarships on i) sectoral REDD+ integration that have poorly taken account of key aspects such as political will, policy instruments, and organisational considerations, and ii) local REDD+ implementation that still required an improved understanding of contextual processes and outcome-driven institutional interactions. Some limitations still prevail and new pathways have been identified which could be explored in future research.

## 7.5 Limitations and pathways for future research

### 7.5.1 Limitations of theoretical frameworks and the research scope

The thesis has drawn on four theoretical frameworks to scrutinise REDD+ deployment in Cameroon. Two of these, namely Candel and Biesbroek (2016)'s framework for policy integration and Matland (1995)'s policy implementation theory are both assessment tools based on grading systems which ease application but require further refinement to minimise their current biases. Candel and Biesbroek (2016)'s framework evaluates the

extent of policy integration through several EPI dimensions and subdimensions and against a grading system ranging from stage one to four. Overall, the framework provides a clear description of the four grading stages for each subdimension, bar the subdimension of interaction density (table 2). The density of interaction among subsystems or sectors ranges from stage one featuring no exchange of information among sectors, to stage two for infrequent exchange of information, then stage three features more regular information exchanges, and stage four represents a high level of interactions. However, the framework appears imprecise about the specific amount of information exchange to be classed as infrequent, regular, or high. Thus, the thesis has relied on personal judgment as accounted in chapter 4.

Matland (1995)'s framework for policy implementation is also based on a grading system that gauges the level of conflict and the degree of ambiguity around policy objectives from low to high. Contrary to Candel and Biesbroek (2016), however, Matland (1995) seldom outlines or describes the varying stages of conflict or ambiguity, nor articulates what amount or which circumstances equate to high or low conflict or ambiguity levels. Therefore, the thesis has proceeded by comparing the three case studies to estimate which of these featured the largest and fewest elements of conflict and ambiguity, and the extent of their impacts on project outcomes.

Chapter 6 examines REDD+ implementation within three locations selected to cover distinct ecological zones, a range of REDD+ activities and varied sociocultural settings. The results confirm that these specificities have coloured REDD+ project outcomes; for example, tree abundance in smallholder farms within forested areas hindered communities' adherence to REDD+ project's advice against slash-and-burn farming practices, increasing conflict among actors. Yet, this study only includes two of the five major ecological zones of Cameroon, suggesting that supplementary work covering other socio-ecological settings would further enrich REDD+ implementation analyses.

### 7.5.2 Areas for future research

Addressing the first research aim of REDD+ policy integration into land use sectors, the fourth chapter corroborates previous reports that forestland encroachment by alternative land use projects impedes sectoral coordination and REDD+ integration. By a large margin, the economic benefits of oil extraction, mining or palm oil plantations have been more attractive than the proposed REDD+ payments. Section 7.4.1 outlines how such financial profits reflect the market's failure of internalising forest carbon costs in the cost-benefit analyses of land use projects and suggests disincentive instruments to redress the market distortion. The thesis recommends further studies into the appropriate disincentive instruments for each setting and their compatibility with prevailing fiscal policies.

In the fifth chapter, the assessment of the potential for the Cameroonian REDD+ design to facilitate REDD+ integration into land use sectors has indicated that current horizontal arrangements expose the integration process to land use sectors' resistance and funding challenges. The thesis has proposed a hybrid organisational design featuring horizontal and vertical integration mechanisms and recommends further investigations into its applicability to other REDD+ implementing countries, where government systems and the allocation of responsibilities among ministries may vary.

Analyses of local REDD+ implementation in chapter 6 sought to identify the determinants of REDD+ project outcomes based on conflict intensity and ambiguity level. As set out in section 7.4.3, REDD+ projects implemented within community forests have applied the statutory governance system to local settings historically governed by customary institutions, breeding conflicts among community members. This thesis advises that adapting local REDD+ institutions to customary systems would minimise conflicts and recommends further investigations into the sociocultural viability of subnational REDD+ institutions that have instead followed statutory administrative systems. A deeper understanding of customary approaches to communal benefit management is equally necessary and would guide local REDD+ benefits-sharing schemes.

Finally, section 7.5.1 has underlined the shortcomings in the grading systems of Candel and Biesbroek (2016)'s EPI framework and Matland (1995)'s theory for policy implementation. This thesis recommends further work to improve the tangibility of the

assessment stages of the sub-component of interaction density in the EPI framework, and to outline the distinct levels of conflicts and ambiguity in the policy implementation theory. These would aid their application and minimise existing biases. At the Cameroonian level, expanding analyses of local REDD+ project implementation to other ecological and sociocultural settings would further enrich the national REDD+ strategy, especially in the Soudano-Sahelian zone where expanding desertification and the prominence of traditional pastoral activities pause singular challenges for reforestation.

# Chapter 8: Conclusion and contributions

Designed by the UNFCCC to curb forest-based emissions, the international REDD+ mechanism has been deployed across tropical countries to tackle the drivers of deforestation and forest degradation. Historically, scientifically informed global environmental agendas have encountered frictions and battled against diverging interests as they permeate the layers of decision-making. Taking Cameroon as a case study, this thesis has examined REDD+ deployment in the Congo basin, scrutinising how it integrates national systems, resonates with grassroots communities, and interacts with existing forestry institutions.

Addressing forest-based emissions hinges on integrating the REDD+ mechanism into national land use sectors driving deforestation and implementing emission reduction projects at the local level. Previous research assessing REDD+ integration has focused on coordination challenges between forests and land use sectors (May et al., 2011; Kalaba et al., 2014; Atela et al., 2016; Fujisaki et al., 2016; Korhonen-Kurki et al., 2016), awarding little attention to the role of political support, policy instruments, and organisational arrangements. The barriers to local-level REDD+ uptake have equally been explored in previous studies, which uncovered hurdles whose impacts on REDD+ outcomes have varied across sites (Cerbu et al., 2013; Lasco et al., 2013; Resosudarmo, 2013). Yet how implementation contexts determine the most influential factors for REDD+ outcomes in a given setting remained understudied, as were interactions with the effects of existing forestry institutions.

This thesis has filled these gaps by drawing on Candel and Biesbroek's EPI framework and the conceptual literature of organisational structures for environmental integration to evaluate REDD+ integration into land use sectors. The study has further built on Matland's theory of policy implementation as well as Gehring and Oberthür's framework for institutional interaction to scrutinise the outcomes of REDD+ projects implemented in South and West Cameroon. The thesis followed a mix-method approach building on in-depth interviews with national decision-makers, local authorities, traditional leaders and civil society, as well as focus group discussions with local communities and document review.

The analyses have revealed that REDD+ policy integration into land use sectors has been derailed by insufficient political support, weighed down by resistance from the forestry administration to the transfer of their control over forests to other sectors. While land use sectors have acknowledged their role in causing deforestation, their insecurities about their ability to handle forest matters have undermined their involvement in the REDD+ policy process. Inconsistencies between forestry and land use regulations have further impinged on sectoral REDD+ integration. Candel and Biesbroek's (2016) EPI framework holds that the availability of policy instruments aids integration. In Cameroon, however, the availability of instruments such as forest zoning and environmental impact assessment have hardly achieved sectoral alignment. This study has pointed out the anomalies and loopholes that have impeded their effectiveness, suggesting that the mere availability of policy instruments is seldom sufficient to drive integration and that they ought to be effective and enforced. These suggestions along with proposed amendments to Candel and Biesbroek's EPI framework outlined in the fourth chapter constitute one of the contributions of this thesis. By applying Candel and Biesbroek's framework, this thesis complements the global literature on REDD+ integration which focused on sectoral coordination (Peskett & Brockhaus, 2009; Gupta et al., 2016; Korhonen-Kurki et al., 2016; Špirić & Ramírez, 2021) with an assessment of the political will of actors through which integration occurs, which is a key trigger of integration, and an evaluation of policy instruments that facilitate the integration process. By amending the framework with a distinct component of sectoral coordination and a subcomponent accessing to what extent policy instruments are implemented and not just their availability, the thesis makes a further contribution to the theoretical field of environmental policy integration.

Equally essential to sectoral REDD+ integration are organisational arrangements. The Cameroonian REDD+ scheme currently led by the environment and forest departments and featuring a cross-sectoral and multi-actor steering committee aligns with horizontal integration, which imbibes REDD+ development with the technical expertise of the leading departments but exposes the integration process to sectoral resistance and funding challenges inherent in their weak authority. The envisaged organisational revamp featuring a Prime Minister's leadership of the REDD+ mechanism would improve political support for integration, but risk exposing the REDD+ process to political

instabilities. These analyses have permitted to illustrate, to the benefit of decision-makers and practitioners that some of the leadership and funding challenges they endure stem from the organisational arrangements chosen. This thesis further contributes an example of hybrid organisational structure described in the fifth chapter, which combines the features of horizontal and vertical integration and has an enhanced ability to support REDD+ integration into land use sectors. The thesis contributes to the theoretical field of organisational arrangements for EI by drawing on the conceptual literature (Lafferty & Hovden, 2003; Jacob & Volkery, 2004; Nunan et al., 2012) to design a succinct and easy-to-apply framework outlining the features of vertical and horizontal integration mechanisms as well as their effectiveness for EI. The resulting framework has allowed to enrich the global REDD+ literature with an assessment of REDD+ organisational arrangements probing their potential to ease REDD+ integration into land use sectors. The thesis equally proposes a hybrid organisational design applicable in REDD+ implementation countries in Latin America and Asia which like Cameroon display features of horizontal integration (Korhonen-Kurki et al., 2016; Špirić & Ramírez, 2021) which would seldom be conducive to REDD+ integration into land use sectors driving deforestation if predominant.

The main drivers of deforestation in the Congo basin are smallholder-driven, emphasising the importance of REDD+ uptake at the local level. This study has uncovered that local REDD+ projects have, according to Matland (1995) matched political implementation in the forested South Cameroon and experimental implementation in the Western savanna area. Thus, central policy designers' ability to propose livelihood alternatives that meet local implementers' preferences and mitigate labour implications are key to improving REDD+ outcomes in the South. In the West, local actors' skills, resources and the availability of social capital such as local expertise to adapt the national REDD+ policy to the local context will matter for REDD+ implementation. While previous research emphasised the need for capacity building to improve REDD+ uptake at the grassroots level, this thesis has shown that building capacity in instances of political implementation where projects 'aims or activities are highly contested would seldom influence implementation outcomes. The study has further shown that the influence of overlapping tenure widely presented as a barrier to local REDD+ projects can be muffled in instances

of administrative or experimental implementation featuring low conflict intensity. As such, this thesis has contributed a key to identifying the influential factors for REDD+ outcomes in a given setting and submit that the effects of ambiguous tenure could be minimised by grounding local REDD+ arrangements in customary institutions. The fifth chapter of the thesis has indicated that Matland (1995)'s framework for policy implementation, which is based on a grading system seldom outlines or describes the varying stages of conflict and ambiguity, nor articulates what level or circumstances equate to high or low conflict or ambiguity levels. These suggestions to amend the framework would ameliorate the accuracy of assessments of policy implementation typologies and of the most influential factors for policy implementation and thus constitute further contributions of the thesis to the field of policy implementation.

The outcomes of new environmental policy instruments such as REDD+ are equally influenced by existing forestry regulations. The sixth chapter of the thesis has illustrated how the limited devolution of power and resources that occurred under Cameroon's approach to decentralisation in forestry institutions has weakened customary institutions, exacerbated the community forest crisis and hampered emission reduction projects as well as REDD+ reforestation activities. This thesis complements existing scholarships on institutional interactions and the compatibility of policy instruments which have essentially focused on policy outputs. It contributes an analysis of institutional interactions that foregrounds policy outcomes, highlighting how policy instruments with compatible or synergistic outputs could still experience counterproductive outcomes in some settings.

By scrutinising the operationalisation of the international REDD+ mechanism from national integration to local implementation in Cameroon, this thesis has deepened the understanding of REDD+ development in the Congo basin and contributed new knowledge to inform the deployment and improve the performance of the global REDD+ mechanism.

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# Appendix 1: Interview protocol (Chapter 4)

| |
|---|
| **Introduction** |
| (Clarify research purpose) |
| **Warm-up** |
| - Would you please tell me a bit more about this department and the unit you lead, including its objectives?<br>- What is your role in achieving them?<br>- What are your thoughts about climate change?<br>- Some say deforestation leads to climate change, what do you think? |
| **Dimension 1: Policy frame (For the forest and environment departments)** |
| - What sectors drive deforestation in your opinion<br>- Who do you think should address the problem of deforestation? |
| **Dimension 2: Sub-systems involvement (For land use sectors)** |
| Subsystems involved |
| - Which sectors cause deforestation in your opinion?<br>- To what extent does your sector contribute to forest loss?<br>- Which sector do you think should tackle deforestation?<br>- Is forest loss an issue best tackled by one sector more sectors? Why? |
| Policy goal |
| - Deforestation isn't specifically included in the policy objective of your department; do you have a comment on the reason why |
| **Dimension 3: Sectoral Coordination** |
| Density of interactions |
| - How often do you interact with the following departments and on what matters: Departments in charge of forests? Environment? Agriculture? Livestock? Mining? Infrastructures?<br>- Do these interactions help? |

| |
|---|
| Policy coherence |
| - Are there any obstacles to sectoral collaboration?<br>- How to address them?<br>- What is your appraisal of the level of coherence among departments policies or activities? |
| **Dimension 4: Policy instruments** |
| - Could you tell me about the measures in place to ensure your activities minimise deforestation?<br>- Tell me about forest zoning and to what extent they are taken into account in your activities?<br>- Tell me about Environmental impact assessment and how far it guides decision-making in your unit?<br>- How are these tools implemented and monitored?<br>- -How effective are these in preventing deforestation? |

# Appendix 2: Interview protocol (Chapter 6)

**Pre-interview checks**

*Before we start, there are just a few things that I'd like to confirm with you...*

- Length: Approximately 1 hour
- Hand over business card
- Request permission then place recorder next to the interviewee
- Confirm participant happy to continue and check if any questions

**Introduction**

- (Clarify research purpose)

**Warm-up**

Tell me a little bit about your background and current role:

- What are the priorities of the institution you are part of?
- What is your role in helping to achieve these objectives?

1-**Implementation typology**

Conflict intensity and ambiguity level in REDD+ projects

- What are your thoughts about climate change?
- What are your thoughts about the role of forests in reducing climate change?
- What do you think about reports of forest cover loss in Cameroon and the causes?
- What is your opinion about REDD+ as a mechanism to address forest loss and climate change?
- What was the purpose of the REDD+ project implemented in this locality?
- How successful have these projects been?
- What have been some of the challenges they faced?
- What in your opinion could be done to address these?

| **2-Institutional interactions with existing forest rules** |
| --- |
| • In your view, which provisions of the forestry regulation help to manage forests sustainably?<br>• In your experience, how have these influenced the behaviour of forest stakeholders?<br>• How do you think the indicated behaviour change has affected REDD+ projects?<br>• To what extent have REDD+ pilots been affected by forest activities in this locality?<br>• How did other activities and practices within this locality influenced REDD+ pilot projects?<br>• Were these interactions taken into account when designing REDD+ pilots?<br>• What could be done to better address these interactions in your view?<br>• How have REDD+ pilots informed the national REDD+ process? |
| **Closing elements** |
| • Is there anything you'd like to bring up or ask before we wrap up the interview?<br>• Is there anyone else who you think that I should talk to? |
| Thanks |
| Ensure they are clear on the ability to re-contact |

# Appendix 3: Focus group discussion protocol (Chapter 6)

| **Pre-interview checks** |
|---|
| *Before we start, there are just a few things that I'd like to confirm with you...*<br>• Length: Approximately 2 hours<br>• Request permission then place recorder on a table in the centre<br>• Confirm participant consent and check if any questions<br>• Hand over business card |
| **Introduction** |
| • (Clarify research purpose) |
| Warm-up |
| *Tell me a little bit about your activities…*<br>• What are your occupations and daily activities?<br>• What are the aspirations of your community? |
| **1-Implementation typology**<br>Conflict intensity and ambiguity level in REDD+ projects |
| • What are your thoughts about climate change?<br>• What are your thoughts about the state of the forest and allegations of forest cover loss?<br>• What in your opinion could be the root causes of deforestation in your community?<br>• Could you describe your traditional farming systems? (Farmland area, main crops, farming tools and practices, fertilisation techniques, harvest, yields, commercialisation/consumption)<br>• What are your thoughts about the fact that local farming practices and livelihoods are considered the main drivers of deforestation? |
| • What was the aim of the REDD+ project you were involved in?<br>• Why did you choose to participate in the project?<br>• What activities did you undertake as part of the project? |

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| • How were these activities and techniques similar to your traditional practices?<br>• How were these techniques different from your traditional practices?<br>• What is your opinion about the capacity of these REDD+ activities to reduce deforestation?<br>• What difference in crop yields did you witness from implementing REDD+ farming techniques?<br>• What did you gain from the REDD+ project?<br>• What part of REDD+ activities were easy to implement?<br>• What in your opinion made their implementation easy?<br>• What challenges did you face throughout the project cycle?<br>• What were the causes of these difficulties?<br>• Have these challenges been addressed?<br>• If so how?<br>• If not how do you think these could have been improved? |
| **2-Institutional interactions from existing forest rules** |
| • How did existing forest rules facilitate the implementation of REDD+ activities?<br>• How were the difficulties you faced linked to existing forest rules?<br>• What is your opinion about the creation of community forests (or other forest rules as appropriate)? How does this affect you? What were the ramifications for REDD+ pilot activities?<br>• What support did you receive from local authorities?<br>• What is the current state of REDD+ activities? |
| **Closing elements** |
| Is there anything you'd like to add? |
| Is there anyone else who you think I should talk to? |
| Thanks/ Ensure they are clear on the ability to re-contact |