Community Forest Enterprises (CFEs) as Successful Social Enterprises: Empirical Evidence from Cameroon

Serge Mandiefe Piabuo

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Propositions

1. Recognising Community Forest Enterprises(CFEs) as Social Enterprises is essential for realising their potential to meet their economic, social, and environmental objectives simultaneously.
   (this thesis)

2. Despite good intentions, CFEs lack the capacity to effectively generate significant economic benefits for communities.
   (this thesis)

3. Foreign direct investments in tropical countries promote deforestation.

4. Increasing government expenditure on health leads to increased economic growth.

5. Transboundary eco-tourism sites are critical for peacebuilding.

6. The cost of inaction for landscape restoration is always higher than that of action.

Propositions belonging to this thesis, entitled.

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Wageningen, April 02, 2024

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This research was conducted under the auspices of the Wageningen Graduate School of Social Sciences (WASS)

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Thesis

submitted in fulfilment of the requirements for the degree of doctor
at Wageningen University
by the authority of the Rector Magnificus,
Prof. Dr C. Kroeze,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Tuesday 2 April 2024
at 4 p.m. in the Omnia Auditorium.

Serge Mandiefe Piabuo

Community Forest Enterprises (CFEs) as Successful Social Enterprises: Empirical Evidence from Cameroon.

259 pages

Ph.D. thesis Wageningen University, Wageningen, NL (2024)

With references, with a summary in English

DOI: http://doi.org/10.18174/651461

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List of abbreviations

ABCD	Asset-Based Community Development
AC	Average cost
ANOVA	Analysis of variance
AR	Average Revenue
CFEs	Community Forest Enterprise
CFM	Community Forest Management
CFs	Community forest
CIFOR	Centre for International Forestry Research
CIG	Common Initiative Group
DEA	Data Envelopment Analysis
DFID	Department for International Development
DRYAD:	Financing Sustainable Community Forest Enterprises in Cameroon
DTI	Department of Trade and Industry
EMES	Emergence des Entreprises Sociales en Europe
FAO	Food and Agricultural Organisation
FGDs	Focus Group Discussions
ICRAF	World Agroforestry
IRAD	National Institute for Research in Agriculture
MINFOF	Ministry of Forestry And Wildlife
NGO	Non-Governmental Organisation
NTFPs	Non-Timber Forest Products
OECD	Organisation for Economic Co-operation and Development
OHADA	Organisation for the Harmonisation of Business Law in Africa
SEs	Social Enterprises
SMP	Simple Management Plan (Community Forest)
SPSS	Statistical Package for Social Science
UK	United Kingdom
USD	United States Dollars
WWF	World Wide Fund for Nature

CHAPTER 1: GENERAL INTRODUCTION

1.1 Background

Over the last century, global forest management has evolved significantly (Minang et al., 2019). One of the main developments has been the involvement of local forest communities in forest management (Arts et al., 2023). The 1970s were characterised by the fuelwood crisis resulting from the failure of the forest industry to sustain forests, and the policy response was the initiation of forestry for local development programs and the establishment of fuelwood plantations (FAO, 2016). The 1980s were marked by large-scale deforestation and forest degradation; in response, community forest management (CFM) modalities were piloted, and people's participation and bottom-up forest management ideas emerged (Charnley and Poe, 2007). The 1990s witnessed a strong demand by local communities to have management rights over forests in different parts of the world, particularly in developing countries (FAO, 2016; Minang et al., 2017). This resulted in the formalisation of CFM regimes (Box 1), giving indigenous peoples the right to manage forests in different countries (FAO, 2016). In this case, CFM generally refers to community engagement in decision-making, governance, and management of local forest land (Ambrose-Oji et al., 2015; Hajjar and Oldekop, 2018). Approximately 600 million hectares of land worldwide are under the CFM regime, representing about 15% of the global forest area (Arts et al., 2023). In the 2000s, due to globalisation and trade liberalisation, there was a growing interest in commercialising wood and non-wood products and services under CFM (FAO, 2016). In the 2010s, global policy focused on using CFM to fight climate change and illegal logging by promoting sustainable, locally-controlled forest businesses (Box 1) called Community Forest Enterprises (CFEs) (FAO, 2016; Arts and De Koning, 2017). Over the last decade, CFEs have been promoted and established in many countries globally (Seigner et al., 2021; Humphries et al., 2020). CFEs can be broadly defined as a form of CFM in which local groups and community members actively pursue economic activities within the framework of an organisational structure for the production and commercialisation of forest products and services (Ambrose-Oji et al., 2015; Hajjar and Oldekop, 2018).

CFEs are becoming more widespread in tropical forests across the Americas, Africa, Asia, and the Pacific (Ambrose-Oji et al., 2015). These CFEs participate in payments for ecosystem services (PES), provide wood, and sell processed timber and non-timber forest products (Molnar et al., 2007). CFEs are promoted as they have the potential to reduce the loss of biodiversity and societal inequality, create local jobs, and invest in community projects such

as education, health, and clean energy (Newton et al., 2016; Teitelbaum, 2016; Erbaugh et al., 2020).

Box 1: Community Forestry and Community Forest Enterprises (CFEs)

Community forestry is a decentralised and participatory approach to forest management, involving local communities in organising, making decisions, and executing activities (Arnold, 2001; Ribot, 2002). This approach is based on the belief that those living in or near forests are best suited to understand the needs and challenges of the forests and should have a role in managing and maintaining these valuable resources (Maryudi et al., 2012). This form of forest management also exhibits common property characteristics (McKean, 1996). In the context of community forestry, community members collectively own, manage, and use the community forest and its resources (Cuny, 2011; Minang et al., 2018). This collective property follows a set of collective property regimes; these common property regimes govern the administration and use of shared resources by communities, ensuring fair and sustainable use (Agrawal and Chhatre, 2006; Ferraro and Agrawal, 2021). These institutions, laws, and agreements control shared resources to prevent "the tragedy of the commons", in which resources are overused or degraded due to open access and lack of collective management (Ostrom, 1990). Common property regimes vary depending on cultural, social, and environmental settings; examples include traditional commons, collective ownership, rules, user rights, institutions, monitoring, and adaptive management (Arnold, 1991). Customary laws regulate traditional commons, while user rights and obligations outline individual rights (Agrawal, 1994; McKean, 1996). Institutions oversee resource management and enforce procedures to prevent abuse or overuse (McKean, 1996; Berkes and Davidson-Hunt, 2009).

Forest sector common property regimes face challenges such as unclear rules, unequal benefit sharing, market access issues, weak governance, external pressures, capacity constraints, knowledge gaps, climate change, environmental risks, financial resources limitations, interference, and lack of support (Barsimantov and Kendall, 2012). Over-dependence on grants in the context of reducing funding to NPOs further reduces the capacity to enforce rules and incentivise the adoption of sustainable forest management practices (Humphries et al., 2012). These issues can lead to overuse, degradation, and social tensions, affecting the long-term viability and sustainable use of shared resources (Agrawal, 2007). To overcome these challenges, a new form of common property management regime emerged known as Community Forest Enterprises (CFEs). CFEs combine community forestry principles with entrepreneurial activities, and they employ business approaches to raise revenue to meet the principal social mission (Humphries et al., 2020; Engbring and Hajjar, 2021). These enterprises collectively manage and utilise forests for environmental conservation and economic purposes, focusing on generating income and improving livelihoods through sustainable forest businesses. Key characteristics of CFEs include shared ownership, participatory decision-making, sustainable forest management, economic

objectives, livelihood improvement, value addition, inclusive governance, capacity building, and adaptive management (Adhikary et al., 2019). CFEs prioritise gender equity and social inclusion while ensuring that the benefits of the enterprise reach all community members (Butler, 2020).

CFEs are also promoted because they can enhance income generation, thus reducing overreliance on grants (Humphries et al., 2020). CFE operations emphasise local management of forest resources, equitable benefit-sharing mechanisms, and democratic participation (Antinori and Bray, 2005; Teitelbaum, 2016; Erbaugh et al., 2020).

There is mixed scientific evidence on the contribution of CFEs in meeting CFM objectives. Several studies have reported that CFEs increase local incomes and profitability. In Brazil, for example, Humphries et al. (2020) reported that a CFE, sustainably managing 33691ha of forest, generated over $1.5 million in 2013, which was used to pay workers and provide investments in social projects within the communities. Other cases were reported in Cameroon, where livelihoods increased through CFEs' investment in social projects such as access to education, health, and energy (Minang et al., 2017; Foundjem-Tita et al., 2018). Case studies have reported an average rate of return ranging from 20-81% for CFEs in Brazil, Mexico, Guatemala, and Cameroon (Medina and Pokorny, 2008; Torres-Rojo et al., 2005; Ezzine de Blas et al., 2009; Humphries et al., 2012).

Although some recent studies indicate that CFE activities have reduced deforestation (Eisenbarth et al., 2021; Oldekop et al., 2019; Somanathan et al., 2009), other studies show increased forest degradation and deforestation. Asaha et al. (2017) noted that villages with community forests in Cameroon experienced higher deforestation and forest degradation rates, leading to conflict and marginalisation. Paudel (2018) also noted higher deforestation rates in community forests than in government-managed land. Meanwhile, Njomo et al. (2019) added that communities with CFs are more likely to engage in unsustainable harvesting practices like overlogging and poaching. Conflicts and marginalisation also emerge as significant negative outcomes of divergent interests among community groups. Numerous studies in Cameroon and Nepal have cited elites' capture of community forestry initiatives as a key drawback (Ndjodo et al., 2020; Adhikari, 2019; Piabuo et al., 2018). These issues highlight the need for sustainable development strategies in Cameroon. Multiple challenges, often context-specific, have been reported to justify these mixed outcomes (Butler, 2020; Seigner et al.,2021; Macqueen, 2012).

1.2 Challenges Faced by CFEs

Although CFEs have the potential to enhance sustainable forest management, improve rural livelihoods, and empower indigenous communities, they face diverse challenges related to governance, capacity, performance evaluation, and business environment (Piabuo et al., 2021; Siegner et al., 2021; Engbring and Hajjar, 2022). CFEs face *governance* challenges due to community ownership and decision-making structures in which community members and staff make key decisions, potentially causing conflicts between community governing boards and CFE management regarding appropriate courses of action (Antinori and Bray, 2005). A participatory process in CFEs must balance local community interests with broader growth and production targets to avoid inefficient enterprises. This can be achieved by formalising separate management, governance, and community advisory arms within CFE structures (Orozco-Quintero and Davidson-Hunt, 2010). Fair and transparent community deliberation processes are crucial, as conflicting mandates may arise, leaving management with contradictory prescriptions for various courses of action (Antinori and Bray, 2005). CFE literature highlights divergent goals, values, norms, and identities in CFEs' social missions and business ventures, leading to paradoxes and trade-offs between outcomes (Smith et al., 2013). Increased financial gains may be realised at the expense of social endeavours or vice versa (Mason and Doherty, 2016). Also, some of the main governance challenges CFEs face include weak governance structures, a lack of transparency, and conflicts within the community (Butler, 2020; Engbring and Hajjar, 2022). In addition, CFE outcomes are influenced by unfavourable social contexts related to organisational identity due to loss of identity resulting from the influx of external knowledge and perspectives (Wiersum et al., 2013).

In addition to governance challenges, empirical studies have shown that CFEs face challenges in *performance evaluation* and reporting to diverse stakeholders (Macqueen, 2012; Humphries et al., 2020; Seigner et al., 2021). One of the challenges in performance evaluation is defining and measuring the performance of CFEs. CFEs have multiple objectives, making it difficult to define indicators that adequately reflect these objectives (Austin and Seitanidi, 2011). It is also difficult to attribute impact to activities carried out by CFEs due to the involvement of diverse stakeholders such as local communities, governmental entities, non-governmental organisations, and commercial sector players. Developing a uniform assessment framework is challenging due to differences in expectations and standards (Smith et al., 2013; Seigner et al., 2021). Short-term initiatives that show positive results in generating income and creating jobs can conflict with long-term indicators for resource sustainability used to gauge progress toward

conservation goals (Macqueen, 2012). Also, the multiple objectives composed of environmental conservation, social empowerment, and economic sustainability require balancing, which can be subjective and complex (Humphries et al., 2020). Assessing CFE performance requires a balance between qualitative and quantitative indicators. Quantitative indicators, such as revenue generation and forest cover change, are easier to measure, while qualitative aspects like community participation, governance, and social well-being are more subjective and challenging to measure (Seigner et al., 2022b; Humphries et al., 2020).

Technical, financial, and human resource capacity challenges are common within CFEs (Humphries et al., 2020). CFEs are rooted in rural communities, where access can be challenging; in addition, communication in developing countries can be very challenging. Therefore, these communities face challenges in accessing markets (Piabuo et al., 2019; Humphries et al., 2012). In most cases, community members lack the capacity to identify forest products and services with high market value and the leadership skills to galvanise community members to trade forest products and services (Engbring and Hajjar, 2022; Siegner et al., 2022a). Sustainable forest management also requires effective planning and monitoring of CFE objectives based on a set of agreed indicators with community members and stakeholders. Most CFEs lack the capacity to adequately monitor and regularly report on progress. (Foundjem-Tita et al., 2018; Macqueen et al., 2019). Financial management and reporting are also very important in enhancing efficiency in CFE operations and accountability to stakeholders. CFEs lack these financial management and reporting capabilities (Macqueen et al., 2019). The development of CFEs also requires significant upfront investment due to the associated high risk; banks do not often lend to CFEs, access to funding is difficult, and CFEs often depend on grants, which are not always available (Humphries et al., 2020). Some of these challenges relate to workers' low skills, small scale of production, inadequate capital, poor access to markets and information, and insecure property rights, which threaten the financial sustainability of CFEs (Humphries et al., 2012).

1.3 Using the Social Enterprise Lens to View Community Forest Enterprises

The exploration of CFE literature over the last three decades does not provide a clear picture of how to overcome these challenges, especially in different countries and cultural contexts (Siegner et al., 2021). This is because the literature over the last two decades has focused on CFE governance and the promotion of income generation while ensuring inclusivity and

sustainable forest management (Foundjem-Tita et al., 2018; Siegner et al., 2021). The literature has not adequately explored the challenges that CFEs face due to their hybridity (Siegner et al., 2021; Engbring and Hajjar, 2022). For example, the literature on governance emphasises the importance of governance principles such as participation, transparency, accountability, and representation (Piabuo et al., 2018; Sharma et al., 2020); however, there are gaps in the literature on how to map tensions and paradoxes emanating from the interaction of CFEs with diverse stakeholders. The hybrid character of CFEs means they have multiple performance objectives, but the literature has focused on only one or two of the economic, social, and environmental objectives at a time (Humphries et al., 2020; Frey et al., 2021). Studies that attempted to evaluate all three objectives used qualitative indicators based on personal perceptions, which can be subjective (Siegner et al., 2022a; Siegner et al., 2022b). CFEs engage with stakeholders with different interests, and performance evaluations based on qualitative indicators are often contested because they are subjective to evaluators (Klooster et al., 2015).

The lack of a comprehensive performance evaluation framework that reflects the interests of different stakeholders resulted in tensions between CFE management, community members, and other stakeholders (Renaud et al., 2013; Klooster et al., 2015). Therefore, a set of quantitative indicators and a framework are required to capture CFE performance across its economic, social, and environmental dimensions. Traditional methods for evaluating CFE capacity have focused on the CFE management team (Tomaselli and Hajjar, 2011), neglecting other aspects of the community. This has resulted in capacity-building initiatives that do not always meet CFE needs because other elements of the community have not been captured in CFE capacity evaluation. These initiatives often fail to meet the specific needs of communities that lack the resources, infrastructure, and continuous support to apply skills and knowledge (Rondinelli, 2007; Anderson and Nabaki, 2013). Although CFEs have economic, social, and environmental objectives, they face challenges in mainstreaming them into their operations (Foundjem-Tita et al., 2018). The current CFE literature lacks conceptual and empirical exploration of these challenges.

Since the 1970s, the social enterprise lens has been extensively applied in the health, education, and work integration sectors to characterise and understand social enterprises (Lin, 2023). Social enterprises are defined as "businesses with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or the community, rather than driven by the need to maximise profit for shareholders" (DTI 2002, 2003). Scholars have noted that the social enterprise lens can be used to fill the gaps in the CFE literature, providing a better

understanding of the CFE challenges and long-lasting solutions (Foundjem-Tita et al., 2018; Seigner et al., 2021; Engbring and Hajjar, 2022). This lens has been proposed to provide a nuanced view and insights that can help enhance the understanding of CFEs and how to improve them (Foundjem-Tita et al., 2018; Siegner et al., 2022a). It can provide a better picture because, just like CFEs, social enterprises are not profit-maximising firms but, rather, are pursuers of economic, social, and environmental objectives. Therefore, they face the challenges associated with the hybridity of such organisations.

The social enterprise literature is well developed, with theoretical and empirical inputs on how to deal with challenges that come with the hybridity of organisations (Mikołajczak, 2020). The use of the social enterprise lens permits insights from the social enterprise literature to be used to understand the ways and means of dealing with CFE challenges related to organisational identity, hybrid goals and hiring strategies, and governance challenges linked to structure, thereby scaling up challenges linked to mixed funding portfolios and quantifying their social impact (Siegner et al., 2021). The social enterprise lens can provide a framework for performance evaluation, which permits CFEs to show their activities' economic, environmental, and social impacts (Antinori and Bray, 2005; Foundjem-Tita et al., 2018). For example, a study in North America illustrates that the CFE operational principles share a common middle ground with social enterprises and that social enterprise literature can provide a holistic approach to mainstream the economic, social, and environmental objectives of CFEs while adequately overcoming challenges (Siegner et al., 2021). Others underscore that, although CFEs pursue social/environmental objectives, the social enterprise literature can better understand their organisational characteristics, seeing how they are shaped and evolve and the factors that explain these differences (Enbring and Hajjar, 2021).

Also, the social enterprise literature allows the contextualisation of solutions to specific CFE contexts. The contextualisation of social enterprise literature helps understand the nuances emanating from the CFE context due to the hybridity that CFE literature does not adequately address. This contextualisation incorporates communities' cultural and historical contexts; thus, specific regulatory, cultural, and country contexts should be considered when drawing from the social enterprise literature to enhance CFEs. Like some social enterprises, CFEs are community-focused enterprises that employ non-market and market strategies to enhance the economic and social well-being of communities, and contrary to private enterprises, CFEs prioritise collective benefit over private gain. Therefore, contextualisation is critical in

generating insights that permit a better understanding of the challenges and thus provide grounds to explore sustainable solutions.

The literature on CFEs as social enterprises has centred on illustrating how the objectives and practices of CFEs tie with the concept of social enterprises (Foundjem-Tita et al., 2018; Siegner et al., 2021), organisational differences between CFEs as social enterprises, and the factors explaining these differences (Enbring and Hajjar, 2021). However, there is a lack of conceptual and empirical evidence on the extent to which CFEs can be classified as social enterprises. Additionally, there is a lack of conceptual and empirical evidence on how to employ the social enterprise lens to understand CFE challenges related to CFE tensions, paradoxes, governance challenges, performance, and community capacity evaluations. The findings of this thesis will also fill research gaps in the social enterprise literature identified by Lin (2023) after surveying social enterprise literature since 1971. These gaps relate to the need for more conceptual and empirical studies on the role of social enterprises in enhancing environmental development, the contextual manifestations of paradoxes, empirical insights into strategies employed in managing paradoxes, and contextualised metrics for social impact measurement (Lin, 2023). The main objective of this thesis is to employ the social enterprise lens to understand the functioning of CFEs as social enterprises in Cameroon. Section 1.4 summarises the scope of the research as well as the research gaps that will be further explored through the social enterprise lens.

1.4 Defining Research Scope and Gaps

This thesis aims to fill the research gap summarised in the following sections. The first section illustrates why it is important to explore the extent to which CFEs can be classified as social enterprises (1.4.1) and how to measure the performance of CFEs as social enterprises (1.4.2). Then, the research gap on community capacity for forest development as social enterprises is elaborated (1.4.3), and tensions, paradoxes, and challenges faced in CFE governance are discussed (1.4.4). These four research gaps make up the four research questions to be answered in this thesis.

1.4.1 Community forest enterprises as social enterprises

Over the last decade, researchers have increasingly demonstrated that CFEs should be considered social enterprises (Foundjem-Tita et al., 2018; Enbring and Hajjar, 2021). This is because, like social enterprises, CFEs have a social mission and strive to employ business

approaches to achieve it (Siegner et al., 2021). However, it is important to consider the lifecycle of enterprises: start-up, growth, maturity, and decline. Although CFEs may have social and environmental objectives, they may not qualify as social enterprises because of the different operational processes employed. Lyon and Sepulveda (2009a) acknowledge the limitations of this view of social enterprises by stating that the broad definition means that "many organisations that do not define themselves as social enterprises are defined as such but would agree that they are involved in 'social enterprise activity'" and that "there may be others that define themselves as SEs, but which do not meet the defining test." So far, conceptual and empirical studies that have explored CFEs as social enterprises have concentrated on illustrating why CFEs should be classified as social enterprises and understanding the organisational differences between CFEs as social enterprises (Siegner et al., 2021; Enbring and Hajjar, 2021). However, in practice, the operations of CFEs do not always meet the "ideal" conditions of social enterprises; conceptual and empirical understanding of the extent to which CFEs can be classified as social enterprises is lacking globally and even more difficult to find in Africa. This thesis intends to fill this research gap and provide conceptual and empirical evidence to view CFEs as social enterprises.

Social enterprises are defined by their (1) social mission, which is a focus on meeting societal needs and having a social impact, and (2) mode of operation, which relates to the adoption of business approaches based on collaboration at the local level (OECD/European Commission, 2022). The *Emergence des Entreprises Sociales en Europe* (EMES) three-dimensional framework of Defourny and Nyssens (2012), composed of the economic/entrepreneurial, social, and participative governance dimensions, has been widely used to characterise and classify social enterprises. Alter (2004) states that enterprises in the social economy are in a continuum of grey shades ranging from traditional nonprofits to social enterprises. However, the EMES framework only indicates whether or not an organisation qualifies as a social enterprise; it does not indicate where organisations are situated along the continuum. Exploring the exact situation of CFEs in different contexts is important because it permits an understanding of the extent to which they qualify as social enterprises and allows development practitioners to develop adequate support packages that meet the specific situation of CFEs. There are limited conceptual and empirical studies on the extent to which CFEs can be classified as social enterprises.

This thesis fills this gap in Chapter 2 and seeks to expand the conceptual literature by going beyond employing only the EMES framework to classify CFEs. It uses a combined framework

with the sustainability continuum of Alter (2004) that allows the classification of CFEs along the continuum to determine exactly where each CFE is situated on the grey shades. This combined framework will be empirically investigated to understand the Cameroonian case, contributing to the literature on CFEs and social enterprises in Cameroon and Africa, which is equally sketchy.

1.4.2 Performance measurement of community forest enterprises (CFEs) as social enterprises

Measuring the performance of CFEs on their social, economic, and environmental objectives remains a challenging situation in the literature (Blundel and Lyon, 2015; Siegner et al., 2021). Performance measurement is challenging because CFEs differ in size, capacities, activities, and objectives, thus making it difficult to have a one-size-fits-all model (Grieco, 2015). Furthermore, long-term resource sustainability metrics (environmental and social) used to capture conservation objectives often contrast with short-term activities related to job creation and revenue generation (Macqueen, 2012). In recent years, the greatest challenge has been to have indicators that reflect all the economic, social, and environmental dimensions (Siegner et al., 2022a; Humphries et al., 2020). To capture the economic, social, and environmental performance of CFEs in Canada and the USA, Siegner et al. (2022a) extracted indicators from peer-reviewed literature and adopted the Miles et al.'s (2014) scale, which is based on four economic and six social performance items for social enterprises. Environmental indicators were extracted from the community forestry literature (Siegner et al., 2022a). CFE teams captured these items using Likert items and self-reporting. Although this approach captures CFE performance from the three dimensions, the self-reporting system, coupled with the use of Likert items, can be very subjective and contested based on the people sampled (Wong-on-Wing, 2007). So far, CFE performance has been dominated by isolated evaluation of economic, social, or environmental dimensions, with the few studies that attempted to evaluate these dimensions employing qualitative indicators, which can be very subjective and a source of dispute among different stakeholders. CFE performance is multi-dimensional and needs to be robust to different stakeholders. A conceptual framework with quantitative indicators for CFE performance evaluation based on economic, social, and environmental dimensions has been lacking. In addition, empirical studies evaluating these three aspects as a package in Africa and Cameroon are sketchy.

Over the decades, the literature on CFE performance management has evolved in response to stakeholders' growing interest in CFE development (Humphries et al., 2012; Humphries et al., 2020). Initial CFE performance frameworks concentrated on the ability of CFEs to reduce deforestation and enhance forest conservation (Oldekop et al., 2019). Over time, the focus shifted to the financial sustainability of CFEs, and thus, an increase in empirical studies exploring the financial/economic performance of CFEs (Humphries et al., 2020; Frey et al., 2021). With the increasing call to view CFEs as social enterprises, the conceptual and empirical literature on CFE performance increasingly emphasises evaluating CFE performance from the economic, social, and environmental dimensions (Seigner et al., 2022a; 2022b). Di Girolami et al. (2023) also emphasise the need to combine economic, social, and environmental analyses of community forestry as different aspects can have synergies and trade-offs among each other, and analysing only one dimension "provides only a tiny part of a much bigger picture." Jones (2007) adds that focusing on the financial/economic evaluation of social enterprises can lead to mission drift.

The performance of CFEs has been evaluated using various tools over time, sparking discussion about the "golden measure" (Humphries et al., 2012; Siegner et al., 2022b). The various models frequently concur that multi-dimensional analysis should be used when considering the multiple objectives of CFEs, including the economic, social, and environmental dimensions (Vanclay, 2004; Siegner et al., 2022a). However, the indicators used to define these dimensions cannot be generalised; instead, they focus on particular facets of the location, sociocultural context, and even the specific CFE activity type (Arena et al., 2015). In its policy brief on social impact measurement in 2015, the European Commission further emphasised the need to contextualise performance measures, noting that each organisation should consult its stakeholders and find an evaluation tool that better meets its goals and informational requirements (EU/OECD, 2015).

In Chapter 3, this thesis addresses this gap by proposing a CFE performance evaluation framework that builds on social enterprise and community forestry literature, combining it with Elkington's (1997) triple-bottom-line framework. This framework is based on quantitative indicators that are easily comparable and objective, as well as a rating system to classify CFEs. The proposed framework is empirically applied to a sample of CFEs in Cameroon, offering insights from Cameroonian and African cases that have been lacking in the literature.

1.4.3 Community capacity for community forest development as social enterprises

Capacity gaps at the CFE management level have repeatedly been mentioned in different scientific papers and reports as one of the key challenges to CFE development (Macqueen et al., 2019; Piabuo et al., 2021; Siegner et al., 2021). These capacity gaps prevent CFEs from meeting their economic, social, and environmental objectives, thus preventing them from operating as successful social enterprises (Siegner et al., 2022a). Consequently, over the last decades, a significant portion of CFE development support has been directed to CFE capacity building (Kunwar et al., 2009; Banjade et al., 2017). However, in most cases, these capacity-building investments have not achieved the intended objectives (Hsia, 2021; Minang et al., 2019; Macqueen, 2010). One of the main reasons emerging from the literature is that these investments target CFE management team members, who often leave the CFE after a few years of work. Since no system can recycle the knowledge, knowledge gaps are created (Turner et al., 2017). Also, capacity-building actions have targeted specific enterprise development themes that seem to have challenges, ignoring other community elements that affect CFE operations (Akamani et al., 2015).

The targeted capacity-building efforts result from fragmented capacity evaluation efforts, with most authors focusing on the business and governance capacities of communities (Stam, 2010; Tamásy, 2006; Foundjem-Tita et al., 2018; Piabuo et al., 2018). This has resulted in capacity evaluation reports that do not reflect the community character of CFEs or the linkages between the CFE management, community members, and social networks. Consequently, this results in community capacity building that only enhances a small aspect of capacity gaps, thereby preventing CFEs from adequately gaining the capacities to deliver on their economic, social, and environmental objectives as social enterprises. The concept of community capacity has been proposed to be more appropriate because it permits a broader view of capacity beyond the CFE and helps us understand the relationship between different elements of community capacity (Hounslow, 2002; Hacker et al., 2012). Chaskin (2001, p. 7) defines community capacity as "the interaction of human capital, organisation resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the well-being of that community. It may operate through informal social processes and organised efforts by individuals, organisations, and social networks between them and the larger systems of which the community is a part". This definition underlines the need to explore capacity evaluation from a systems approach of three levels: individual, organisational, and social network.

Raymond and Cleary (2013) emphasise that employing a systems approach has the advantage of considering other community elements, such as infrastructure and social capital. This approach is adopted because community capacity (1) is more than the collection of individual capacities, (2) should be considered as the outcome of ongoing and multiple non-linear interactions between systems within a community, and (3) is responsive to its external environment. Zurcher et al. (2018) indicate that employing a systems approach allows a better understanding of the system and the relationship between capacities, resulting in a more significant impact. This allows for better self-organisation (Ostrom, 2009), more effective and efficient use of natural, social, and economic assets, the development of synergies to tackle emerging challenges (Vachon et al., 2001), and the development of social networks necessary for a CFE to function and achieve the development objectives (Beckley et al., 2009; Ojha et al., 2016).

Beckley et al. (2009) note that evaluating community capacity should go beyond focusing solely on quantitative economic outcomes such as employment and income. It should include social gains such as educational attainment, community activeness, and community satisfaction to effectively capture a range of assets and outcomes. Amadei (2020) adds that community capacity captures the complexities of a community when facing different situations. However, studies employing a systems approach to assess the community capacity of CFEs are sketchy or non-existent; they are even more difficult to find for CFEs in Cameroon or Africa (Baker and Boshoven, 2017; Badini et al., 2018). One of the challenges researchers face in applying a systems approach at different levels for community capacity evaluation has been the absence of a conceptual framework for community capacity evaluation of CFEs.

In Chapter 4, this thesis builds from the community forestry literature and social enterprise literature to fill this gap by developing a conceptual framework for community capacity evaluation for CFEs based on the organisational capacity theory and the asset-based mobilisation theory (Nash, 2010; Shahidullah and Haque, 2016). The framework is empirically applied to a sample of CFEs in Cameroon to provide empirical evidence that further fills the empirical gap and enriches the literature with the Cameroon and African experience. The analysis further explores the relationship between the different domains of community capacity to help policymakers and development practitioners prioritise community capacity-building efforts.

1.4.4 Tensions, paradoxes, and challenges faced in CFE governance

Just as the hybrid character of CFEs creates challenges in evaluating CFE performance, governance challenges have been reported in the literature due to the hybrid character of CFEs (Smith et al., 2012; Dees, 2012; Siegner et al., 2021). Unlike private enterprises, CFEs are not profit maximisers; instead, they seek to meet their social and environmental objectives by employing business approaches (Chell, 2007; Wilson and Post, 2013; Enbring and Hajjar, 2022). Research on CFE governance challenges has focused on mission drift issues (Enbring and Hajjar, 2022). Mission drift occurs when CFEs or social enterprises cannot focus on their social mission while generating revenue (Enbring and Hajjar, 2022; Siegner et al., 2021). Most CFEs rely on revenue from the sale of forest products and services to meet their social mission, risking prioritising business operations over their social mission (Ebrahim et al., 2013). Conflicts between the social and financial performance of CFEs lead to incompatibilities often referred to as "tensions" in the social enterprise literature (Audebrand, 2017; Mason and Doherty, 2016; Smith et al., 2013). Contradictory but interrelated elements that seem logical in isolation but irrational when looked at together are termed "paradoxes" (Smith et al., 2013). Trade-offs emerge due to the focus on financial performance over social outcomes or the focus on social outcomes over financial performance (Mason and Doherty, 2016; Smith et al., 2013).

Research on CFE governance has focused comprehensively on (1) the internal organisation of CFEs and its influence on economic or social mission, (2) trade-offs from paradoxes due to mission drift, and (3) respect for governance principles (Chell, 2007; Wilson and Post, 2013; Piabuo et al., 2018; Kenfack Essougong et al., 2019; Enbring and Hajjar, 2022). However, empirical studies illustrate that despite adhering to fundamental governance principles such as representation, participation, equity, and accountability, CFEs still face governance challenges (Smith et al., 2013; Pache and Santos, 2010). The CFE literature does not explore the broader ecosystem of CFEs to map how the CFE stakeholders relate to their interests, how the diverse interests of different stakeholders affect CFEs, how these diverse interests manifest as tensions, and how these tensions cause governance challenges. The extensive literature on social enterprise governance can provide solutions because it has explored the trade-offs and synergies that arise from this paradox (Newton et al., 2016; Arena et al., 2015). Other studies focused on how these trade-offs are related to other outcomes, such as stakeholder participation, trust, and transparency of firm activities (Enbring and Hajjar, 2022). It is difficult to find conceptual and empirical studies on how internal organisational paradoxes and tensions relate to stakeholders and how these influence organisational challenges within CFEs.

Mapping stakeholders and understanding their roles, responsibilities, and interests is important for different reasons: (1) they contribute financial and non-financial resources to the development of CFEs, (2) they influence the criteria for assessing the success of CFEs, and (3) resistance to stakeholders can potentially affect the performance of CFEs and pathways to impact (Turner and Zollin, 2012). The collaboration among different stakeholders creates shared values between the CFEs and stakeholders (Porter and Kramer, 2011; Crane et al., 2013). However, these shared values do not always align with CFEs' internal organisation, objectives, and community interests, which can create tensions. These tensions are often non-economic and ignored, resulting in serious management problems (Martin and Sunley, 2003; Epstein and Yuthas, 2010). There is a lack of conceptual and empirical studies examining the complex interactions between stakeholders and their conflicting interests and perspectives. In addition to understanding how external stakeholders influence the internal organisation and create tensions within organisations, it is important to understand how these tensions and paradoxes manifest (Smith and Lewis, 2011; Tracey et al., 2011). Understanding their manifestations is important because it permits the development of adequate strategies to overcome them (Battilana and Lee., 2014; Tracey et al., 2011). The literature provides limited empirical evidence on the manifestation of tensions and paradoxes within CFEs in Cameroon and Africa. These tensions also create governance challenges, influencing key governance principles such as democracy, transparency, and accountability (Carías Vega and Keenan, 2016; Hajjar and Oldekop, 2018). The literature also lacks context-specific evidence on how tensions create governance challenges for key governance principles, especially in Cameroonian and African contexts.

The social enterprise lens permits drawing from the rich social enterprise literature on tensions, paradoxes, and challenges of hybrid organisations (Ismail and Johnson, 2019) to conceptually and empirically enrich the CFE literature on managing hybrid forest enterprises. This thesis fills these gaps in Chapter 5 by proposing a theoretical framework for CFE governance that captures the dominant stakeholders that influence CFE activities and can potentially create tensions; it also builds on Mason's (2009) relational framework and Luscher and Lewis's (2008) categorisation of tensions to map the relationships between stakeholders and tension manifestations. The framework also underlines key linkages between tensions and governance challenges and is empirically applied to the context of Cameroon, providing new empirical evidence that has been previously lacking.

1.5 Cameroon as a Relevant Case Study

The 1994 Forestry and Wildlife Law (Law No. 94-1 of 20th January 1994) granted provisions for community forestry in Cameroon. In 1996, the Ministry of Environment and Forestry (MINEF) launched a two-year community forest support project (MINEF, 2003). This project was the first of several projects used over the last three decades to implement the forest policy (Minang et al., 2019). Community forests give communities management and production rights for up to 5000 ha in non-permanent forests, renewable after 25 years (MINFOF, 2009). The first community forests were established in 1997, and a Manual of Procedures for the Attribution and Norms for the Management of Community Forests was published in 1998 and later revised in 2009 (Minang et al., 2019). The 1994 Law had three main pillars as objectives: 1) to enhance community participation in forest management, 2) to improve rural livelihoods, and 3) to promote sustainable forest resource management (Oyono et al., 2007; Beauchamp and Ingram, 2011). For many, the engagement of local communities in managing and using forest resources was seen as a leap in Cameroon's effort to enhance sustainable forest management and decentralise the management of forest resources (Etoungou, 2003). With the new provisions for local communities, there is hope that CF can also contribute to enhancing rural livelihood (Mbile et al., 2009), as most Cameroonians rely on timber and Non-Timber Forest Products (NTFPs) for various needs (Ingram et al., 2012).

The evolution of community forestry in Cameroon has been characterised by changes in legislation relative to forest management and development projects to enhance the implementation of legal regulations (Minang et al., 2019). Many projects by the government of Cameroon and NGOs have promoted community forestry. Through community forest-based projects, public and private organisations, as well as donor support, have supported forest communities to achieve the triple objectives of conservation, biodiversity, and livelihoods (Minang et al., 2019). While the donor-funded projects aimed to achieve the stated objectives, the typology of projects, their targeted activities, and the context in which they occurred were aligned with the different phases of government policy towards community forestry (Minang et al., 2019). In Cameroon, community forestry has evolved into three phases, and most of the community forest interventions target one or a combination of activities in each of these phases:

(i) Phase one relates to raising awareness, educating, sharing information, making decisions about the legal entity to be created, holding consultation and delimitation

meetings, submitting a request for the community forest, and signing a provisional management agreement.

(ii) Phase two is about elaborating a simple management plan with studies related to environmental impact assessment and obtaining a definite agreement valid for 25 years.

(iii) Phase three deals with exploiting the community forest and developing community businesses following the simple management plan. This involves obtaining an annual exploitation certificate, waybills, and revisions of the simple management plan every five years.

Cameroon is well-advanced in CFM and CFE development in Africa (Duguma et al., 2018a; Minang et al., 2019). With the development of the third phase over the last decade, there has been an increasing call for CFEs to be considered social enterprises in Cameroon (Foundjem-Tita et al., 2018). This is because, like social enterprises, the development of CFEs falls within a set of initiatives that seek to enhance local development through entrepreneurship by linking communities to markets, improving revenue generation and provision of social amenities, creating local jobs, and strengthening sustainable forest management (Foundjem-Tita et al., 2018; Foundjem-Tita et al., 2019). However, as Charnley and Poe (2007) note, there is a gap between community forest theory and practice, which is further exacerbated by challenges related to 1) the performance evaluation of CFEs, 2) capacities for CFE development, and 3) tensions and paradoxes within CFEs that are not sufficiently addressed in existing literature due to the hybrid nature of CFEs. This thesis is, therefore, relevant to CFE development in Cameroon as it allows the use of the social enterprise lens to explore CFEs better and provide empirical evidence from Cameroonian CFEs and the African context, which has been lacking thus far. Conceptual and empirical evidence from Cameroon will also be relevant to other countries. African countries, such as the Democratic Republic of Congo, Gabon, Ethiopia, and the Benin Republic, are still in phase two of their CFM development. Lessons from the Cameroon case will, therefore, not only inform the literature on CFE and social enterprise development in Cameroon but also paint a picture of the experience in Africa and developing countries. Insights from Cameroon can inform CFE development practitioners and the government on key lessons that can further guide the development of CFEs in the country. Additionally, employing the CFE and social enterprise literature will further enrich the conceptual and theoretical literature on CFEs and social enterprise development in the Cameroonian context.

1.6 Research Objectives and Research Questions

Above, it was observed that, despite the abundance of literature on CFEs and the growing acknowledgement that CFEs should be considered social enterprises, the community forestry and the CFE literature do not provide an adequate understanding of the challenges emanating from the hybrid character of CFEs and how to overcome them (Siegner et al., 2021). There is a lack of clarity on how CFEs qualify as social enterprises in practice and how they can be developed into successful social enterprises. Within the framework of this thesis, social enterprises are successful if they can meet their objectives. The social enterprise lens can thus provide more insights into CFEs and a holistic approach to overcoming the challenges they face. *Therefore, the main aim of this thesis is to employ the social enterprise lens to explore the functioning of CFEs as social enterprises in Cameroon*. This thesis combines literature on community forestry and CFEs with social enterprise literature to improve: 1) understanding of different CFE operational modes, if and to what extent they qualify as social enterprises, 2) performance evaluation of CFEs and the factors that influence CFE performance, and 3) key governance and community capacity conditions for CFEs to be successful social enterprises. The general problem statement of this thesis leads to the following specific research questions, which will be answered in subsequent chapters of this thesis.

1. To what extent can CFEs in Cameroon be classified as social enterprises? (Chapter 2)

2. How successful are CFEs in Cameroon when viewed as social enterprises? (Chapter 3)

3. Which conditions must be fulfilled for Cameroon's CFEs to function as successful social enterprises?

    a) What community capacity is required for CFEs to be successful social enterprises? (Chapter 4).

    b) What governance conditions are required for CFEs to be successful social enterprises? (Chapter 5).

1.7 Conceptual Framework

This section will describe the key concepts of this thesis and further explain the strategy employed to answer the research questions highlighted in the previous section. To comprehensively understand how the literature and empirical data are used in this thesis, a

conceptual framework (Figure 1) is sketched to visualise key concepts. The concepts are derived from the social enterprise literature and the community forest management literature. In most cases, concepts from both streams of literature are combined to reflect the specificity and context of CFEs and bridge the research gaps identified in the previous section. Figure 1 shows the overarching conceptual framework of the thesis and how the different concepts used to answer the four research questions fit together. The details for each research question are summarised below.

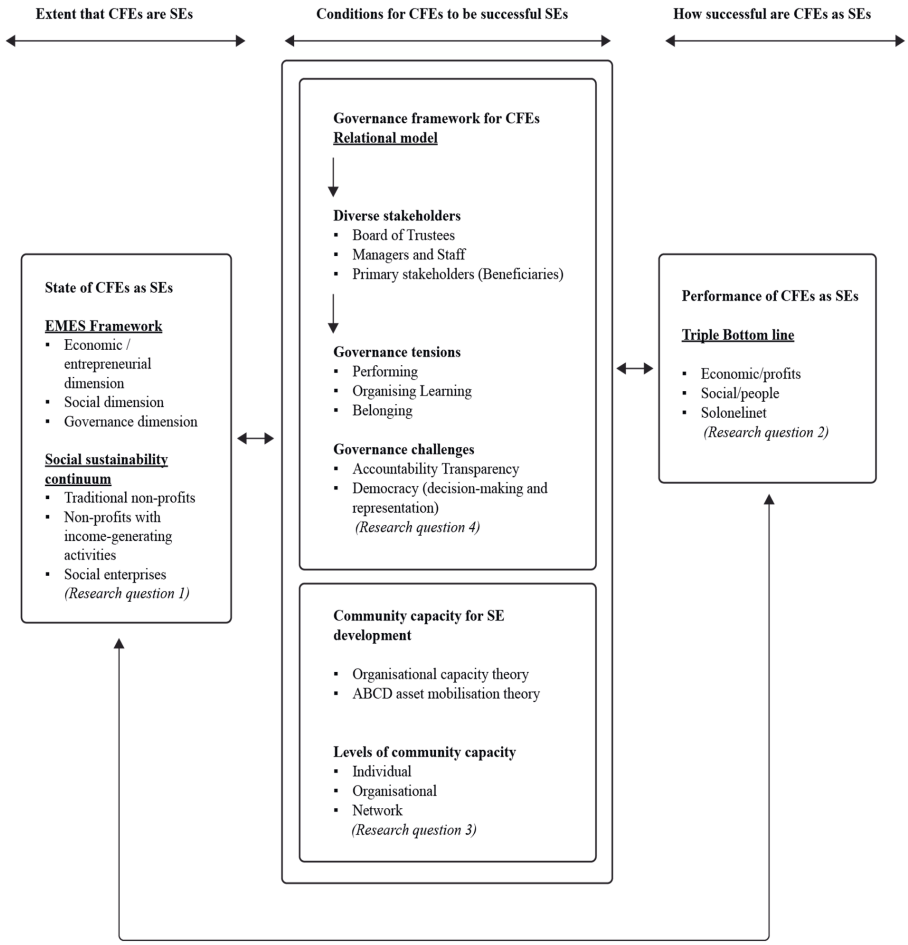


Figure 1: Conceptual framework for community forest enterprises as social enterprises

To answer the research question: *To what extent can CFEs in Cameroon be classified as social enterprises?* Chapter 2 builds on the *Emergence des Entreprises Sociales en Europe* (EMES), a three-dimensional framework for identifying social enterprises developed by

Defourny and Nyssens (2012). The framework consists of nine indicators and three dimensions: economic/entrepreneurial, social, and governance (Defourny and Nyssens, 2012; Enbring and Hajjar, 2022). In Chapter 2, CFEs are evaluated based on the indicators of these three dimensions. However, the characterisation using the EMES framework does not allow for the identification of CFE typologies that are neither social enterprises nor traditional nonprofits. The social sustainability continuum of Alter (2004) ranges from traditional nonprofits to nonprofits with income-generating activities and social enterprises. This combined framework permits using the EMES framework scores to cluster CFEs along the continuum of Alter (2004) in order to adequately situate CFEs and determine the extent to which they qualify as social enterprises.

Besides the categorisation challenges described above, the evaluation of CFEs' performance has become an important issue. To respond to the second question: *How successful are CFEs in Cameroon when viewed as social enterprises*? Chapter 3 proposes an adapted conceptual framework based on Elkington's (1997) triple-bottom-line (TBL) principle. The TBL framework captures three dimensions: economic/profits, environmental/planet, and social/people (Docekalová and Kocmanová, 2016; Elkington, 1997). The framework draws from the social enterprise and CFE literature to propose CFE evaluation along three dimensions: social, economic, and environmental. This framework solves one of the main problems of existing models: the absence of quantitative indicators that permit easy comparison between CFEs (Siegner et al., 2022a). The three pillars of the TBL are highlighted in a box in Figure 1 under the performance of CFEs as social enterprises.

The hybrid character of social enterprises suggests that for CFEs to be successful, they must adhere to specific governance conditions and address capacity gaps at the organisational, community, and individual levels (Frey et al., 2021; Humphries et al., 2022) CFEs face challenges related to community capacity, defined as the ability of individuals, groups, and governments to come together, learn, and make well-reasoned decisions for their community (Chaskin, 1999; Noya and Clarence, 2009). *To answer the third research question: What community capacity is required for CFEs to be successful social enterprises?* Chapter 4 builds on the organisational capacity theory and asset-based mobilisation theory (Shahidullah and Haque, 2016) to capture community capacity, as shown in Figure 1, with a box titled 'Community Capacity for Social Enterprise Development.' This is used to evaluate capacities at the network, organisational, and individual levels, which are the different levels required for CFEs to succeed (Piabuo et al., 2021; Foundjem-Tita et al., 2018). Organisational capacity

refers to the characteristics of the organisation that ensure the achievement of sustainable development goals and enterprise objectives (Christensen and Gazley, 2008; Liberato et al., 2011). These characteristics include organisational culture, strategic leadership, financial resources, mission, management capacity, human resource management, and governance (Allison and Kaye, 2005). The Asset-Based Community Mobilisation (ABCD) theory focuses on the capacity of individuals and organisations to identify problems and use their assets to resolve them (Shin et al., 2014; Harrison et al., 2019; Ward, 2019). Community assets are defined as “the capacity and technology of individuals, organisations, and institutions" (Kretzmann and McKnight, 1993, p. 25). Individual assets are the talents and knowledge of members, while organisational assets encompass public companies, local governments, nonprofit organisations, public institutions, and social enterprises. The ABCD theory classifies community assets into associations, places where they are based, connected institutions, and individuals (Harrison et al., 2019; Ward, 2019). Figure 1 summarises the conceptual framework and links the theories used.

To answer the fourth research question: *What governance conditions are required for CFEs to be successful social enterprises?* Chapter 5 employs Mason's (2009) and Smith et al.'s (2013) relational model for tension categorisation. CFEs interact with stakeholders, including private firms, government organisations, individual entrepreneurs, non-governmental organisations, and donors (Macqueen, 2012; Foundjem-Tita et al., 2018). These different stakeholders have different interests in their relationship with CFEs, which can be contrary to the mission of CFEs, potentially causing tensions. Chapter 5 stresses that, unlike corporate structures, hybrid organisations such as CFEs are owned and managed by the community (Engbring and Hajjar, 2022). Insights from the governance of social enterprise by Mason (2009) purport that social enterprises deal with four key stakeholder groups: (1) board of trustees, (2) managers and staff, (3) primary stakeholders (beneficiaries), and (4) stakeholder committees; thus, a governance system that protects these groups' interests is appropriate. Mason (2009) proposed a relational governance model for social enterprises with accountability, transparency, and democracy as vital relational traits. Accountability refers to each group's responsibility and performance level that each member must uphold (Young, 2006). Transparency captures the extent to which an organisation openly discloses social accounts and information to stakeholders (Aguilera et al., 2007), while democracy is the process of incorporating diverse views of different stakeholders in decision-making, coupled with representation, the fair and honest process of electing board members (Conforth, 2004; Enbring and Hajjar, 2022). Smith et al. (2013) stated that the

relationships between these stakeholders (diverse stakeholders, board of trustees, managers and staff, and primary stakeholders) are characterised by persistent and interrelated tensions, which can be classified into four types of tensions: performing, belonging, learning, and organising tensions. These tensions also lead to governance challenges, as highlighted in Figure 1, such as challenges related to accountability, transparency, and democracy.

The arrows in Figure 1 indicate the connections between the dimensions that characterise CFEs and how they shape the performance evaluation of CFEs as social enterprises. Also, since the actual performance of CFEs reinforces their characterisation as social enterprises, there is a bidirectional arrow between their state and their performance as social enterprises. Because of the characteristics of CFEs, highlighted by their hybrid character, specific governance and capacity conditions in the process of CFE development affect CFE performance.

1.8 Research Methodology

This section summarises the overall methodology employed in this thesis; it describes the selection criteria for CFEs, data collection tools, and data analysis techniques used per research question.

1.8.1 Selection of CFEs

The data for this thesis was collected as part of the World Agroforestry Centre's research and development project: "DRYAD: Financing Sustainable Community Forest Enterprises in Cameroon", which ran from June 2015 to June 2020 (World Agroforestry Centre, 2015). As the project junior scientist, I supported the delivery of the three workstreams of the project that: 1) Enhanced the viability and sustainability of CFEs, 2) enabled CFEs to receive Dryad support and deliver sustainable benefits, and 3) built evidence-based and best-practice guidance for scaling up. Data collection, analysis, and dissemination were critical to the project. As a member of the research team responsible for project implementation, I supported project management activities, participated in data collection (85% of data collection), analysed and produced project research outputs, and facilitated dissemination as part of the project. To adequately document and learn lessons from project implementation, data was collected from inception in 2015, during project implementation until 2020, and after project implementation in December 2020. Sampled CFEs were based on the Dryad project implementation area, covering five regions of Cameroon (Figure 2).

In 2017, Cameroon had 493 CFs with either a provisional or definitive management agreement; only 284 had a definitive management agreement (MINFOF, 2009), and 60 had a valid Simple Management Plan (SMP) (Minang et al., 2017). Over 85% of the CFEs in Cameroon are found in the East, Littoral, South, Centre, and Southwest regions (Minang et al., 2017), mainly because these regions have a significant lowland tropical forest cover.

For all projects, only CFs with a valid simple management plan (SMP) were considered, and sample CFEs were selected using multistage purposeful sampling across five regions in different projects (summarised in Table 1). In the first stage, the general sampling criterion was that CFEs must have an approved SMP and a Management Agreement ratified by the government of Cameroon. The second stage selection required CFE to provide proof of ongoing business activities over the past five years, records of meetings and financial transactions (receipts, income, and expenditure records), and evidence of community engagement to avoid elite capture. Data collection and analysis for specific projects are summarised below.

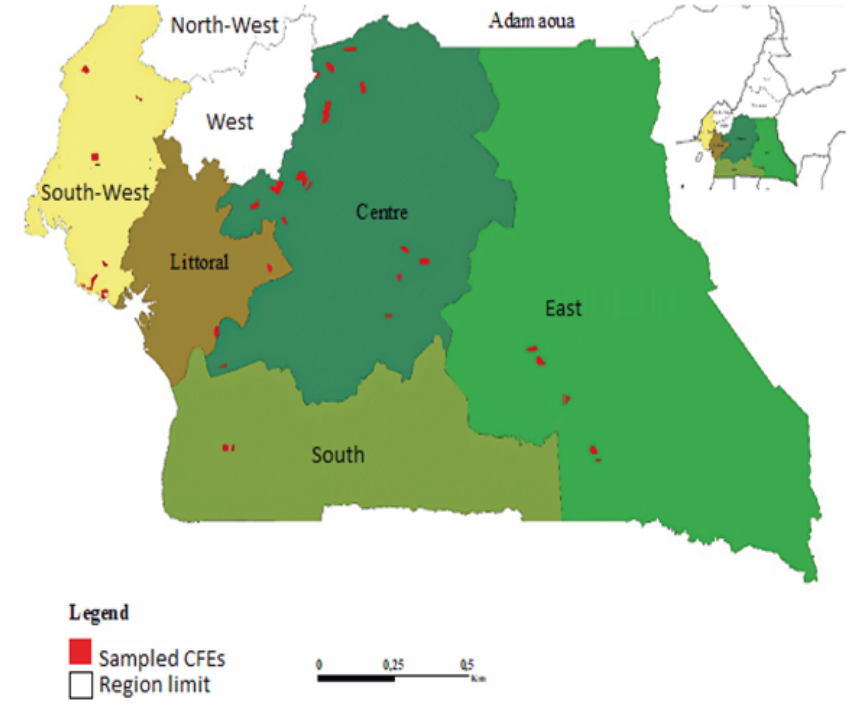


Figure 2: Distribution of sampled CFEs in Cameroon

Table 1: Overview of data collection tools per research question[1]

Research question answered	Number of Villages sampled	Number of CFEs sampled	Focus group discussions (85%)	Individual interviews (85%)	Narrative inquiries (100%)	Justification sample size
1. To what extent can CFEs in Cameroon be classified as social enterprises?	38	38	116	570	0	Optimal sample selected for data collection during data collection
2. How successful are CFEs in Cameroon when viewed as social enterprises?	9	9	9	0	0	Only 9 CFEs had complete data on all costs and revenue for all transactions.
3. What governance conditions are required for CFEs to be successful SEs?	31	31	31	31	31	7 CFEs from the optimal sample were not reachable due to the anglophone crisis in the Southwest region
4. What community capacity is required for CFEs to be successful SEs?	31	31	95	0	0	7 CFEs from the optimal sample were not reachable due to the anglophone crisis in the Southwest region
Total			**251**	**601**	**31**	

[1] The brackets indicate percentage of focus group discussions, individual interviews and narrative inquiries done by the researcher.

1.8.2 Data collection

Different data collection techniques were employed for the four questions; secondary data were gathered from CFE documents such as annual financial reports and minutes of meetings, as well as CFE legal documents (SMP, annual exploitation permit, and management agreement).

The focus group discussions were also used for data collection in all projects, with the composition and the number of participants specified in Chapters 2 to 5. For Chapter 2, individual and key informant interviews were used to triangulate information collected through focus group discussions. In Chapter 4, transect walks coupled with remote sensing were employed to capture natural resource capacity and explore forest resource abundance.

Based on the research questions, various data analysis techniques were used—the conceptual frameworks inspired these techniques. A summary of analysis techniques for the four projects is highlighted below.

Research question 1: *To what extent can CFEs in Cameroon be classified as social enterprises?*

Defouney and Nyssens' (2012) combined EMES approach and Alter's (2004) social sustainability continuum served as the theoretical foundation for data collection. Qualitative deductive content analysis of CFE documents, focus group discussions (FGDs), and interviews were used to get scores for each indicator of Defouney and Nyssens's (2012) dimensions. Inductive content analysis was also used to justify the scores and provide more context to the CFEs. K-means cluster analysis uses the scores from each indicator to cluster CFEs along the continuum of Alter (2004). This clustering exercise classifies CFEs into traditional nonprofits, nonprofits with income-generating activities, and social enterprises. The SPSS Version 20 software was used for deductive content analysis of CFE documents, and notes from FGDs and published documents were used to understand differences and similarities between clusters.

Research question 2: *How successful are CFEs in Cameroon when viewed as social enterprises?*

A contextualised CFE performance evaluation framework was adapted from Elkington's (1997) triple bottom line; this framework and its indicators served as the basis for data analysis. Income and expenditure analysis, FGDs, and analysis of satellite images were employed to analyse data relating to the economic, social, and environmental performance of CFEs.

Research question 3: *What community capacity is required for CFEs to be successful social enterprises?*

A contextualised conceptual framework based on the organisational capacity theory and the asset-based mobilisation theory (Nash, 2010; Shahidullah and Haque, 2016) guided the analysis in this chapter. Deductive content analysis of FGDs was used to understand ratings for different community capacity indicators. The relative importance index (RII) was used to rank community capacity domains; at the same time, descriptive statistics such as mean and standard deviation were employed to identify community capacity gaps based on scoring. The Pearson correlation analysis was utilized to understand the relationship between different domains of community capacity.

Research question 4: *What governance conditions are required for CFEs to be successful social enterprises?*

Building from a theoretical framework that captures the relational model of Mason (2009) and the categorisation of tensions by Smith et al. (2013) and Lüscher and Lewis (2008), deductive content analysis of notes from FGDs and in-depth interviews was used for analysis. Mason and Doherty's seven-step iterative analysis method was employed to identify and categorise tensions and paradoxes.

1.9 Structure of the Thesis

The thesis structure includes six chapters: an introduction, four chapters addressing the research questions, and a conclusion chapter. Four journal articles emerged from these chapters: three are published, and one is under review (see Table 2). A summary of the chapters is highlighted below.

Chapter 1 presents a brief background to the thesis, problem statement, objectives and research questions, conceptual framework, case study description, and overall methodology.

Chapter 2 is dedicated to understanding the extent to which CFEs can be classified as social enterprises. Scores from sampled CFEs based on three dimensions of EMES criteria were used to characterise CFEs, and cluster analysis was employed to classify CFEs along the Alter (2004) continuum into traditional nonprofits, nonprofits with income-generating activities, and social enterprises.

Chapter 3 evaluates the performance of CFEs as social enterprises using contextualised CFE performance framework based on economic, social, and environmental dimensions composed of quantitative indicators. It also presents the factors that influence the performance of CFEs across these three dimensions and discusses possible options to enhance CFE performance.

Chapter 4 is dedicated to evaluating community capacity for developing CFEs as social enterprises by evaluating individual, organisational, and network capacities. It applies a contextualised framework for community capacity evaluation. After identifying areas with capacity gaps, the chapter further explores the relationship between the different domains of community capacity.

Chapter 5 explores the relationship between CFEs and their stakeholders, identifies tensions and paradoxes emanating from different views and interests between stakeholders, and further explains how these tensions manifest within CFEs. The chapter then goes a step further to explain how these tensions lead to governance challenges and discusses options for reducing these tensions and challenges.

Chapter 6 synthesises the major findings, lessons learned, and critical theoretical and empirical contributions and indicates the possible areas for future research.

Table 2: Overview of articles in relation to research questions and chapters

Chapter	Chapter title	The main research question addressed	Published article
2	State of Community Forest Enterprises (CFEs) as Social Enterprises: Empirical Evidence from Cameroon	To what extent can current CFEs be classified as social enterprises?	**Serge Mandiefe Piabuo**, Marjanke Hoogstra-Klein, Verina Ingram, Divine Foundjem-Tita (2022). Community Forest Enterprises (CFEs) as Social Enterprises: Empirical Evidence from Cameroon, *Forest Policy and Economics*, Volume 135, 2022, 102664, ISSN 1389-9341, https://doi.org/10.1016/j.forpol.2021.102664
3	Performance of Community Forest Enterprises (CFEs): Empirical Evidence from Cameroon	How successful are CFEs in Cameroon when viewed as social enterprises?	**Serge Mandiefe Piabuo**, Marjanke Hoogstra-Klein, Verina Ingram, Divine Foundje-Tita, Peter A Minang, Lalisa Duguma, Hens Runhaar. Performance of Community Forest Enterprises (CFEs): Empirical Evidence from Cameroon. In review after review.
4	Community Capacity for Social Enterprise Development: Empirical Evidence from Community Forest Enterprises (CFEs) in Cameroon.	What community capacity is required for CFEs to be successful social enterprises?	**Serge Mandiefe Piabuo**, Verina Ingram, Hens Runhaar, Marjanke Hoogstra-Klein, Divine Foundjem-Tita, Peter A Minang (2023). Community capacity for social enterprise development: Empirical evidence from community forest enterprises (CFEs) in Cameroon. *Environmental Development,* 100884. https://doi.org/10.1016/j.envdev.2023.100884
5	Community Forest Enterprises in Cameroon: Tensions, Paradoxes and Governance Challenges	What governance conditions are required for CFEs to be successful social enterprises?	**Serge Mandiefe Piabuo**, Community forest enterprises in Cameroon (2022). Tensions, paradoxes and governance challenges*, Environmental Development*, 100762, ISSN 2211-4645, https://doi.org/10.1016/j.envdev.2022.100762

CHAPTER 2: STATE OF COMMUNITY FOREST ENTERPRISES (CFEs) AS SOCIAL ENTERPRISES: EMPIRICAL EVIDENCE FROM CAMEROON

Community Forest Enterprises (CFEs) as Social Enterprises: Empirical Evidence From Cameroon[2]

Serge Mandiefe Piabuo, Marjanke Hoogstra-Klein, Verina Ingram, Divine Foundjem-Tita

Abstract

Similar to Social Enterprises (SE), community forest enterprises (CFEs) trade to meet their community's economic, social, and environmental challenges. The question is whether CFEs could and should be understood in terms of social enterprises. To explore this question, this study determines the extent to which CFEs can be classified as social enterprises, using CFEs in Cameroon as a case study. Based on the three-dimensional EMES framework and Alter's typology of social enterprises, CFEs are classified along a continuum of purely non-profits, non-profits with income-generating activities, and social enterprises. Data was collected through document review, interviews, and focus group discussions with CFE management, youths, women, and indigenous groups in 38 communities and subsequently analysed. Of the 38 CFEs investigated, only 11% could be classified as social enterprises, 63% as non-profit organisations with income-generating activities, and 26% as traditional non-profit organisations. Most CFEs (63%) engage in commercial activities for revenue generation but lack the skills and organisational setup to employ full business approaches coupled with financial discipline and community ownership—which are core values of social enterprises. Operating as social enterprises would enable CFEs to be financially and environmentally sustainable, allowing them to easily contribute to community development. However, moving CFEs from "non-profits with income generation" to SEs requires (i) a change in mindset, (ii) evaluation and development of community capacity for CFE development, (iii) proper research on tensions and paradoxes with actionable solutions, and (iv) sectorial coordination for CFE development, support, and creation of CFE incubation centres.

Keywords: Community forestry, Social entrepreneurship, Governance, Non-profit enterprise, Rural development

[2] This chapter is based on the paper published as Piabuo, S. M., Hoogstra-Klein, M., Ingram, V., & Foundjem-Tita, D. (2022). Community forest enterprises (CFEs) as Social Enterprises: Empirical evidence from Cameroon. Forest Policy and Economics, 135, 102664. https://doi.org/10.1016/j.forpol.2021.102664

2.1 Introduction

Over recent decades, community forest management has increasingly been used to manage tropical forests (Arnold, 2001; Wiersum, 2009; Whittingham and Agrawal, 2019). In Africa, for example, 85% of the forests are owned by communities, with only 4% owned by individuals and 11% by business entities and institutions (FAO, 2020). In 1994, Cameroon passed a law allowing communities to access and manage up to 5000ha of non-permanent land as community forests (MINFOF, 2009). The objectives of devolving forest management to local communities through community forestry include (i) enhancing participatory management of the forest, (ii) improving the livelihood of the forest-dependent population, and (iii) promoting sustainable forest management (MINFOF, 2009). However, after three decades of experience with forest management decentralisation, community forest management has not adequately delivered on participatory forest management and livelihood improvement of forest-dependent communities (Baynes et al., 2015; Arts and De Koning, 2017). Key factors contributing to the failure of CFs to enhance livelihoods and participatory forest management include lack of income generation, poor business skills, limited market access, governance issues, inadequate policies, and the need for structural reforms (Duguma et al., 2018a; Piabuo et al., 2018; Foundjem-Tita et al., 2019).

Community Forest Enterprises (CFEs) are being promoted as viable options to overcome these challenges. Macqueen (2008, p. 3) defines CFEs as "an entity that undertakes commercial business based on forests or trees. A credible representative body oversees it. The enterprise can claim legitimacy within a self-defining community in terms of people and area, generating and redistributing profits within that community." Macqueen (2012) underscores that positive multiplier effects of CFEs on rural economies, such as skilled jobs, higher incomes, better terms of trade, and higher consumption, are key reasons for promoting CFEs as a tool for community forest management. CFEs are also promoted because financial incentives motivate rural communities to manage and restore their forests (Kyaw-Tint et al., 2014). Macqueen (2010) also describes CFEs in terms of three key features: (i) trade in goods and services for profit and not subsistence, (ii) the interests of the whole community are represented in the management and distribution of benefits, and (iii) self-definition and determination of a community in a specific area. Within the framework of this study, CFEs are community entities involved in the governance and management of forest resources; they trade in different forest products such as timber, non-timber forest products (NTFPs), agriculture, and aquaculture to generate income to finance the enterprise's social and environmental goals (Tracey et al., 2005; Ambrose-Oji et

al., 2015). These CFEs operate under the legal canopy of CFs; CFs are considered legal when they operate within the framework of a revised simple management plan and require exploitation permits for resources exploited (MINFOF, 2009; Minang et al., 2019). Foundjem-Tita et al. (2018) also supported the view that community forest enterprises (CFEs) might be viable options for revenue generation, sustainable forest management, and the provision of social services.

Over the last decade, there has been a discussion about whether these CFEs could also be considered social enterprises (Siegner et al., 2021; Foundjem-Tita et al., 2018). The concept of Social Enterprise (SE) is increasingly used in the scholarly literature to describe enterprises maximising social and environmental value creation (Barraket et al., 2016; Kartallozi and Xhemajli, 2021; OECD/European Union, 2013). These enterprises are characterised by their principal social goals of promoting environmental responsibility, respect for nature and people, and social equity. However, unlike charities and non-profit organisations, which aim to improve human and environmental well-being, SEs apply commercial strategies and generate profits, just like "normal" enterprises, to achieve their social mission (Bretos et al., 2020). Hence, at first glance, CFEs seem to have a hybrid character similar to SEs (Siegner et al., 2021).

Foundjem-Tita et al. (2018) propose that viewing CFEs as SEs can help situate them as social economy organisations, which could further enhance their development and growth. Eversole et al. (2013) also argue that classifying CFEs as SEs can provide new insights into how local communities govern and progress towards their development goals across multiple domains. The SE lens can also provide lessons on how communities mediate relationships with other actors (Berkes and Davidson-Hunt, 2007), challenge path-dependent ways of working, and enhance more inclusive local governance (Eversole et al., 2013). It can also provide evidence that allows CFEs to benefit from policies that are not available to "normal" businesses, such as tax exemptions and incentives (Antinori and Bray, 2005; Foundjem-Tita et al., 2018).

One of the main issues is that SE is a poorly defined concept, and controversy over definitions and classifications is common (Lloyd, 2002; Nicholls, 2006; Jones, 2007). Although most scholars agree that SEs combine social objectives with market approaches, the reality is that meeting these two extreme goals is not a dichotomy but a continuum of many grey shades (Dees and Anderson, 2006). This also means that different types of SEs exist, varying across cultural, historical, regulatory, and country contexts and sectors (Daniele et al., 2009; Barraket

et al., 2016), with different identities and missions (Borzaga and Defourny, 2001; Noya, 2009; OECD, 2003; Barraket and Collyer, 2010).

This study aims to provide empirical evidence on if and to what extent CFEs can be classified as (a type of) SE, using CFEs in Cameroon as a case study. Cameroon forms an excellent case for two main reasons. Firstly, CFEs are well established in this Central African country. The 1994 Forestry Law and its 1995 Law of Application grant forest communities the right to exploit forest resources (timber, non-timber, fauna, and water) for the benefit of the community upon agreement in a simple management plan (SMP) (MINFOF, 2009). Secondly, the discussion about CFEs as SEs has already started in Cameroon. For example, Foundjem-Tita et al. (2018) report that CFEs in Cameroon generate economic profits and produce social and environmental public goods and, from a policy perspective, should be classified as social enterprises in order to benefit from the associated tax incentives and government support that other social enterprises receive. However, the findings of Foundjem-Tita et al. (2018) are limited because they were based on a literature review and grey literature with no specific methodology for collecting and weighing data from the various literature they cited. This study innovates in that (i) it employs a new framework to assess CFEs as social enterprises, classifying them along a continuum, (ii) additionally, it is the first study in Cameroon and the Congo Basin to empirically assess CFEs as social enterprises. The classification of CFEs along a continuum in the new framework allows practitioners to tailor technical support to the needs of CFEs based on where they are situated.

In addition to its empirical contribution, this study makes a theoretical contribution to CFE and SE research. This chapter identifies the weakness in the approach of using EMES criteria to classify SEs and proposes a conceptual framework to better address it. To the best of our knowledge, the combination of the Emergence des Entreprises Sociales en Europe (EMES) framework with the typology of Alter (2004) to cluster the CFEs in Cameroon on a continuum, as either traditional non-profit organisations, non-profit organisations with income-generating activities, or social enterprises, has not been applied in the forestry sector in an African context. This study extends it to Cameroon and possibly to the African context.

2.2 Conceptual Framework

The term "social enterprise" is related to and often used interchangeably with other terms such as "social economy", “not-for-profit organisations”, and “third-sector organisations” (Czischke et al., 2012). However, confusion about what these terms entail is a major preoccupation in

social enterprise literature (Christie and Honig, 2006; Chell et al., 2010). Social enterprises are often defined as "businesses with primarily social objectives whose surpluses are principally reinvested for that purpose in the business or the community, rather than being driven by the need to maximise shareholders' profit" (DTI, 2002; p.8). This definition stresses two main elements of social enterprises: social (including environmental) objectives are tackled, but an underlying financial motivation is needed for an enterprise to focus on these social and environmental issues (Chell et al., 2010). Alternatively, as Kay et al. (2016) explained, social enterprises use economic activities to achieve social, environmental, and even societal impacts.

This broad definition, however, makes it difficult to determine when an enterprise qualifies as a social enterprise. Lyon and Sepulveda (2009b) state that the broad definitions mean that many organisations that do not define themselves as social enterprises are defined as such but would agree that they are involved in "social enterprise activity" and that "there may be others that define themselves as social enterprises, but which do not meet the defining test." Pestoff (2013) contends that in terms of SEs, two conflicting extremes can be found: (1) anything goes, and (2) almost nothing qualifies. One model used to characterise SEs that fall somewhere between these two extremes is the EMES framework.

This approach, developed for the European context, forms, as Pestoff (2013) stated, a stable middle ground using a set of indicators rather than a predefined definition of a social enterprise. Initially, the EMES consisted of two subsets of indicators: a set of four economic and entrepreneurial indicators and five social indicators (Defourny, 2001), reflecting the two major dimensions of social enterprises.

Table 3: Emergence des Entreprises Sociales en Europe (EMES) three-dimensional framework for identifying social enterprises (Defourny and Nyssens, 2012)

Dimension	Indicator	Explanation
Economic and entrepreneurial dimension	A continuous activity producing goods and/or selling services:	This criterion requires that social enterprises should be involved in the provision of services or production of goods continuously, and this should be one of the key reasons for the existence of the enterprise
	A significant level of economic risk**:**	Enterprise creation comes with risk; members and workers of the SEs must assume the risk and make efforts to ensure the financial and social viability of the enterprise
	A minimum amount of paid work:	SEs can combine monetary and non-monetary resources as well as paid and unpaid labour; however, there should be a minimum amount of paid labour
Social dimension	An explicit aim to benefit the community:	The production and commercialisation of goods and services should serve the community and promote social responsibility at the local level
	An initiative launched by a group of citizens or civil society organisations:	The enterprise should be the outcome of a collective dynamics of members with a clear aim or need that should be maintained over time
	A limited profit distribution:	Social enterprises are not profit-maximising organisations; thus, there should be a limited distribution of profits, and profits should be invested in social projects that benefit the whole community
Governance dimension	A high degree of autonomy:	SEs should not be managed directly or indirectly by the public or other organisations but autonomously by the SE members
	A decision-making power not based on capital ownership:	Decision-making should be "one man, one vote" or a decision-making process not based on share capital
	A participatory nature, which involves various parties affected by the activity:	There should be representation and participation of stakeholders in the management

The EMES indicators are not intended as conditions that should be fully met for a CFE to qualify as a social enterprise. They provide a basis to situate CFEs along a social-economic spectrum. Although the abstract concept of a "galaxy" of social enterprises (Defourny et al., 2021) is considered a strength of the frame, at the same time, it is a weakness of the approach, as it lacks clear boundaries to distinguish between separate a social enterprise from a non-social enterprise.

Table 4: Combined EMES approach and social sustainability continuum

	Social sustainability		
EMES dimensions	**Traditional Nonprofit**	**Non-profit with income-generating activities**	**Social Enterprise**
Economic and entrepreneurial dimension	Depend on external funding or self-generated funds	Revenue from donors and sales of products or services	Use innovative market approaches with discipline and determination to generate profits
Social dimension	Founded for social value creation	Founded for social value creation	General social impact by solving social problems or market failure
Governance dimension	Stakeholders at the centre of the governance structure	Stakeholders at the centre of the governance structure	Effective stakeholder participation and engagement in governance

Therefore, we also use the typology of Alter (2004). Alter (2004) proposed an adapted continuum where enterprises strive for social sustainability by engaging in business activities at different levels on a continuum from a traditional non-profit organisation, a non-profit with income-generating activities, and social enterprises. Table 4 further elucidates how the EMES framework and the social sustainability of Alter (2004) are combined to classify CFEs along a continuum.

Alter (2004) defines traditional non-profits as organisations that depend totally on grants and external funding to meet their social aims. Non-profits with income-generating activities are organisations with commercial revenue generation embedded in their operations to meet their social aim; however, revenue from these commercial activities is relatively small compared to

their total budget. SEs are defined as businesses created for a social purpose that use innovative business approaches coupled with determination and financial discipline to generate funds to sustain their ultimate social purpose. They are characterised by a strong social mission, a fully business-oriented approach, and social or community ownership of the enterprise. The EMES three-dimensional approach is used to classify CFEs on this continuum, as proposed by Alter (2004).

Based on these frames, the research questions underlying this thesis are:

(i) How do CFEs in Cameroon score on the different EMES dimensions and indicators?
(ii) Based on these scores, which types of CFEs (traditional non-profit, non-profit with income generation, and SE) can be distinguished?

2.3 Methodology

2.3.1 Research approach

This study was conducted as part of a research and development project called "DRYAD: *Financing Sustainable Community Forest Enterprises in Cameroon*" (World Agroforestry Centre, 2015). The data used in this chapter is part of a large dataset collected at different periods of the Dryad project lifespan (2015-2020). It addresses CFE governance, the inclusion of women and indigenous groups, the typology of enterprises and income-generating activities developed by the CFEs, and the social, economic, and governance contributions of these enterprises. Information on the context and history of the CFEs was collected for contextual understanding (Danks, 2009). This generated information on the overall progress towards meeting the defined goals of the CFEs, with a clear narrative explaining progress and key obstacles to progress.

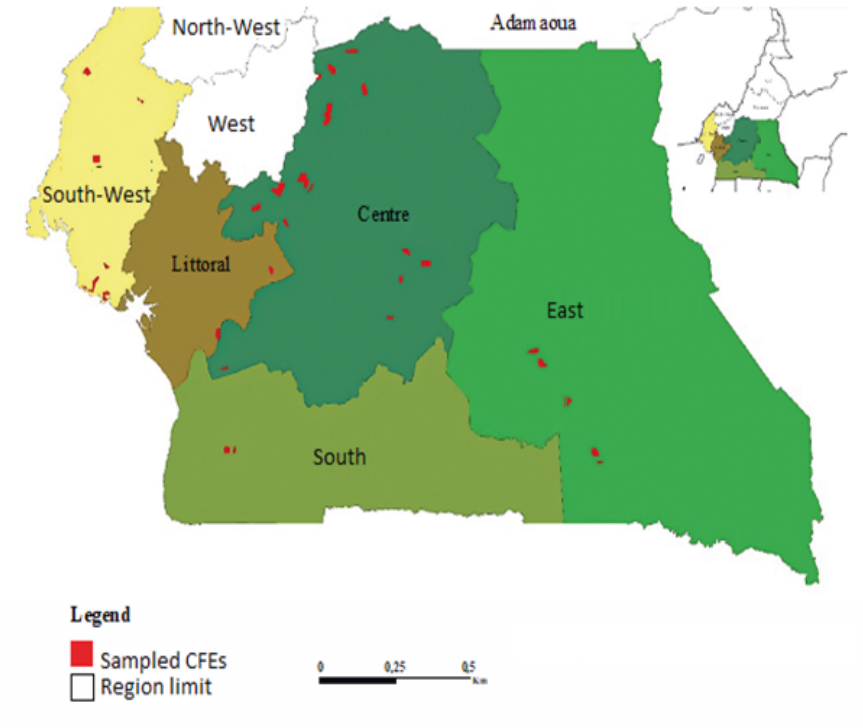


Figure 3: Sampled CFEs in five regions of Cameroon

As of 2017, about 493 communities had started the process of obtaining a community forest. Only 284 of these CFEs had an approved management agreement (MINFOF, 2009), of which 60 of these had a revised Simple Management Plan (SMP) (Minang et al., 2019). By 2019, only 375 CFEs had a valid management agreement, and the number of CFEs with a revised SMP was reduced to 41 (GFW, 2019). Minang et al. (2019) attribute this reduction to the lack of funds, knowledge, and institutional capacity of communities to generate revenue from forest resources and adapt to procedures. Over 85% of the CFEs in Cameroon are found in the East, Littoral, South, Centre, and South-West regions (Minang et al., 2017), largely because these regions have significant forest cover. CFEs can develop businesses based on timber, non-timber forest products (NTFPs), agriculture, aquaculture, and tourism, with different teams managing different products (Piabuo et al., 2019). These production activities can generate paid jobs for community members and provide income for employees (Minang et al., 2017; Piabuo et al., 2019).

In total, 38 CFEs participated in the study (see Figure 3 for an overview of the sampled CFEs). To ensure that only CFEs operating within the framework of the law were considered, the

following criteria were used to sample CFEs: (i) CFEs should have a revised SMP, (ii) CFEs exploiting timber should have an annual exploitation permit, and (iii) CFEs exploiting non-timber forest products should have a certificate of origin. Of the 41 CFEs with a revised SMP, three were excluded due to security concerns emanating from the socio-political crisis in the South-West Region; this represents 92% of the eligible population, making it highly representative and higher than previous studies such as those of Cuny (2011) and Ezzine de Blas et al. (2009) who used 6 and 20 CFs as case studies respectively.

The area of CFs in the Centre region ranged from 1700 to 5000ha, with a mean of 4214ha. The average area in the East, Littoral, South, and South-West regions was smaller due to the dominance of protected areas. Table 5 shows that the average population of the communities varies; the mean and median population per community were higher in the Centre and South-West regions, contrary to the South, Littoral, and East regions with lower population density. Table 5 summarises the sampled CFEs in size (ha), population, and legal status.

Table 5: Summary data on sampled Community Forest enterprises (CFEs)

Key characteristics of CFEs	Parameters	Centre (n=18)	East (=6)	Littoral (n=4)	South (n=2)	South West (n=8)
Size of CF (ha)	Range	1700-5000	1300-5000	2682-4192	1400-3450	957-5000
	Mean	4214	2853	3818	2425	3099
	Median	5000	2662	3859	2425	3445
Community population (Number)	Range	300-5000	102-1861	99-332	300-600	308-14019
	Mean	1312	548	253	450	3936
	Median	1150	230	329	450	2750
The legal status of CFE	Common Initiative Group (CIG)	14	2	3	2	1
	Association	4	4	1		6
	Cooperative Society					1
Share of CFEs with a revised SMP	% of total CFEs	20%	60%	36%	36%	80%

Population size in the communities harbouring CFEs varies widely; some villages, such as Bopo in the littoral region, have only 99 inhabitants. This is due to the high emigration of youths to towns in search of better jobs. Other CFEs cover many communities; for example, MBACOF CF covers four villages (Ediengo, Mboka, Ekenge, and Afirkpabi) with about 14,019 inhabitants. Although only a few CFEs are organised as cooperatives, the cooperative

legal form is being promoted by scholars and the Organisation for the Harmonisation of Business Law in Africa (OHADA) as the best legal form (Gning and Larue, 2014; Sacconi and Ottone, 2015) because it allows members to run their affairs collectively and democratically.

2.3.2 Data collection

Between May 2017 and June 2018, data were collected within 38 CFEs using a three-step data collection process: (i) review of CFE documents, community history, and CFE-related files to understand the CFE, (ii) focus group discussions with CFE management and community members, and (iii) individual interviews. This was done to avoid self-selection bias and the desire for an objective and transparent process; during FGDs with CFE management and CF management committee, self-evaluation was confronted with an evaluation of youths and women from the community. This triangulation of information through separate FGDs permitted the research team to have a clear and concise picture of the community and understand the dynamics between different social groups. Information collected from these FGDs was triangulated with individual interviews of members randomly selected from the community to ensure clarity. Table 5 summarises information about the data collection process.

Review of CFE documents: Secondary data sources such as annual enterprise activity reports, minutes of CFE meetings, contracts with partners, and other legal documents (waybills, annual exploitation permits and environmental impact notice, finance records, and minutes of meetings) were collected during field visits to CFEs. Purposeful content analysis was used to review CFE documents and triangulate information on the indicators reported during FGDs. These documents provide insights into the operations of the CFE, income generated, sources, and use of income. CFE records indicated the employment created through CFE activities, salaries paid to employees, and the engagement of CFE with other partners. Minutes of meetings indicated the frequency of meetings, participation of social groups, and implications for women and youths. These documents were reviewed to triangulate information from focus group discussions.

Focus group discussions (FGDs): Three FGDs in each CFE were conducted to understand the CFE activities of various stakeholder groups, as well as the management, economic, social, and governance outcomes of CFE activities. To facilitate access to communities, the village chief was first informed of the study's objectives; the chief, in turn, introduced the team to the community and recommended knowledgeable members within the community on CFE affairs to work with them. The team applied the snowball technique to recruit other knowledgeable community members, enabling the formation of heterogeneous groups. In most FGDs,

participants had opposing views, indicating the absence of self-selection bias. Furthermore, the research team consisted of experienced facilitators who controlled for self-selection and ensured different voices were heard. Three separate focus groups per community were used to allow for easy expression of criticism or negative assessments.

1. FGDs with CFE managers and members of the CFE management committee: This permitted to obtain information from management on their activities, actions, and reasons for their actions.
2. FGDs with women and youths from the community: This group comprised women and youths who are community members. It permits the community's perception and evaluation of whether the information is consistent across various groups.
3. FGDs with indigenous groups (in a village with indigenous groups, such as the Baka in the East and the Bedjang in the Centre region): These FGDs were also used to capture the level of engagement of indigenous groups in CFE activities and compare the outcomes of the FGDs to CFE management and indigenous group perspectives.

Individual interviews: In total, we conducted three key informants' interviews (the village chief of Ngoume, a former delegate of CF, and the leader of the Bedjangs indigenous group) to clarify on uncertainties raised during the FGDs. Besides these three interviews, additional interviews were held with 15 randomly selected members who willingly accepted to participate per CFE; at least 40% of the samples were women. This was done to triangulate information and see if the information provided during the FGDs and key informant interviews was coherent with other community members' views.

Table 6: Summary information data collection process

Data collection tool	Number of per CFE	Total number of participants	The objective of data collection	Sampling method
Focus group discussions: CF management committee and CFE manager	38	250	Understand CFE activities and economic, social, and governance contributions. Thus, key CFE actors are required.	Purposeful sampling

Focus group discussions: Youths	38	236	Understand CFE activities, economic, social, and governance contribution, and also understand the extent of youth engagement.	Purposeful sampling for youths part-time or full-time employees and voluntary participation for other youths from the community
Focus group discussions: Women	38	230	Understand CFE activities, economic, social, and governance contribution, and also understand the extent of women's engagement	Purposeful sampling for women part-time or full-time employees and voluntary participation for other women from the community
Focus group discussions: Indigenous groups (Bedjang and Baka)	2	17	Understand CFE activities, economic, social, and governance contribution, and also understand the extent of indigenous engagement	Purposeful sampling for indigenous people part-time or full-time employees and voluntary participation for other community members
Key informant interviews	1	3	In case of conflicting information from different FGDs, key informants are consulted for more clarity. Such cases were required only for three CFEs	Purposeful, based on the information required
Individual interviews	15	570	They were randomly selected to triangulate information collected from FGDs and key informant interviews	Random sampling with the representation of youths, women, and indigenous groups
TOTAL		**2019**		

CFE members were interviewed to understand community knowledge of CFE activities, social problems they expect CFEs to resolve with profits from the enterprise, and their perceptions of CFE management. This allows for a better understanding of the phenomenon, a review of the degree of information flow within the community, and an appreciation of community engagement in the CFE decision-making process.

2.3.3 Data Analysis

Building on the EMES ideal type of SEs (Defourny and Nyssens, 2012), a Likert scale of 1-5 was used to score each of the three dimensions and the nine indicators. This list of indicators

formed an important input for the FGDs. The definition of scores for each indicator was explained to the focus group participants. Individual interviews and a review of CFE documents were used to triangulate the information reported in the FGD. Table 7 shows the definition of scores and evaluation variables for the CFE dimensions.

Table 7: Definition of scores

1	2	3	4	5
Strongly disagree that CFE meets indicators	Disagree CFE meets indicators	Partially agree that CFE meets indicators	Agree CFE meets indicators	Strongly agree that CFE meets indicators

A cluster analysis was conducted using the scores from the focus group participants and the additional data collected via interviews and document review. Cluster analysis permits the classification of cases into groups that are very homogeneous amongst themselves and heterogeneous between each other based on a set of variables (Churchill et al., 2015). Cluster analysis was used to group CFEs with similar characteristics based on the EMES indicators along the continuum of Alter (2004). CFEs, where participants agreed or strongly agreed that they meet all EMES dimensions, were considered social enterprises; those that partially agreed were rated as non-profit organisations with income-generating activities, and participants who disagreed that their CFE met all dimensions were rated as traditional non-profit organisations. Clustering allows a better understanding of patterns within the continuum. The K-means clustering technique was used because of its conceptual simplicity and computational speed (Kaushik and Mathur, 2014), using the Statistical Package for Social Science (SPSS) version 26. Cluster analysis was performed for 2, 3, and 4 clusters; the gap index proposed by Tibshirani et al. (2001) was used to determine that the analysis with 3 clusters maximises the statistical gap, making it more robust in regrouping CFEs along the continuum of Alter (2004). Euclidean distances between cluster centroids were used to determine how different the clusters were.

2.4 Results

2.4.1 Overview of CFE scores on different EMES dimensions and indicators

To view CFEs from the different dimensions, consolidated scores based on triangulated information from document reviews, FGDs, and interviews were used. The scores show that

CFEs are at different levels of economic, social, and governance development; further details on each of these dimensions are discussed below.

Economic/entrepreneurial dimension

Figure 4 provides an overview of the scores for the economic/entrepreneurial dimension of all the CFEs included in this research. As shown in the figure, four CFEs (CFE1, CFE2, CFE19, and CFE9) have an average score of four for the three economic/entrepreneurial dimension indicators. This score indicates that these CFEs have been in continuous production; they take an economic risk and have a minimum amount of paid labour. Sub-contracting timber exploitation has been their main source of income; community members were employed as workers by partner companies and by the enterprise during inventory. These activities created economic dynamism in these communities, leading to spillover effects in other sectors, such as village restaurants. For example, CFE1, a timber enterprise, generated 10,997,742 XAF ($19,180) within 12 months. The CFE also created jobs for 87 people, totaling an estimated 1115 person-days and $3648 in wages. Of the person-days created in the last year, the youth took up 55%, and only 25% were taken up by marginalised communities.

More than twenty CFEs recorded an average score of three, which indicates that FGD participants partially agree with meeting EMES indicators on the economic/entrepreneurial dimension. These CFEs have not been in continuous production for two or three years within the past five years. Income was not continuous over five years because partners failed to meet agreements, and the community could not afford inventories to renew legal documents for timber exploitation.

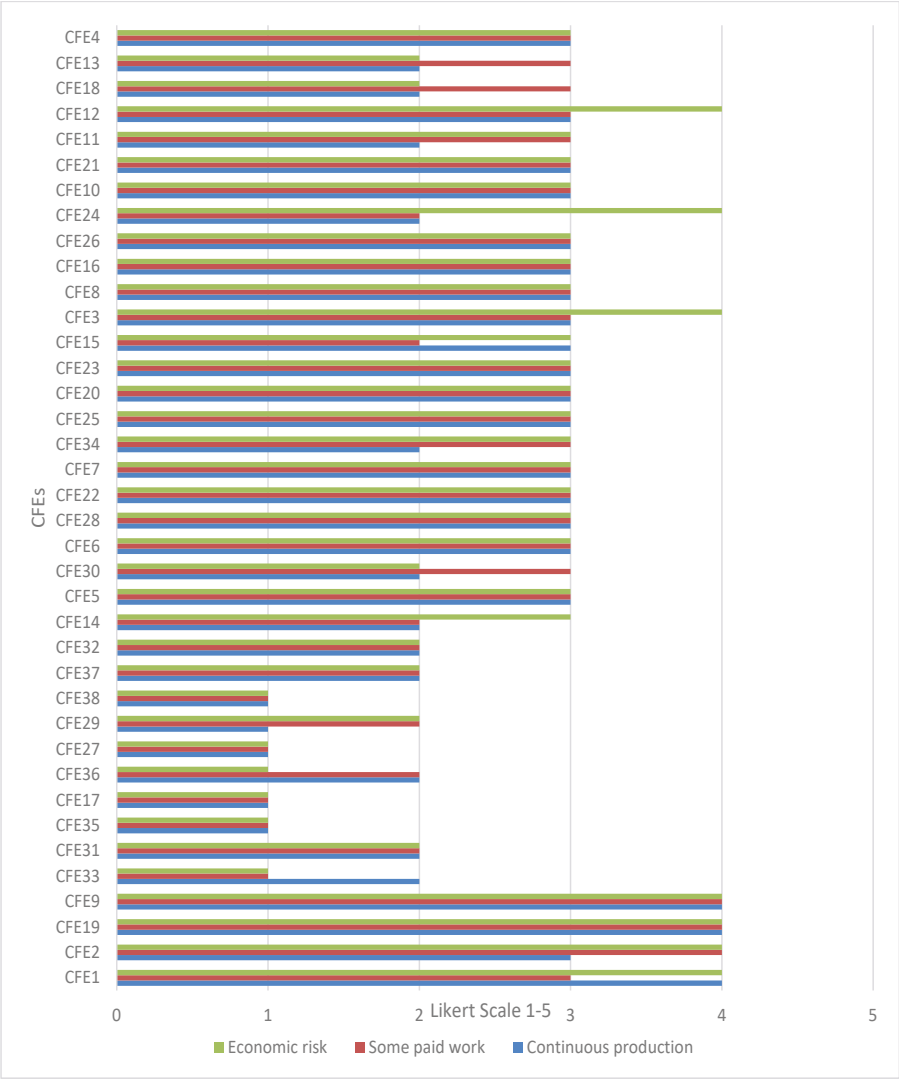


Figure 4: Economic/entrepreneurial dimension of CFEs in Cameroon

For example, CFE25 exploited timber in 2015 and generated revenue, and CFE23 generated $11,322 from payment for environmental services (PES) in 2017, which generated 88 jobs with an estimated 5417 person-days and $1,327 paid in wages. Of the person-days created, 71.4% were occupied by youths and 26.6% by women. Timber exploitation by CFE28 generated 950,000 XAF ($1,657[3]) over 12 months and created five jobs worth 142 person-days, of which

[3] $1=573.325XAF, converted on 10/29/2021

employees received 244,500 XAF ($426) as wages. CFE30 was engaged in tree planting and eco-tourism. CFE31 was engaged in the exploitation of *Prunus Africana* and timber.

About ten CFEs have an average score of less than 3; these CFEs have not generated income from the trade of forest products or services; they depend only on grants. Therefore, no jobs have been created since inception, and they had limited or no initiatives from community members, resulting in an average score of two, which indicates they do not meet any of the economic/entrepreneurial indicators. For example, CFE26 attempted timber exploitation in 2016. However, their business partner did not harvest due to technical difficulties; thus, the CFE did not generate revenue. As road access to CFE27 is very difficult, business partners perceived transaction costs to be too high, which resulted in no economic activities since the CFE's creation.

Social dimension

CFEs do business to meet their principal social aim, which in most cases is to improve the community's social well-being by providing social amenities to community members (Piabuo et al., 2019). Figure 5 provides an overview of the CFEs' scores on the three criteria of the framework and the average score on the social dimension.

Four CFEs (CFE1, CFE2, CFE19, and CFE9) have average social dimension scores of four or higher. These CFEs score high on all three social criteria and have made significant strides in community development. CFE1, for example, constructed a kindergarten and continuously ensured the management of two community wells, paid the salary of three primary teachers, supported the old and sick in the community, paid the salary of a community nurse, distributed cocoa seeds to the community members, and provide financial support to best students from the community (Minang et al., 2017). Another example in the East region is CFE19, which contributed socially through the amelioration of houses (purchase of roofing sheets), purchasing of solar panels and community bricklayer, paying the salary of a community teacher, and financially supporting 17 older people to the tune of $58 per person per year. Additionally, all women received financial support to purchase inputs for agricultural activities ($698), and two churches were constructed.

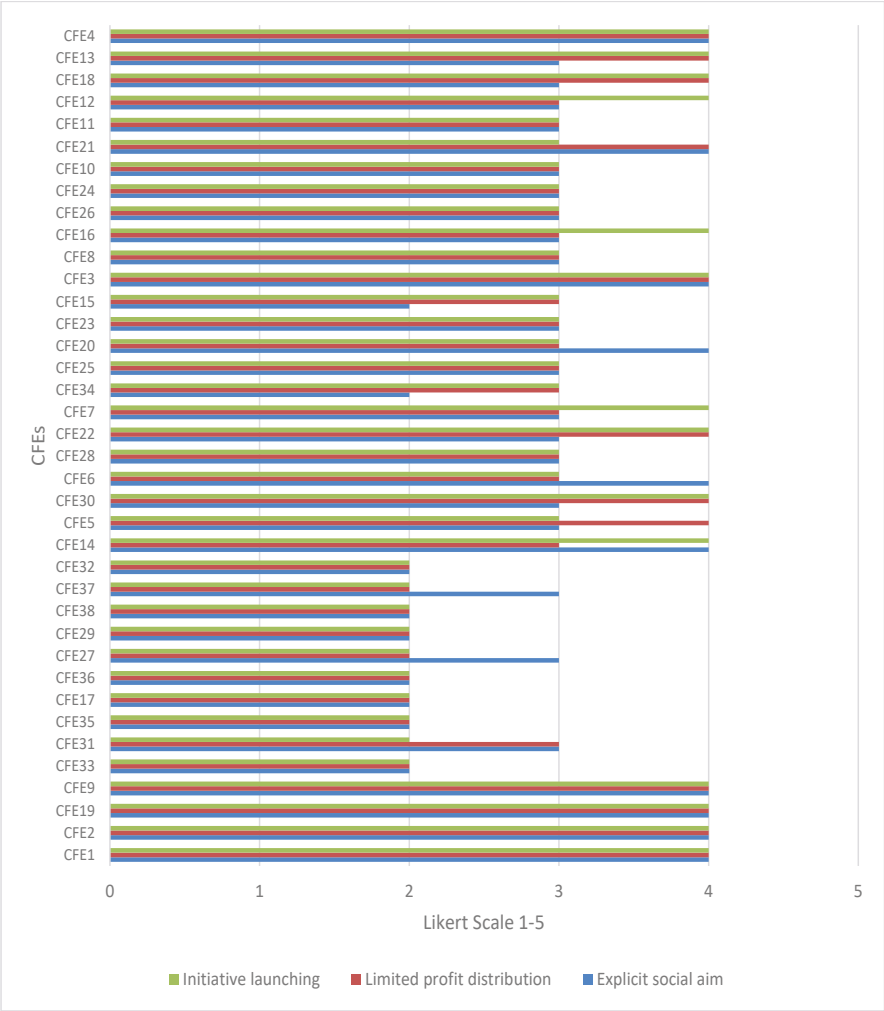


Figure 5: Social dimension of CFEs in Cameroon

CFEs with an average score of three on the social dimension indicated they only partially meet this dimension. These CFEs contributed to community development when funds were raised through business activities or grants. For example, CFE28 contributed to the community's social development by purchasing chairs for the village hall and paying the annual salary of community teachers. CFE25 used revenue from timber exploitation to construct three community wells and a health centre (uncompleted) and connect the village to the electricity grid. CFE8 used timber revenues for community development by constructing a nursery school and paying the salaries of three teachers. CFE12 contributed to constructing a nursery school and paid the salary of three teachers. Although these CFEs have not been in continuous production, they contributed to community development. Although these social projects were

criticised as minimal and were conducted to cover up mismanagement, it is evident that community forestry can generate more comprehensive societal benefits (Minang et al., 2017). About ten CFEs could not generate revenue through income-generating activities and had limited grants for community development; thus, they scored very low on the social dimension, averaging a score of two.

Governance dimension

Figure 6 presents the scores for all CFEs on the governance dimension. Four CFEs (1, 2,9, and 19) recorded an average score of four for all the governance indicators. This is because the continuous production of goods and services within these communities enhances community interest, thus increasing the participation and implication of the community in decision-making. It also increases overall accountability because community members are interested in community forestry affairs and thus push leaders to be accountable. The success of these CFEs hinges on the governance framework within the community. They succeeded in developing effective and inclusive CFE governance frameworks, which enhanced economic and social performance. The governance framework in these communities is anchored on the autonomy of CFEs in managing their affairs without external influence (elite capture), participation of different social groups of the community, and one-man-one-vote decision-making indicators based on stakeholders rather than shareholders. The management team of these CFEs is formed based on members' capacity to manage the enterprise's affairs. The community governance structure requires that the management committee establish the orientations of CFE management in the special interest of the community and the implication of different social groups (women, men, and indigenous groups) in decisions regarding CFE operations. The profits generated by the CFEs are used to finance different community projects voted by community members during a general assembly. For example, CFE1 made it a rule to include women and the indigenous Bedjang community in the enterprise's management committee and management team.

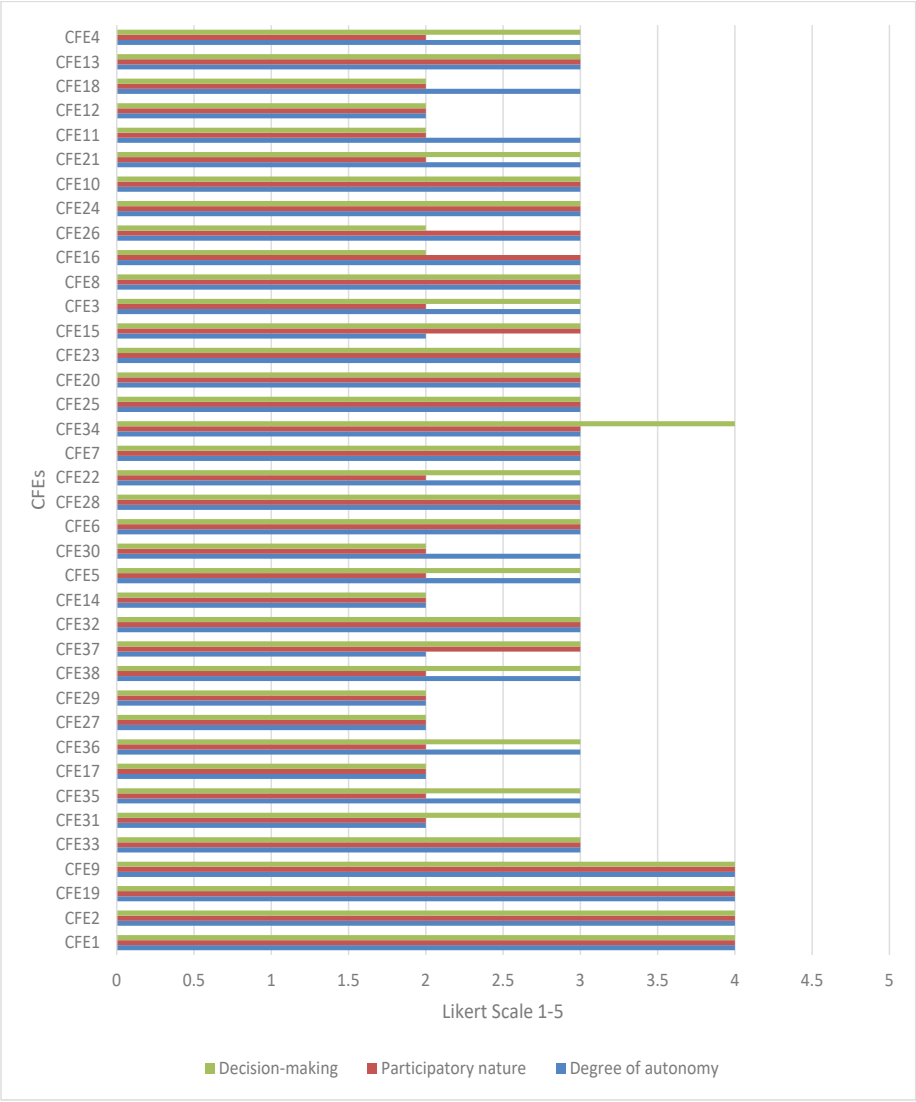


Figure 6: Governance dimension of CFEs in Cameroon

As Figure 6 illustrates, the majority (24) of the CFEs recorded an average score of three on the key governance indicators. These CFEs have had intermittent income-generating activities and thus had some level of community interest in decision-making, participation, and autonomy in management. Due to a lack of continuous income-generating activities, youths are not often engaged in CFE activities and decision-making; they prefer to engage in other activities that can provide a consistent source of income. This is also the case with the CFEs with even lower scores (33,31,35,17,36, 27,29,38 and 37). These CFEs find it difficult to engage youths, women, and indigenous groups because community benefits are not forthcoming as expected;

thus, community members are discouraged. One of the reasons for the low participation of some social groups in CFE governance is also the dominance of timber enterprises; women are not often interested because they believe timber exploitation is a male activity.

2.4.2 Clustering of CFEs

To classify CFEs along the continuum of Alter (2004), they were grouped based on their similarity; the average silhouette value was used to determine the number of clusters. The highest average silhouette value was observed for two clusters, but it did not appropriately discriminate the sample. An average value of 0.5 was noted for three clusters; however, increasing the number of clusters did not change the value, suggesting three clusters discriminate the sample better. Thus, three clusters were retained for this study. This confirms Alter's (2004, 2006) views that enterprises are not always situated at the extremes of the SE continuum but along a continuum **(**Appendix Table A1). The CFEs are at different levels of a continuum that strives for social sustainability by applying business approaches that ensure financial viability.

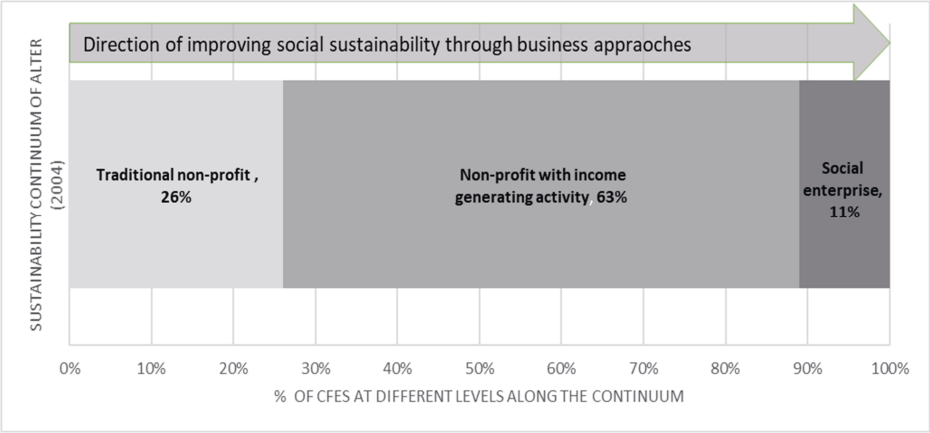


Figure 7: Distribution of community forest enterprises in Cameroon along the continuum of Alter (2004)

Cluster 1 is a group of CFEs that score high, i.e., > 4 on the Likert scale, across all dimensions of social enterprises; hence, they can be classified as "*social enterprise*". Community members in FGD generally agreed that their CFE meets all the indicators for economic/entrepreneurial, social, and governance dimensions. These CFEs have been in continuous production for most of their lifespan, generating revenues while applying good governance principles to achieve their social aims.

Cluster 2 represents a group of CFEs that scored low (<=2) for almost all the indicators due to different deficiencies in meeting the economic/entrepreneurial, social, and governance dimensions. They are thus termed "*Traditional non-profits*" because they do not meet any of the dimensions of social enterprises. This is principal because they have not been in continuous production and are often characterised by governance challenges arising from a lack of social benefits (Duguma et al., 2018; Piabuo et al., 2018). They depend on grants and external support, which are not always available; thus, the social and governance aspects are low due to the low economic/entrepreneurial dimension.

The third cluster, called "*Non-profit organisations with income-generating activity*", includes CFEs that did not fully meet all the indicators for economic/entrepreneurial, social, and governance dimensions but had intermittent income-generating activities. They do not integrate a full business approach and thus do not qualify as SEs. This is because they still have poor governance systems, lack funds or partners, do not continue activities, or can only operate income-generating activities intermittently. Table 8 provides further details characterising the different clusters.

The differences between these clusters are shown by the scores of the EMES indicators and by the Euclidean distances between the final cluster centroids (Appendix Table A2). The distance between clusters 1 and 2 is the highest, more than twice the distance between Clusters 2 and 3. This shows how heterogeneous the clusters are, which is confirmed by the differences between the mean scores for the indicators. The significant difference between clusters 1 and 2 is that they are at the extremes of the continuum, whereas cluster 3 is in the middle. On one end of the continuum, cluster 1 CFEs are operating effectively with innovative business strategies that continue to generate revenue for their social aim. Conversely, cluster 2 enterprises rely more on grants and external funding to meet their social aims and, in most cases, do not employ business approaches to meet social aims.

Table 8: Characteristics of clusters

	Economic/entrepreneurial dimension			Social dimension			Governance		
	Continuous production	Some paid work	Economic risk	Explicit social aim	Limited profit distribution	Initiative launching	Degree of autonomy	Participatory nature	Decision-making
Cluster 1: "Social enterprises."									
Mean	4	4	4	4	4	4	4	4	4
Standard Error	0.3	0.3	0.3	0	0	0	0	0	0
Minimum	3	2	3	4	4	4	4	4	4
Maximum	4	4	4	4	4	4	4	4	4
Cluster 2: "Traditional non-profits."									
Mean	2	2	1	2	2	2	2	2	3
Standard Error	0.2	0.2	0.2	0.2	0.1	0	0.2	0.2	0.2
Minimum	1	1	1	2	2	2	2	2	2
Maximum	2.0	2	2	3.0	3.0	2.0	3.00	3.0	3.0
Cluster 3: "Non-profits with income-generating activities."									
Mean	3	3	3	3	3	3	3	3	3
Standard Error	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Minimum	2.0	2.0	2.0	2.0	3.0	3.0	2.0	2.0	1.0
Maximum	3.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0

The analysis of variance, as shown in Table 9, indicates the variables accounting for the differences between clusters. The economic/entrepreneurial, social, and governance dimensions contribute significantly to differences in clusters, as evidenced by the significant F-statistics for all the indicators. The indicators of continuous production and economic risk have the greatest impact on distances between clusters, with the highest F-values of 8.65 and 11.70, respectively. This is because most of these CFEs have not been in continuous production year in and year out, and the level of economic risk taken by community members differs significantly due to the exposure of the leadership team and support to CFEs by NGOs (Piabuo et al., 2019).

Table 9: Analysis of variance (ANOVA) analysis

ANOVA						
Dimensions of SEs	**Cluster**		**Error**		**F**	**Sig.**
	Mean Square	df	Mean Square	df		
Economic and entrepreneurial dimension						
Continuous production	8.65	2.00	0.24	35.00	36.87	0.00
Some paid work	8.57	2.00	0.18	35.00	48.97	0.00
Economic risk	11.70	2.00	0.26	35.00	44.76	0.00
Social dimension						
Explicit social aim	4.77	2.00	0.27	35.00	17.70	0.00
Limited profit distribution	7.27	2.00	0.18	35.00	40.79	0.00
Initiative launching	9.88	2.00	0.19	35.00	52.52	0.00
Governance dimension						
Degree of autonomy	3.23	2.00	0.15	35.00	22.04	0.00
Participatory nature	3.08	2.00	0.25	35.00	12.41	0.00
Decision-making	2.34	2.00	0.48	35.00	4.91	0.01

The indicator of limited distribution of profits (7.27) and initiative launching (9.88) accounts for the most differences between clusters in the social dimension. The degree of autonomy and participatory nature of CFEs are the key governance indicators accounting for differences between clusters. The key reasons for these differences are the influence of elites and the low participation of some social groups, such as youths, women, and indigenous groups.

2.5 Discussion

As this research shows, most CFEs of our study are not engaged in the continuous production of goods and services, and thus, they do not meet one of the key descriptions of SEs (Thompson and Doherty, 2006; Boschee, 2001; Fowler, 2000). Alter (2004, 2006) contends that organisations engaging in income-generating activities can be classified as SEs if they apply full business approaches in their operations. To employ a full business approach, CFEs must use market approaches, strategic product/service orientation, and cost-benefit analysis with an

entrepreneurial mindset. Although most CFEs in Cameroon have income-generating activities, they score low on the economic/entrepreneurial dimension. One main question emerges from this study: What explains the inability of these CFEs to apply business approaches in their operations fully?

Possible reasons for the low economic/entrepreneurial scores are, first of all, that CFEs in Cameroon heavily relied on and put too much trust in timber operating partners to generate incomes, thus receiving very low prices in comparison to market prices (Foundjem-Tita et al., 2018; Mbile and Macqueen, 2019). Secondly, some CFEs are relatively small and possess already intensively used forests, making them less attractive to timber companies (Mbile et al., 2009). A third reason could be the high transaction costs involved, primarily due to bad roads and the enslavement of some communities (Foundjem-Tita et al., 2018). Furthermore, the lack of entrepreneurial experience makes it even more difficult for CFEs to explore other forest resources to develop profitable CFEs around them.

Key governance indicators such as participation, representation, and benefit-sharing vary significantly amongst CFEs receiving technical support and scoring higher on governance indicators, contrary to CFEs with little technical support (Piabuo et al., 2018; Duguma et al., 2018). High participation rates have also been recorded in CFEs with benefit-sharing resulting from CFE activities; thus, CFEs in continuous production and community development have better governance scores (Duguma et al., 2018). Like the governance dimension, high scores for the social dimension are associated with profit-making CFEs because profits are used to meet social aims. However, issues of social exclusion of indigenous groups and inadequate profits and social development have been reported in some CFEs (Eloundou, 2012; Maffo and Bokkestijn, 2015).

These compounding issues faced by CFEs in Cameroon have also been reported in other developing countries like Nepal and Mexico (Xu and Hyde, 2018; Ambrose-Oji et al., 2015). However, these studies did not use the EMES framework to classify CFEs along a continuum. Thus, problems were generalised for CFEs at different levels along the continuum, which do not reflect the severity of problems at different stages. Using the SE lens in this study permits the contextualisation of solutions to CFEs based on their positions along the continuum. The dominance of non-profits with income-generating activities calls for possible interventions to enhance the business dimension of CFEs. Technical support in business development and governance can potentially enhance the economic, social, and governance dimensions of CFEs.

Foundjem-Tita et al. (2018) posit that rural communities were given access and the right to manage and run community businesses to resolve their communities' social problems but were not given the necessary capacity support to develop and manage community businesses. Community capacity in exploiting innovative investment opportunities such as payment for ecosystem services (PES), especially for dense forest-rich land-locked communities, can help propel CFEs towards social sustainability.

Also, entrepreneurship education can be a reliable option to promote CFEs in Cameroon. Community business management educational centres can be promoted as platforms for developing entrepreneurial skills, training on business management, and community development. This will involve developing the community's capacity to innovate and take risks. Innovations and risk-bearing capacity can be enhanced by helping communities diversify revenue streams through the exploitation of other forest resources and exploring more profitable aspects of value chains (Mbile and Macqueen, 2019).

At the policy level, the devolution of forest management rights to local communities was aimed at improving participatory forest management, sustainable forest management, and the livelihood of neighbouring forest communities (Cuny et al., 2007; Minang et al., 2017). The 1994 forest law and the 1995 law of application gave rural communities the right to develop and manage community businesses, with the generated profits to be used for community development. However, there is a lack of appropriate incentives for community business incubation. Local forest administration is mandated to support forest communities lacking the business capacity to support communities in enterprise development. The lack of sectorial coordination between the Ministry of Finance and the Ministry of Forestry on taxation for CFEs that effectively operate as SEs makes applying existing incentives to the CFE sector difficult. Thus, sectoral coordination from the Ministry of Finance, Forest and Wildlife, Ministry of Small and Medium-Sized Enterprises, and Rural Development can significantly accelerate the sector's development.

2.6 Conclusion

By exploring if CFEs in Cameroon can be classified as social enterprises, we examine how CFEs score on the different EMES dimensions and indicators. Building on the scores from EMES indicators, we classify CFEs along the continuum of Alter (2004), which ranges from non-profits through non-profits with income-generating activities to social enterprises. We argue that CFEs are evolving at different stages along a continuum of social sustainability

through financial viability; thus, they are at different stages of development along this continuum. Thus, using the social enterprises' lens in viewing CFEs and classifying CFEs along a continuum provides new insights into CFE development and provides path-specific options for developing CFEs as social enterprises.

Only 11% of the 38 CFEs qualified as social enterprises. These enterprises are operating businesses that consistently meets their social goals, characterised by strong social and governance dimensions. The majority of the CFEs (63%) are classified as non-profit organisations with income-generating activities; they do not operate continuously or seek to generate income other than through grants and do not employ full business approaches in their activities. This study shows that the business dimension is weak in most CFEs, except those classified as social enterprises. CFEs rely mainly on sub-contracting timber exploitation for income; communities that are not rich in high-value timber species or are inaccessible by road have difficulties finding business partners and thus remain inactive. CFEs are classified as "social enterprises" along the continuum if they have previous experience with timber exploitation, and through this, they have organised their entrepreneurial/economic, social, and environmental dimensions. However, the development of CFEs other than timber is new to most CFEs, and most of these CFEs are classified as "non-profits with income-generating activities" along the continuum because they are not yet applying full business approaches in their income generation activities.

For these CFEs to move from "non-profits with income-generating activities" to social enterprises, several viable options have been proposed for developing CFEs as social enterprises. The first is the change in mindset, as timber is not the only marketable resource within CFs, and viable CFEs can be developed around other forest resources such as NTFPs, agriculture, and aquaculture. A second option is to evaluate and build community capacity to develop viable businesses around these value chains and innovate. Thirdly, building capacity for community business governance could strengthen their relations with divergent stakeholders and overall governance. As a fourth option, sectorial coordination among different ministries to support CFEs and set up community business incubation structures could help move more CFEs to the social enterprise spectrum. Further studies on the required community capacity to develop community businesses and how to manage governance tensions, paradoxes, and divergent interests in community businesses will help develop appropriate tools for developing CFEs as social enterprises.

CHAPTER 3: PERFORMANCE OF COMMUNITY FOREST ENTERPRISES (CFEs) IN CAMEROON: PATHWAYS TO VIABLE BUSINESS MODELS

Performance of Community Forest Enterprises (CFEs) in Cameroon: Pathways to viable business models[4]

Serge Mandiefe Piabuo, Marjanke Hoogstra-Klein, Verina Ingram, Divine Foundje-Tita, Peter A Minang, Lalisa Duguma, Hens Runhaar

Abstract

Community forestry has evolved from being about devolved forest management to the valorisation of forest resources for community development. Community forest enterprises (CFEs) are increasingly applying business approaches that enhance the community's economic, social, and environmental outcomes in managing these resources. However, limited research has evaluated CFE performance in tropical countries on these three outcomes. This chapter evaluates CFEs' performance by proposing a contextualised CFE multi-dimensional conceptual framework and empirically applying it to a sample of nine CFEs to assess their performance from economic, social, and environmental dimensions. To this end, data were collected from multiple sources, such as income and expenditure statements of CFEs, forest land-use transects, satellite image analysis, and focus group discussions. Data analysis included profitability analysis and deductive content analysis of CFE reports. Most of the samples (55.55% of CFEs) were classified as intermediate performers, while 33.33% of CFEs were low performers, and 11.11% of CFEs were classified as effective performers. Overall, five CFEs had low scores on the economic dimension, while more than six CFEs had a good rating on the social and environmental dimensions. This underscores the potential for CFEs to contribute to multifaceted local, sustainable development; however, their economic performance can be improved. CFE performance is influenced by internal factors like market knowledge, income generation capacity, collaboration, and community engagement, while external factors like taxation, market prices, and market proximity exert a negative impact. Financial and technical support, policy coordination, and institutional coordination are needed to improve performance.

Keywords: Economic performance, social performance, environmental performance, community enterprise, and community development

[4] Paper is in review after review

3.1 Introduction

Since the 1980s, collective, community-based forest management has been widely adopted as part of efforts to enhance sustainable management of natural resources, reduce deforestation and land degradation, and involve local communities in forest management (Bray et al., 2005; Engbring and Hajjar, 2022). Di Girolami et al. (2023, p.1) describe community forest management as a "major forest governance intervention whose aim is to reverse forest degradation and deforestation while providing socio-economic benefits to the people involved." Approximately 18% of the forest area is currently under this management regime (Di Girolami et al., 2023).

The adoption of collective management models in the forest sector has increasingly led to joint business ventures that combine community development and sustainable forest management approaches (Foundjem-Tita et al., 2018). These businesses are termed Community Forest Enterprises (CFEs), i.e., businesses based on forest products with a credible community representative body managing the business of generating and redistributing profit within a self-defining community in terms of area and people (Macqueen, 2008). These enterprises are promoted because they have the potential for job creation, investment in public goods, and capital accumulation (Donovan et al., 2006; Foundjem-Tita et al., 2018; Minang et al., 2017).

Despite being in existence for over three decades, scientific evidence on the performance of CFEs is limited and shows mixed outcomes (Foundjem-Tita et al., 2018; Lescuyer et al., 2015; Humphries et al., 2012). Mexico, one of the first countries to begin decentralising forest management, reported improvement in livelihoods and sustainable forest management (Cubbage et al., 2015; Siegner et al., 2022a). CFE studies in the Brazilian Amazon show both positive and negative economic, social, and governance outcomes (Humphries et al., 2012; Humphries et al., 2022). Shrestha et al. (2022) pointed out that CFEs improve the incomes of poor households in Nepal but require external support to maintain these CFEs. Other studies have shown little or no change (Maffo and Bokkestijn, 2015; Nuesiri, 2014), negative outcomes such as elite capture and poor governance (Assembe, 2006; Piabuo et al., 2018), and mixed effects (Beauchamp and Ingram, 2011). Researchers show that CFEs often perform well in one or two of the relevant economic, social, and environmental dimensions but rarely in all aspects (Siegner et al., 2022a). Community enterprises often struggle economically due to undercapitalisation, inadequate business capacity, and political-legal restrictions, resulting in poor sustainability (Greijmans and Gritten, 2015). This has prompted researchers to question

the ability of CFEs to fulfil their triple aims (Lescuyer et al., 2015; Buřivalová et al., 2016; Blomley et al., 2017). One of the key challenges of assessing CFE performance is related to its multiple objectives and contextualised performance indicators. Therefore, mixed outcomes can be attributed to the diverse set of indicators. Scholars emphasise that CFE performance evaluation should include the multiple objectives of a CFE, and not only the "standard" economic dimensions, such as revenue and profit generation, but also the social and environmental objectives (Ebrahim and Rangan, 2014; Arena et al., 2015). Di Girolami et al. (2023) also emphasise the need to combine economic, social, and environmental analyses of community forestry, as different aspects can have synergies and trade-offs among each other and analysing only one dimension ″provides only a tiny part of a much bigger picture" (ibid, p13).

So far, the different indicators and dimensions developed to evaluate CFE performance have focused primarily on one or a few objectives; thus, this bigger picture needs to be included (Cubbage et al., 2015; Piabuo et al., 2021). Most papers evaluating CFE performance focused on the economic aspect (Antinori and Bray, 2005; Humphries et al., 2012; Vega and Keenan, 2014), while others have concentrated on the social and environmental dimensions (Maldonado et al., 2017). Studies employing the economic, social, and environmental dimensions have used qualitative indicators, often very context-specific, liable to judgement bias, and challenging to apply in different contexts (Siegner et al., 2022a; Siegner et al., 2022b). Therefore, a performance evaluation framework with quantitative indicators that allows for easy application in different contexts and comparisons is lacking.

This research aims to fill this gap in two ways: (i) conceptually, the chapter brings insights from the literature on Social Enterprises (SEs) to propose a multi-dimensional performance framework for CFE evaluation. Research has shown that CFEs are sometimes classified as social enterprises (Foundjem-Tita et al., 2018). The framework is based on quantitative indicators that can easily be adapted to different contexts; it also proposes a rating system to evaluate performance as "poor", "average", and "good", paving the way for performance improvement options to be explored.

In addition to the chapter's conceptual contribution, ii) empirically, this chapter applies this framework to a sample of CFEs. Measuring CFEs' performance could also help provide information to CFE managers to support their decision-making and ensure accountability and transparency relevant to internal and external stakeholders (Arena and Azzone, 2005; Arena et

al., 2015). Performance measurement is equally essential for CFEs because investors and financiers require impact data to justify financing and investment decisions (Ebrahim et al., 2013). Governments and institutional departments also seek CFEs' performance as a matrix for special institutional incentives such as tax cuts and subventions (Piabuo et al., 2018).

The performance of CFEs can be affected by internal factors, such as the capacity of CFE teams and productivity, but also external factors, such as climate change, market prices, access to markets, and taxation (Piabuo et al., 2019; Di Girolami et al., 2023). Di Girolami et al. (2023) also argue that the conditions under which something occurs, i.e., the mechanisms and contextual factors, must be explored to understand why things happen. The factors influencing performance will be explored to understand what drives changes in these performance dimensions and to identify the opportunities that enhance performance. Against this background, this chapter has the following objectives:

i) Develop a framework for evaluating the economic, social, and environmental performance of CFE.
ii) Empirically apply the framework and identify factors that influence CFE performance.

To achieve these objectives, Cameroon was chosen as a case study. Cameroon was selected because community forestry has evolved considerably over the past 25 years (Minang et al. 2019). Over the last decade, CFEs have been at the forefront of this evolution, and different initiatives have sought to enhance CFEs (Foundjem-Tita et al., 2018). These initiatives have resulted in different CFEs trading in products such as timber, Non-Timber Forest Products, and agricultural products such as maize (Piabuo et al., 2019). The analysis will include different CFE products, such as timber products, non-timber forest products (NTFPs), and agricultural activities, such as maize cultivation and fishing.

The remaining part of this chapter is as follows. Section 3.2 describes the multi-dimensional contextual framework developed for this research. Section 3.3 details the methodology applied to collect the data for implementing the framework. In Section 3.4, the results are presented. The chapter ends with a discussion (Section 3.5) and a conclusion (Section 3.6).

3.2 A Contextual Framework for Performance Evaluation of CFEs

This chapter builds on the SEs and CFE literature to develop a contextualised framework with indicators for CFE performance evaluation. The SE literature emphasises the multiple

objectives of social enterprises as a critical defining factor (Ebrahim and Rangan, 2014; Arena et al., 2015). Performance measurement of social enterprises has received increasing attention among researchers and practitioners over the last few decades, leading to various methodologies and tools to evaluate performance (Arena et al., 2015). Different studies show that measuring the performance of social enterprises is complicated (Arena et al., 2015; Siegner et al., 2021). One of the reasons mentioned is that social enterprises are very diversified in terms of the sectors in which they operate, their legal and organisational structures, and their business models (Bull, 2007; Arena et al., 2015), which makes it difficult or impossible to create a framework that could be applied to every social enterprise independent of their field and context (Arena et al., 2015). The instruments to measure social enterprises' performance should be adapted to the context of the social enterprises (Karanda and Toledano, 2012; Millar and Hall, 2013; Desa and Koch, 2014). Additionally, measuring performance requires quantification, which is often difficult for social and environmental values that are often intangible and difficult to quantify (Bull, 2007). However, this contrasts sharply with commercial enterprises, which can use standardised performance indicators that are easy to quantify (Emerson, 2003; Austin et al., 2006).

Literature on social enterprise performance has evolved considerably over the three decades, and different models and frameworks have been developed to evaluate social enterprise performance (Defourny and Nyssens, 2010). Three major categories of performance evaluation models can be seen (Arena et al., 2015):

1. *Synthetic measurement models*: Models that include approaches that lead to the calculation of a synthetic metric, providing one measure for the overall performance of a social enterprise,
2. *Process-based measurement models*: Models that focus on the process of production, translating measures into inputs, outputs, outcomes, and impacts,
3. *Dashboard and scorecard models*: These models focus on identifying a set of measures that represent the results of the social enterprise.

Synthetic measurement models seek to obtain a single value for social enterprises' economic, social, and environmental objectives by designating monetary values to social enterprises' environmental and social outcomes (Arena et al., 2015). Process-based measurement models reiterate that social enterprise performance measurement should consider the processes leading to outputs, outcomes, and impact; this is the concept of the logic chain of results (Ebrahim and

Rangan, 2014). These models capture what goes in (inputs), what happens (activities), immediate results (outputs), and medium/long term (outcomes). Outcomes capture the benefits of intended beneficiaries (Bagnoli and Megali, 2011), while impacts refer to the consequences in the broader community (Arena et al., 2015). Dashboard and scorecard models capture financial and non-financial aspects of social enterprise (Kaplan and Norton, 2001). Dashboard and scorecard models also permit companies to define financial and non-financial indicators based on stakeholder interests (Kaplan and Norton, 1996). In addition, Papalexandris et al. (2005) noted that dashboard and scorecard models could easily communicate the organisation's strategy effectively while integrating performance management indicators. Therefore, the dashboard and scorecard models can easily be adapted to suit an enterprise-specific configuration (Bull, 2007; Millar and Hall., 2013).

This study employs the triple bottom line (TBL) framework because, as a form of dashboard models, they can easily be adapted to suit different organisations. However, the TBL fits enterprises in the forest sector because, by regulation, they must respect economic, social, and environmental connections (Foundjem-Tita et al., 2018). The TBL framework connects directly with the objectives of CFEs defined by the community forestry law (MINFOF, 2009). It also aligns with the economic, social, and environmental expectations of CFE members (Foundjem-Tita et al., 2018; Piabuo et al., 2019). In addition, the triple bottom line (TBL) framework is widely used for evaluating social enterprises (Gillis and James, 2015; Satar, 2022) and is easily applied by organisations because of its simplicity and practicality (Ho and Taylor, 2007; Hubbard, 2006). Furthermore, the TBL approach is employed in this study because it has proven to be scientifically robust over decades and has been instrumental in combining social, environmental, and economic dimensions in enterprise performance frameworks (Isil and Hernke, 2017).

The TBL framework represents the three key pillars of sustainability that enterprises seek to pursue and align with their objectives (Elkington, 1997; Strezov et al., 2013). These three pillars are the economic ("Profit"), social ("People"), and environmental ("Planet") dimensions of organisations, thus the name triple bottom line (Strezov et al., 2013). The alignment between the three pillars of the TBL framework and the economic, social, and environmental dimensions of CFEs suggests that it is suitable for evaluating CFE performance. The success of the economic/profit dimension refers to the ability of the organisation to increase the share value or profit of shareholders/stakeholders (Docekalová and Kocmanová, 2016;

Elkington,1997). The success of the social/people dimension refers to the ability of the organisation to contribute to equality in educational distribution, health, access to social resources, and overall quality of life (Journeault, 2016; Chalmeta and Palomero, 2011; Elkington,1997). The environment/planet dimension is captured by overall environmental sustainability, such as monitoring air quality, water, energy consumption, natural resources management, solid and toxic waste, and land use (Elkington,1997; Hsu et al., 2011; Helleno et al., 2017). This idea is supported by Bagnoli and Megali (2011), who rightly point out that profits/losses can only be temporary. It should be clear how a break-even point should be reached as financial losses affect the continuation of an enterprise.

In order to determine the indicators that reflect the economic, social, and environmental dimensions of CFEs, this chapter drew on CFE literature to select indicators that align with the objectives of CFEs in Cameroon along these three dimensions. Different indicators were used to reflect the social performance of CFEs in the literature; for example, community participation is captured using the level of participation in decision-making, access to benefits, number of community members involved, and conflict resolution mechanisms (Agrawal et al., 2008). In addition, equity and inclusion were used on the social dimension and captured using the equitable distribution of benefits and the proportion of women employed (Agarwal, 2001; Chhatre and Agrawal, 2009). Furthermore, livelihood improvement, captured through income generation, employment opportunities created, and impact on poverty, was used (Vedeld et al., 2012; Wunder, 2015). Moreover, investment in community projects and employment creation (value paid out as salaries, the number employed) were selected because they have been highlighted as key social objectives of CFEs in Cameroon (Awono et al., 2012; Atyi et al., 2013). Therefore, to account for the inclusivity of the labour force, the percentage of women employed by CFEs is used as an indicator and also reported as a key social performance indicator in Cameroon (Awono et al., 2012; Atyi et al., 2013).

Reflecting on the environmental dimension of CFEs, different indicators from the literature were assessed, including forest cover and quality, captured using carbon sequestration, changes in biodiversity, and forest area (Sunderland et al., 2013). Resource use was captured through sustainable harvest practices, income diversification sources, and waste reduction (Molnar et al., 2007; Angelsen et al., 2014). Compliance with regulations was addressed using adherence to forest management plans, environmental laws and certification standards, and reduction of illegal logging (Durst and Ferenhof, 2014). The choice of environmental indicators for CFEs

in Cameroon was based on the most pressing environmental issues faced by CFEs and the ability of CFEs to collect information on the indicator and report changes over short periods. Aspects of the environmental dimension, such as carbon sequestration, were not used because of their measurement complexity for CFE managers. However, based on regular forest monitoring, CFEs can easily report illegal logging and agricultural expansion into forests. Also, agricultural expansion into forests and unlawful logging were retained because they have been identified as pressing environmental challenges faced by community forests in Cameroon (Ndoye and Awono, 2005; Lescuyer et al., 2015; Degrande et al., 2015).

This chapter follows Frey et al. (2021) to simultaneously use economic/financial to capture indicators related to CFE income and expenditure operations. To capture the economic/financial performance aspects of CFEs, studies on the revenue and profitability of CFEs indicate that gross income, net profits, and financial sustainability are important (Humphries et al., 2020; Frey et al., 2021). Other studies used CFE investment and reinvestment, captured using expenditure on infrastructure, equipment, and community development initiatives (Larson and Ribot, 2004; Robinson et al., 2014). Investment in community development initiatives is considered under social aspects because these investments are on social projects such as improving access to water, education, healthcare, and electricity. When infrastructure investment is for use by the CF enterprise, it is captured under the cost of production. Indicators used by other studies include market access and diversification of products and services, ability to access profitable markets, and adaptation to changing market conditions (Assembe-Mvondo et al., 2014; Ansah et al., 2022). Within the framework of this study and for CFEs in Cameroon, access to market and diversification have been used as factors to explain the revenue and profitability of CFEs (Angelsen et al., 2014; Molnar et al., 2007; Foundjem-Tita et al., 2018). Operational profits, efficiency, and net profits are considered in this chapter because they permit us to tell whether CFEs are efficiently allocating their resources. Operational efficiency measures the ratio between the input required for a company to keep operations and the output it delivers; it is measured as the ratio of operational expenses to total revenue expressed as a percentage (Maciariello, 2016). On the other hand, operational profit is defined as total revenue minus operating expenses and the cost of goods sold (Maciariello, 2016). CFEs' operational efficiency and profitability are crucial for sustainable income generation and social and environmental objectives. Efficient CFEs are characterised by minimising resource usage, optimising production processes, and reducing costs, resulting in improved financial performance and long-term viability. Therefore,

operational profitability measures the financial health and sustainability of CFEs, excluding non-operating expenses and income. Profitable CFEs can reinvest, expand their business, and contribute to community development (Arts et al., 2011; Degrande et al., 2015; Molnar et al., 2007).

The economic/financial dimension of the TBL is adapted by considering operational efficiency and operational profits as short-run indicators of profitability and total profits as long-run indicators. As a business principle employed by CFEs, operational profits are reinvested into the business, while gross profits can be used for social development (Pederzoli and Torricelli, 2010). The operational profits show how efficient CFE operations lead to an additional revenue increase, while operational losses indicate that CFE operations are inefficient (Kristanti et al., 2019). The social/people dimension of TBL is adapted by aligning with the social aims of CFEs: to create jobs within the community and use profits from the economic/financial dimension for investment in social projects (Piabuo et al., 2019). Social projects often include activities to improve access to clean water, health, education, communication networks, and job creation within the community for women and youths (Foundjem-Tita et al., 2021; Piabuo et al., 2019).

Table 10: Conceptual framework for CFE performance evaluation in Cameroon

Dimension	Objective	Criteria	Definition
Economic/Financial	In the immediate term, CFEs seek to allocate their resources efficiently and cover operational costs; in the medium term, they aspire to cover the total cost and make profits.	Operational efficiency	The ratio of operational expenses to total revenue expressed as a percentage
		Operational profits	Difference between total revenue and operational expenses
		Net profits	Difference between the total revenue and the total cost over the evaluation period minus taxes
Social	As CFEs carry on their operations, they seek to promote female and youth	The proportion of female employees	Percentage of female employees

	employment within the community and use profits from CFE activities for social investment.	Value of employment created	Represents the total salary paid to employees
		Investments in community projects	Amount spent by CFE on social projects such as health, education, and access to electricity and water
Environmental	CFEs seek to enhance sustainable forest management by reducing illegal logging and agricultural expansion into the community forest.	Incidences of illegal logging	Frequency of illegal logging incidents reported
		Deforestation because of economic activity	Area of forest (in Ha) cleared for economic activities such as agriculture.

As reflected in Table 10, the environment/planet dimension of TBL is adapted to the context of CFEs by linking it to CFE's objectives to enhance sustainable forest management by reducing illegal logging and illegal expansion of agriculture into a community forest (Piabuo et al., 2019; Piabuo et al., 2021). This is often done through monitoring and reporting activities by community members, designating management committee members, and CFE staff. Also, in collaboration with local government forestry staff, CFEs may ensure that activities respect the CF simple management plan (SMP).

One of the strengths of this framework is that it reflects indicators that enterprises themselves can easily measure after a year of CFE operation. In addition, the environmental indicators can be used to show changes over short time frames, contrary to indicators that require longer time scales, such as forest cover change. This makes the framework easily applicable to CFEs in Africa and other developing countries. Aspects such as poverty reduction within the community are difficult to measure because they require sensitive data collection and analysis and are difficult to attribute directly to CFE activities. Moreover, this framework cannot be used to assess the impact of CFE activities on poverty at the community scale. However, it reflects a CFE's financial health and how it contributes to employment and community projects, which are the core objectives of CFEs.

The indicators and dimensions permit the development of a dashboard reflecting the economic, social, and environmental objectives of CFEs. By defining metrics for each of the three bottom lines in this chapter, CFEs can use dashboards of dimensions and indicators to see how they perform over time. Furthermore, this can help communicate the CFE's performance to investors, employees, customers, and other stakeholders and build trust and credibility. Dashboards enable CFEs to monitor progress and areas for improvement, enabling informed resource allocation and achieving TBL goals.

3.3 Methodology

3.3.1 Research approach

This research sampled CFEs supported by the Dryad project "Financing Sustainable Community Forest Enterprises in Cameroon," implemented in Cameroon between 2016 and 2020 by the World Agroforestry. The project provided financial and technical support to CFEs based on timber, aquaculture, agricultural, and NTFP products. A mixed research method was employed because the research questions have quantitative and qualitative variables (Johnson et al., 2007). This approach was chosen because it permits expansion and allows for the triangulation of information, complementarity, and the development of new knowledge to enrich literature (Greene, 2007). In addition, quantitative methods were employed for cost-benefit analysis and social and environmental performance calculation. Also, qualitative methods were used to understand the internal and external factors that explain CFE performance levels.

3.3.2 Sample

A sample of nine CFEs was selected from 34 CFEs supported by the Dryad project. These CFEs were selected based on two criteria: (1) the selected CFEs exploit a range of product types (timber, Non-Timber Forest Products (NTFPs), agroforestry, and aquaculture), and (2) data availability.

Timber-based CFEs: Three CFEs focusing on timber exploitation located in the Ngamber-Tikar sub-division of the centre region of Cameroon were sampled. These CFEs negotiate with timber buyers and receive orders with specifications of the timber species, agreed price, and quantity. They selectively log the required species and quantities and sell them to customers. Since 2017, these timber enterprises have been supported with timber exploitation equipment,

capacity building, and running capital to exploit their forests without sub-contracting to third parties. A mobile saw, the most expensive equipment required, was purchased under a cost-sharing scheme between the three CFEs due to their proximity to enhance profitability and reduce fixed costs. A joint management system of the mobile saw by the CFEs was adopted. These CFEs were thus chosen to understand the performance of timber-based CFEs and the effectiveness of cost-sharing in enhancing CFE performance.

Non-Timber Forest Products (NTFPs) based CFEs: An evaluation of 44 communities in Cameroon revealed that 26% were interested in developing NTFPs-based enterprises (Piabuo et al., 2019). Three out of eleven NTFP-based CFEs were selected. They specialise in njangsang[5] (*Ricinodendron heudelotii*) nuts, they purchase these nuts from community members, process them, and sell them to customers in major cities or neighbouring countries.

Agroforestry-based enterprises: Two CFEs were engaged in the cultivation and commercialisation of Maise (*Zea mays*) and had detailed data on costs, revenues, and incidents of illegal logging. The availability of fertile land and knowledge of market outlets were crucial motivations for the communities.

Aquaculture-based CFEs: One CFE was involved in aquaculture (tilapia). This CFE was included because it is located within the forest, with the aquaculture area protected by the community from logging and agricultural expansion. CF is close to a city and has been subject to large-scale illegal expansion of agricultural farms by elites in the community forest. Due to the depletion of forest resources, the CFE engaged in tilapia cultivation and marketing. The availability of a permanent running stream and easy access to the market were the motivating factors for the CFE. However, the activity is managed by a community-designated team in the community's interest. In addition, data availability was a factor for selecting this CFE.

3.3.3 Measurement of CFE Performance Indicators

Building on the TBL framework (Table 11), different indicators were used to capture the criteria for the triple bottom-line dimensions of CFEs. In order to have a clear overview of CFEs' overall performance, a scoring system is summarised in Table 12, indicating the scores for different dimensions. This framework assumes CFEs allocate the same importance to all three dimensions, and thus, an even weight of one is allocated to all three dimensions.

[5] njangsang is a seed tree that is native to tropical West Africa. Its scientific name is Ricinodendron heudelotii. It has a strong, nutty flavor and is often used in African cuisine as a flavoring spice and thickener

Economic/Financial performance of CFEs

Operational efficiency and operational and net profits/losses of CFEs are used to capture the economic dimension. On the one hand, cost categorisation of operations was done to facilitate analysis (see Table 3), with cost categorised by activity and inputs (administrative cost, material, equipment, labour, inputs, and seed capital for raw material purchase). Cost elements were further separated into fixed, operational expenses, and total costs. Fixed cost refers to cost elements that do not change irrespective of production levels, while variable cost changes with production levels (Xi-Chen and Koebel, 2017). Table 12 summarises the criteria, indicators, and data sources used to empirically apply the economic dimensions of CFE performance evaluation.

Table 11: Characteristics of sampled CFEs

CFE Identifier	Enterprise	Business Type	Population of community	Department	Area (ha) of CF	Area (ha) used by CFE	Comment
CFE1	Artisanal timber logging	Timber	350	Mbam-et-Kim	4998	200	Timber is exploited based on an annual exploitation permit; the average authorised area ranges between 150 and 200ha.
CFE2	Artisanal timber logging	Timber	1200	Mbam-et-Kim	5000	200	
CFE3	Artisanal timber logging	Timber	1200	Mbam-et-Kim	4683	150	
CFE4	Collection, processing, and commercialisation of njangsang	NTFP	350	Mbam-et-Kim	4998	4998	NTFPs can be collected throughout the forest
CFE5	Collection, processing, and commercialisation of njangsang	NTFP	1500	Mbam-et-Kim	4683	4683	
CFE6	Collection, processing, and commercialisation of njangsang	NTFP	1800	Meme	2554	2554	
CFE7	Cultivation and commercialisation of maize	Agroforestry-based	508	Mbam-et-Kim	5000	15	Area of farmland

		enterprises					created by the CFE
CFE8	Cultivation and commercialisation of maize	Agroforestry-based enterprises	5000	Mbam-et-Inoubou	5000	15	
CFE9	Cultivation, smoking, and Commercialisation of Tilapia	Aquaculture	2400	Nyong-et-Mfoumou	1700	0.01	The area used for the CFE fishpond

Fixed costs

Administrative cost: Administrative costs capture expenditures on the revision of the simple management plan (SMP), obtaining annual exploitation permits, waybills, and other administrative expenses related to the legal structure of the CFE. Timber CFEs mostly incurred these expenses. The other CFEs already had a valid SMP. Since they were not exploiting timber, they did not require annual exploitation permits and waybills. The only administrative expenditure was related to their registration as a cooperative with the government administration.

Material and equipment: For materials with lifespans of more than one year, constant depreciation with respect to the accounting lifespan was used to allocate costs for equipment. Receipts were used to get the exact amount paid and cross-checked with the amount entered in the income-expenditure statement. The number of years of depreciation of each piece of equipment was based on the Organisation for the Harmonisation of Business Law in Africa (OHADA) guidelines (Mouloul, 2009).

Variable Costs

Labour: Workers were employed as full-time staff or on a task base. The full-time staff ensures the organisation's day-to-day running, with positions like the manager, secretary/accountant, and treasurer working full-time. Other activities were task-based; for agricultural CFEs, community members were recruited and paid per unit of land area(ha) for activities such as land preparation, planting, and weeding, while harvesting was paid based on the quantity harvested. The payment unit depends on the activity; for timber, the production team was paid per cubic meter of timber exploited. This information was recorded in the CFEs expenditure

register, and justifications of payments were cross-checked through employee payment vouchers. To facilitate calculations and comparison, only the total amounts were recorded for full-time and task activities.

Inputs: Inputs in this chapter refer to expenditure on consumables such as fuel, oil, and the purchase of insecticides, fertilisers, feed, antibiotics, and seeds. The significance of the inputs varies based on the kind of CFE: renting trucks and acquiring raw materials for njangsang nuts are considered independent expenditures since they constitute a substantial portion of the input costs for these CFEs and play a crucial role in assessing financial efficiency. Transport was captured as expenditure on transport for CFE activities such as market prospection, purchase of products, movement of CFE products from the CF site to the village, or money withdrawal in major cities. Therefore, data were sourced from entries in the CFE registry and receipts to capture these costs correctly.

Taxes: The Republic of Cameroon's Finance Law for the 2019 fiscal year increased the timber felling tax from 2.5% to 4%. The tax is calculated on the FOB value of logs from exploitation titles, including communal and community forests. Timber CFEs are exempted from tax when the community exploits themselves; however, the falling tax applies when exploited under a sub-contract with other partners. Tax officials highlighted no evidence of CFE exploiting themselves to be exonerated from the tax.

Revenue and profits

This chapter builds on the findings of Klemperer (2003) and Wagner (2012), who employed standard economic methods to evaluate costs, revenues, and profits. This analysis aimed to determine the earnings of CFEs at two levels: operational and total profits. Operational efficiency is captured as the ratio of operational expenses to total revenue expressed as a percentage. Operational expenses are used in the cost of labour used to produce CFE products and inputs used in the production. Meanwhile, operational profit, also known as operating income or EBIT, is a company's profitability before accounting for financing and taxation decisions. Hence, it excludes non-operating expenses and income and represents the profit generated from core business operations. Operational profit is calculated as total revenue minus operational expenses (labour and inputs, including the cost of goods sold). When operational expenses are expressed as a percentage of total revenue, the smaller the percentage value of operational expenses to total revenue, the more efficient the enterprise; this means that for each

dollar spent on operational expenses, the enterprise should have more than one dollar in revenue, so if the ratio is small, it means that the enterprise is using fewer inputs (expenses) for more outputs (revenue). Thus, they are more efficient in allocating resources. When the operational efficiency ratio is greater than 100%, the enterprise is inefficient operationally, and a ratio of 50% and below is good (Liu et al., 2022). The profitability of CFEs may not be their ultimate objective; however, their sustainability depends on their ability to be financially viable.

Social performance

Data were collected on community projects financed by CFEs, the number of community members employed by the CFEs full-time and part-time, and the value of the employment monetary equivalent of the work paid to the employees, measuring the number of people who benefit from CFEs. This was compared to the baseline situation before the start of CFE activities to capture progress. Descriptive statistics (mean and sum) and content analysis of CFE reports were used to capture community projects executed with CFE profits.

Environmental performance

Illegal logging was captured through an enterprise environmental survey, which asks for the area affected by illegal logging. The total area affected by illegal logging per year was calculated, and a trend from the baseline year (2017) to 2020 was established to capture the picture of evolution over time. Agricultural encroachment into the forest was the second variable used as, typically, agricultural plots are created within the community forest when allowed in the SMP. However, large-scale expansion into areas reserved for conservation or logging can occur. Land-use change maps from satellite images were used to capture this.

3.3.4 Overall rating of CFE performance

As shown in Table 12, the qualitative and quantitative scoring system visualises multi-dimensional CFE performance using economic, social, and environmental dimensions. Within the framework of this thesis, equal weighting of economic, social, and environmental dimensions was used. However, based on objectives and mandates of CFEs, weights per dimension can be changed. To further cluster the CFEs based on performance levels, the Siegner et al. (2022a) definition was used to cluster CFEs into:

(i) Effective performers: average overall score of 3.5 and higher on all three (economic, social and environmental) dimensions, balancing their plural goals.

(ii) Intermediate but not skewed performers: score average between 2.5 and 3.5 on all dimensions.

(iii) Intermediate and skewed performers: score between 2.5 and 3.5 on economic or social/environmental dimensions.

(iv) Low performers: score under 2.5 on economic, social, and environmental dimensions.

3.3.5 Data Collection and Analysis

Data was collected from CFE records, focus group discussions, satellite imagery, and plot transcripts**.** Field data for this study were collected between 2018 and 2020, representing a complete cycle (production to sales) for most CFEs. Table 12 summarises the data collection and analysis techniques employed.

Table 12: Summary of performance indicators and analysis techniques

Performance dimension	**Criteria**	**Indicator**	**Variables**	**Data sources**	**Overall performance scoring criteria (1= very low 2-low, 3 = good, 4 = very good)**
Economic /financial performance	Operational efficiency	Revenues/labour cost, inputs	Labour cost Inputs Total revenue	Income/expenditure statements, FGDs	1 = all three criteria negative[6] 2 = two out of the three criteria negative 3 = two out of three criteria positive 4 = all three criteria are positive
	Operational profit/loss	Revenues/labour cost, inputs	Labour cost Inputs Total revenue	Income/expenditure statements, FGDs	
	net profits/loss	Revenue/ total cost	Total revenue Total cost Taxes	Income/expenditure statements, FGDs	
Social performance	Distribution of employees by gender	Number of CFE employees by gender	Percentage of female employees	Income/expenditure statements, FGDs	1 = no jobs created[7] and no social projects executed

[6] When operational efficiency is> 100 it's considered negative

[7] Jobs created corresponds to the number of jobs created and corresponding wages paid, voluntary service is not considered as job created.

					2 = jobs created (<40% female) or social projects executed 3 = jobs created (<40% female) and social projects executed or jobs created (>40% female) 4 = jobs created (> 40% female) and social projects executed
	Value of employment created	Amount paid to CFE employees	The total amount paid to CFE employees	Income/expenditure statements, FGDs	
	Investment in social projects	Total spent on social projects	Social projects executed by CFE Amount spent per project	Income/expenditure statements, FGDs	
Environmental performance	Incidences of illegal logging	Number of incidences of illegal logging	Number of incidences of illegal logging per year	CFE environment indicator survey	1= Increase in incidences of illegal logging and area of forest cleared from baseline. 2= No reduction in incidences of illegal logging and area of forest cleared from baseline. 3= reduction of either incidence of illegal logging or area of forest cleared from baseline. 4= reduction in both incidences of illegal logging and area of forest cleared from baseline.
	Deforestation due to economic activities	Area of forest (ha) cleared for economic uses (e.g. agriculture)	Area of forest (ha) cleared for economic uses (e.g. agriculture) per year	Satellite imagery and transect sampling in the CF	

*CFE records***:** Production costs and expenditures data were obtained from expenditure statements and supporting documents such as receipts. CFE revenue/cost data was obtained from CFE income and expenditure statements and supporting documents. such as receipts. These were then used to cross-check values mentioned in the income/expenditure statements, CFE monthly human resource expenditure, and CFE end-of-season reports. Data on environmental performance was obtained through the environmental incident report on illegal logging within the CF.

Focus Group Discussions (FGDs): One FGD per CFE comprised of five key staff (such as the CFE manager, accountant, and secretary). These discussions were conducted for all nine CFEs aiming to understand the internal and external factors that affect CFE performance. Furthermore, a detailed discussion was held on CFE income/expenditure, key cost elements, challenges related to reducing cost and maximising revenue, illegal logging and agricultural expansion into the forest, actions taken to curb them, and key internal and external factors that affect the three dimensions. In addition, the contribution of CFE to local employment and social projects financed from CFE profits were discussed during the FGDs.

Satellite imagery and ground truthing using transects: Landsat images between 2016 and 2020 were used to capture land-use change within the CF. Field transects were used to facilitate the classification of land uses. Two transects (one with areas with low human activity and another with considerable activity) were laid with a total of seven plots, each with about 625 m^2 area.

3.4 Results

This section summarises the results of economic, social, and environmental dimensions and the internal and external factors affecting the performance of CFEs.

3.4.1 Economic/financial dimension

In evaluating the economic performance dimension of CFEs, this study presents performance scores derived from the indicators listed in Table 13 alongside factors influencing the economic dimension as identified in focus group discussions (FGDs).

Economic/financial performance scores

The performance of CFEs on the economic dimension is summarised in Table 13; it captures the results for the three indicators of the economic dimension: operational efficiency, operational profits/loss, and net profit/loss.

All timber CFEs were operationally efficient and made operational profits; however, their operational efficiency did not meet the recommended 50%. Although these CFEs were operationally profitable, the revenue generated was not enough to cover the fixed cost; thus, they made net losses. The high production cost of timber CFEs can be attributed to different elements, and one of the key elements of cost is related to expenditure in acquiring regulatory documents. This is because timber CFEs must obtain annual exploitation permits and waybills yearly,

representing 10% of the total cost. In addition, material and equipment accounted for 14% of the total cost of timber CFEs, while labour costs accounted for 23% of their total cost. The equipment cost per CFE for timber CFEs was significantly reduced because the three CFEs shared the cost of the mobile saw at $9926 each, thereby reducing the fixed cost per CFE significantly. However, although the CFEs have been effectively rotating the use of the mobile saw, there is room for improved efficiency through respect for deadlines and better planning of CFE activities in the forest. Timber enterprises also incurred a high cost to rent a truck that permits the removal of timber from different parts of the forest to the village for pick-up by the client, accounting for 15% of their total expenditure. Although timber CFEs spent a lot in the production process, the quantity produced was insufficient to cover the high production cost, thus resulting in a performance score of three for the economic dimension.

Out of the three NTFP CFEs in the sample, only one was operationally efficient, profitable, and made net profits. However, the other two were not operationally efficient and incurred operational and net losses. Although NTFPCFE2 produced a lower quantity of njangsang than NTFPCFE1 and NTFPCFE3, they had a better mastery of their production cost. The purchase of raw materials for NTFPs is a major cost element, representing 53% of the total cost, followed by labour costs at 28.8%. In communities where middlemen (buyam-sellam) frequently buy, there is high competition for resources, thus increasing the purchasing price and cost for NTFP CFEs.

Table 13: Performance score of CFEs on their economic/financial dimension

CFE	Operational efficiency	Operational profits	Net profits	Performance score
Timber CFE1	75.50% (efficient, but not the recommended 50% level)	2,957 USD	-5 477 USD	3
Timber CFE2	87.76% (efficient, but not the recommended 50% level)	2,543.50 USD	-2780.5 USD	3
Timber CFE3	83.48% (efficient, but not the recommended 50% level)	1,781.00 USD	-571 USD	3
Njangsang CFE1	113.25% (inefficient)	-955. USD	-2 414 USD	1
Njangsang CFE2	96.24% (efficient, but not the recommended 50% level)	186 USD	143. USD	4
Njangsang CFE3	112% (inefficient)	-1,086.00 USD	-1,212 USD-	1
Maize CFE1	129.1% (inefficient)	-1 562 USD	-2,158USD	1
Maize CFE2	800.2% (inefficient)	-7 002 USD	-7,753USD	1

Aquaculture (tilapia) production CFE	370.2% (inefficient)	-3 348 USD	-3,817USD	1

Communities reported an average increase of 18% compared to their projected purchasing price. Consequently, due to this competition, some communities had to source products from neighbouring villages, which increased transport and labour costs for the enterprise. At times, due to the poor nature of the road, the extra increase in transport cost was significant enough to equal or be greater than expected profits, thus pushing the CFE into losses.

Although the two Maize CFEs in the sample incurred losses at all levels and were not operationally efficient, experiencing both operational and net losses, the losses incurred by Maize CFE2 were more severe. Labour is a substantial cost element in agricultural enterprises, representing 78% of their total cost, and varies with respect to its availability. During peak agricultural season, demand for labour is high, resulting in increased expenses; at times, there is even a scarcity of labour because members prefer to spend more time on their farms and are not ready to take up paid jobs with the CFE. This was particularly the case with Maize enterprises because they were operating on over 10ha of land, and the CFEs decided to hire external labour to remain and work in the village throughout the production season. The CFE management indicated during FGDs that agricultural enterprises' production quantity was also seriously affected by climate change; this is even critical because these CFEs are located along the forest-savanna transition zone. Maize CFE2 reported losses of more than 70% of expected yields, mainly due to delayed rainfall. Maize CFE1 faced substantial damage from natural hazards. Despite following the production schedule and achieving successful flourishing of maize plants, the farms were ravaged by savannah birds just before harvest, resulting in the consumption of over 65% of the crop. These hazards and high expenditure on labour resulted in poor scores (one) of Maize CFEs on this dimension.

Aquaculture production of the CFEs was also operationally inefficient, making both operational and net losses, thus having a poor score for the economic dimension. Additionally, Aquaculture (tilapia) production had a higher investment in equipment by constructing fishponds and enterprise premises. Labour cost was also a major element of their cost structure, accounting for 43.4%. Inputs, especially food for tilapia, were the second major cost element of CFEs, which accounted for 23.3% of CFE expenditure. Proper mastery of food management at later stages of the CFEs' development permitted them to reduce expenditure on food.

Factors influencing the economic/financial dimension

The findings presented in this section emanate from FGDs with CFE management on key internal and external factors that affect CFE's economic dimension. Five key factors were identified to influence the economic performance dimensions within the CFEs. Some of these factors are specific to a particular type of CFE.

The first factor is the *taxation* of timber. The Republic of Cameroon's Finance Law for the 2019 fiscal year increased the timber felling tax from 2.5% to 4%, levied at the price of the cubic meter of wood and varies according to the area of exploitation. The felling tax is calculated based on the FOB (free on board) value of logs from exploitation titles of any kind, including communal and community forests. According to the decree on the application of the forest regime, CFs are exempted from any tax when the community itself exploits them. On the other hand, when they are exploited under a sub-contract with other partners, the felling tax applies. In such cases, the tax is calculated on the harvested wood volume and not just the log; one CFE reported paying $1376 in taxes, representing 7.8% of revenue. However, if CFEs could prove that exploitation was done without sub-contracting, they could be exempted from tax.

The second factor influencing CFE economic performance relates to the *market knowledge* of rural forest communities and CFE management. CFEs with a better understanding of the market gained through previous transactions and a network of buyers reported higher sales prices for the same products in the same locality compared to neighbouring CFEs. This is due to their ability to leverage market knowledge to negotiate better prices. For example, timber CFE2 sold a cubic meter of Iroko at 231/m^3, while timber CFE1 sold for $224.7/$m^3$.

M*arket prices* emerged as the third factor. Prices vary based on the seasonality of the product and, generally, on the prevalent trade relations with neighbouring countries. When the boundaries with Nigeria and Gabon were closed due to the anglophone crisis and the COVID-19 pandemic, prices of agricultural products and NTFPs reduced significantly. The sale preferences for NTFPs greatly depend on the season and market knowledge of the CFEs. Therefore, in low productivity seasons, prices are higher because demand is more significant than supply. However, high production can lead to lower prices in some production seasons. Hence, CFEs can gain by storing and selling products at higher prices during the off-season.

The fourth factor is *administrative delays* in processing documents for transporting forest products. Certain administrative documents are required for CFEs to transport and commercialise NTFPs and timber products legally. In addition to the expenses associated with acquiring the papers, the lengthy timeframe required to collect them poses a significant challenge. The documents are provided for a calendar year (January to December). In most cases, CFEs obtain the documents in late March or early April, which coincides with the rainy season, making it difficult for timber logging to continue as CFEs have to wait and continue after the rains, around June. This leaves CFEs with only five months of production, thus significantly reducing the chance of producing at full capacity. This fact also explains why CFEs do not exploit more than half of the quantity authorised in the annual exploitation permit.

The fifth factor relates to *access to markets*. Many of these CFEs are located in rural areas and connected by roads that become impassable at certain times of the year because of severe rainfall. This makes physical access to the market very difficult, thereby reducing the number of buyers who come to the community and the negotiation power of the CFE. For some agricultural and aquacultural CFEs, there are often only two primary buyers available. Consequently, these buyers have the power to set the price since communities may lose their whole output if they do not sell, given the lack of adequate post-harvest storage facilities. Communities with good roads receive better prices and thus earn higher revenues vis-à-vis landlocked communities. However, Maize enterprises can store their products for extended periods because they construct storage facilities and are good at post-harvest handling.

3.4.2 Social dimension

The social performance dimension of CFEs reflects how well they score on the performance indicators highlighted in Table 14 and the factors influencing their social performance.

Performance scores

This dimension captures the number of CFE employees, and the value of the jobs created; it also reports on the community projects executed by CFE. Before the development of these CFEs, having jobs with a constant flow of income was a significant problem for youths and resulted in high levels of rural-urban migration. However, as shown in Table 14, CFEs in the sample contributed significantly to employment generation by creating full-time and part-time jobs that varied with the typology of CFEs. Some CFEs created more jobs for women than men (female-oriented CFEs).

Table 14: Performance score of CFEs on their social dimension

CFE	Paid jobs created					Investment social project	Performance scores
	Number employed	Fulltime		Part-time	Employment value		
		Male (%)	Female (%)				
Timber CFE1	27	1(25%)	3(75%)	23	3,715 USD		3
Timber CFE2	33	4(80%)	1(20%)	28	5,945 USD	Education ($645) Access to a communication network ($744.5)	3
Timber CFE3	33	2(50%)	2(50%)	29	2,640USD		3
Maize CFE1	18	2(50%)	2(50%)	14	5,936 USD	Donation of pharmaceutical products to the integrated health Centre ($626	4
Maize CFE2	21	3(100%)	0	18	6,900 USD		2
Njangsang CFE1	64	1(25%)	3(75%)	60	2,416.USD		3
Njangsang CFE2	44	1(25%)	3(75%)	40	1,245 USD	Financial support to the old($902) Scholarship to females from the community ($901)	4
Njangsang CFE3	57	3(75%)	1(25%)	53	3,454USD	Donation of pharmaceutical products to the integrated health Centre ($626)	3
Aquaculture (tilapia) CFE	31	2(50%)	2(50%)	27	2 192 USD		3

In comparison, NTFP CFEs created more part-time (153) and full-time (12) jobs through the involvement of women in purchasing, cracking, and drying njangsang nuts. Timber CFEs, on the other hand, come in second in terms of the number of jobs created, with 80 part-time workers who intervene at different stages of the timber production process and 13 full-time

staff working on the day-to-day activities (Recording of sales, purchases, quality control, and recording of expenditures and incomes in the income/expenditure statement) for the three CFEs. In addition, Agricultural enterprises (Maize and aquaculture production) also contributed significantly to creating community jobs; 59 part-time and nine full-time jobs were created.

In terms of the total value of wages paid, timber enterprises paid more, with the three timber CFEs spending 12300USD on wages; however, when we look at the ratio of total CFE expenditure per production cycle to the amount on wages, we find that agricultural enterprises come first with a ratio of 0.79—for every dollar invested in the CFE, 79% is spent on wages. This is because these CFEs are labour-intensive. Aquaculture (tilapia) production CFE comes second, with 43% of every dollar spent going on wages, timber, and NTFP CFEs, which follow with 23% and 22%, respectively. However, suppose we factor in the contribution of NTFPs to the local economy by adding money spent on purchasing raw materials from the community and wages. In that case, the NTFP CFEs' contribution to the local economy will increase to 85%.

According to the 1994 forest law, proceeds from CFEs are not supposed to be distributed or shared but used for social development, such as investment in education, health, improving access to clean water, and other social problems common to the community. Some of the revenue for some CFEs was used for some social projects. For instance, timber CFE2 used part of its revenue to pay the salary of four primary school teachers ($645); also, the CFE connected the village to the telephone network by purchasing a network antenna ($744.5) for the community. Also, 16 sick and elderly community members received financial support. Njangsang CFE2 also supported two young girls from the community, sending them for medical training in Buea.

Factors influencing the social dimension of CFEs

During FGDs with CFE management, the two key factors influencing social performance are summarised below.

The first factor is the *income generation capacity* of the CFE. CFEs noted that their ability to meet their social needs depends on their income from trading forest products. Additionally, when CFEs operate, they create jobs employing community members, with the number and value of jobs created depending on the type of CFE. However, their ability to invest in social

projects depends on the outcome of the production process. Therefore, if profits are made, part of it can be used for community development; if the reverse happens, the CFE cannot invest in community development. Also, community development projects requiring high capital investments can only be financed when CFEs mature and profit significantly. This explains why CFEs could only invest in community projects with a low budget. Other community projects, such as constructing classrooms and health centres, were proposed for the next production season in the hope of better profitability.

The type of *product traded* also affects the social dimension. Some products are labor-intensive and thus provide employment to many community members; these CFEs often have a higher social performance due to their contribution to employment creation. However, CFE products such as timber are capital intensive and require high investment in capital and machinery and low employment of community labour. Although these CFEs generate higher revenue and profits with higher potential for social projects, they contribute less to employment creation. However, NTFPs and agricultural CFEs are not capital-intensive; they create more jobs but do not generate significant profits for social projects. Interestingly, some CF management committees prefer to develop capital-intensive and labour-intensive CFEs to balance these social objectives.

3.4.3 Environmental dimension

The environmental dimension and factors influencing the environmental performance of CFEs are presented in the following section.

Performance scores

Environmental performance is captured through illegal logging and the extent of agricultural encroachment into the CF. Overall, there is a reduction for both variables with the development of CFE activities.

Timber CFEs take stock of the tree species exploited to determine the tree species in their nursery for replanting the exploited species to avoid biodiversity loss and ensure that high-market-value species remain in the forest for sustainability. Additionally, CFEs developed their environmental impact notice to identify mitigation actions for eventual implementation. Through sensitisation by the CFEs, illegal logging has witnessed a significant reduction. Table 15 shows the evolution of illegal logging cases over the years and the areas affected, illustrating

a significant reduction over time; with the coming of CFEs, collaboration with local forestry officials, and massive community sensitisation, reporting of cases of illegal logging was intensified. Also, CF members had regular patrols in the forest, which significantly reduced illegal logging. The presence of effective administrative bodies pushed private partners and community members in need of timber to pass through the community forest management committee, thus reducing the cases of illegal logging.

Additionally, the high number of cases reported in 2019 was for two CFs close to major cities; nevertheless, the sub-divisional delegate and forest administration worked with the community to stop the illegal activity. Ensuring sustainable forest management and exploitation of CFE is extremely important for timber exploitation due to the threat of loss of high-market-value species. As part of the enterprise management strategies, logged timber species are registered, and the enterprise is currently promoting two methods of regeneration: natural regeneration and the creation of a nursery for high-value tree species, which are equally part of the enterprise plan of action.

To maximise benefits from water resources, diversify income sources, and reduce pressure on timber, the community decided to develop aquaculture (tilapia) production CFE, which has helped reduce the rate of agricultural expansion since its development. As a result, the number of private fishponds has increased, as evidenced by the reduction in farmlands developed within the forest, as shown in Table 15.

Table 15: Results of the environmental dimension of CFEs

CFE type	Incidences of illegal logging			Area of CFE cleared for economic reasons			Performance scores
	Baseline	2018	2019	Baseline	2018	2019	
Timber CFE1	11	1	0	10	25	16	4
Timber CFE2	1	0	0	0	.28	0.5	3
Timber CFE3	4	0	0	4	2	1	4
Maize CFE1	21	1	1	96	38	53	3
Maize CFE2	24	2	1	82	113	33	4
Njangsang CFE1	2	0	0	9	4	2	4
Njangsang CFE2	3	0	0	0	0.1	0.5	3
Njangsang CFE3	16	2	4	26	11	28	2

Aquaculture (tilapia) CFE	32	7	11	79	38	34	3

With community sensitisation and collective action in communities harbouring CFEs, agricultural expansion has been significantly reduced inside the forest. This is because there was better control by the whole community; people who started creating farms were quickly detected by the forest monitoring committee or community members and reported to the community forest management committee. This led to better control of the number of hectares to be allocated and where they should be allocated. This was done to respect the provisions of the simple management plan and enhance sustainable forest management.

Factors influencing the environmental dimension

Following FGDs, the performance of the environmental dimension of CFEs was influenced by three factors. These factors are common to all CFEs, but in the sampled CFEs, they were more influential in certain CFEs.

Community engagement emerged as the key and the first-factor influencing CFE's environmental performance. Within CFEs, all community members are responsible for monitoring and reporting illegal activities within the forest. As a result, community engagement in monitoring and reporting cases of illegal logging and agricultural encroachment into forests greatly enhances the ability of the CFE team to quickly detect unlawful activities within the forest and work with administrative authorities to stop them. Some CFEs created a forest monitoring committee with regular checks, and all community members reported illegal logging or encroachments to the forest management committee. Therefore, the ability of CFEs to enhance sustainable forest management and respect the SMP depends a lot on the capacity of the CFE management team and the collaboration with community members.

Collaboration with the local government administration is the second factor influencing the environmental performance of CFEs. Most CFEs improved their collaboration with the decentralised forest control committee in these localities to curb illegal logging. For the other seven CFEs that were relatively landlocked, agricultural encroachment was often done by community members. However, mass sensitisation on agricultural zones significantly reduced agricultural encroachment into other forest zones. In these CFEs, CFE management often invites the district delegate of agriculture to enforce these sensitisations and clearly explain

potential penalties to offenders. Therefore, community collaboration and partnership with the local government administration are critical in curbing illegal logging and agricultural encroachment.

Proximity to major cities emerged as the third factor influencing the environmental performance of CFEs. In this case, CFEs near major cities suffer from pressure for agricultural expansion and illegal logging from urban and peri-urban dwellers. For example, the aquaculture production CFE is in a community that has suffered extensively from encroachment by elites, with large farms created in the forest coupled with illegal logging. Therefore, the proximity of the CF to a major city is a significant pull factor for elites and people in business involved in peri-urban agricultural activities. Consequently, reducing illegal logging was reported to be more challenging in communities close to cities and highways because they are easily accessible, and demand for wood products from neighbouring towns was high.

3.4.4 Overall performance

Table 16 indicates the overall performance of CFEs based on the scoring highlighted in Table 12. The scores indicate that CFEs' performance varies from low to high, and overall average scores range between 2 and 3.3.

Table 16: Overall performance of sampled CFEs

CFEs	Economic performance	Social performance	Environmental performance	Overall performance (average)
Effective performers				
Njangsang CFE2	4	4	3	3.7
Intermediate performers, not skewed				
Timber CFE2	3	3	3	3
Timber CFE3	3	3	4	3.3
Timber CFE1	3	3	4	3.3
Intermediate performers skewed				
Njangsang CFE1	1	3	4	2.7
Maize CFE1	1	4	3	2.7
Low performers				
Njangsang CFE3	1	3	2	2
Maize CFE2	1	2	4	2.3
Aquaculture (tilapia) CFE	1	3	3	2.3
AVERAGE	2	3.1	3.3	2.6

The average overall performance level is 2.6; thus, an average CFE from the sample is an intermediate performer. This is supported by the fact that five (55.55%) of the nine sampled CFEs are classified as intermediate performers, of which three (33.33%) are not skewed, and three (22.22%) are skewed performers. Only one (11.11%) CFE from the sample could be classified as an effective performer, with the highest score (3.3) achieved by the njangsang CFE2. Two CFEs fall under the category of low performers, with an average score of 2.3. Table 16 also shows that the average score on the economic dimension (1.6) is much lower than the scores on social (3.1) and environmental performance (3.6). Despite having average scores above 3 for social performance and environmental performance, some CFEs' below-average performance can be attributed to scoring low on the economic dimension. Consequently, addressing economic challenges becomes crucial for improving overall performance.

The overall performance of CFEs is affected by internal and external factors, with the main internal factors affecting CFE performance including market knowledge of CFE members, the income generation capacity of CFEs, the type of product traded by CFEs, and community engagement and collaboration with local government administration. In contrast, the main external factors influencing CFE performance are market prices, administrative delays, market access, and proximity to major cities.

3.5 Discussion

First, this chapter explored the performance of CFEs in Cameroon and the factors affecting performance. The results show that these CFEs' performance varied significantly, with 11.11 % classified as effective performers and 55.55% of the CFEs being intermediate performers. Among the intermediate performers, 22.22% are skewed performers and another 33.33% not skewed. In addition, 33.33% of the sample were low performers. This chapter also shows that although CFEs are not making profits, they spend on community projects. However, the sustainability of these enterprises is at risk because they are not using profits but are using the enterprise's capital for such investment. When probed to understand why CFEs invest in community projects despite their losses, CFE managers mentioned that they had pressure from community members to invest in these projects. Therefore, further training of CFE managers on financial discipline and communication with community members is important. Also, another problem is that some CFE managers cannot adequately determine how much profit

they are making; they confuse revenue with profits. This chapter is thus critical in filling these gaps.

The results showed that the economic/financial dimension was especially low for most CFEs, whereas they recorded better scores on the social and environmental dimensions. A similar situation of poor economic performance was observed by Adhikary (2019) for CFEs in Nepal. Frey et al. (2021) noted that a CFE's costs are 2.5 times higher than revenue at the start but gradually reduce over time. However, Humphries et al. (2020) pointed out that the expectation of economic/financial performance should vary based on the stage of development of CFEs; young CFEs (1-3 years) can be making losses but should at least cover operational costs while older CFEs are expected to break-even and make profits. Humphries et al. (2020) further showed this by applying a simplified financial analysis tool to Brazilian CFEs at regular intervals over six years. Therefore, the studies noted considerable gains in efficiency and labour productivity over time due to learning by doing, resulting in increased revenue to the CFEs and the value of labour payments to local communities. In this respect, it is important to realise that the sampled CFEs in this study are less than three years old and, thus, relatively young compared to well-established CFEs in Asia and the Americas.

The fact that the social and environmental dimension score is good after two years is very encouraging. This shows that CFEs can be critical in facilitating rural development and should be promoted because they enhance sustainable management and community well-being. However, as shown in this chapter, the knowledge of CFEs to adequately balance economic/financial, social, and environmental dimensions is critical. Siegner et al. (2022b) confirm this by highlighting that the strategy employed by the CFEs also influences how they perform on the three dimensions. They also note that a differentiation strategy is best suited for CFEs seeking to meet their economic, social, and environmental dimensions simultaneously. However, few CFEs can effectively apply a pure differentiation strategy; a more practical approach of learning by doing has been reported in different cases as an option to help CFEs simultaneously meet their triple objectives (Humphries et al., 2020; Frey et al., 2021).

The low scores for the economic/financial dimension of performance also suggest that the goal of most CFEs is not profit maximisation but revenue generation, employment creation, or sustainable forest management (Piabuo et al., 2018). Therefore, adjusting the weights of different indicators to the specific objectives of CFEs might provide more insightful results of the overall performance rating of CFEs. Also, the low overall performance suggests a

combination of poor knowledge in business management by CFE managers and other external factors such as competition and market price fluctuations. This is particularly evident in the case of the Aquaculture CFE, which made losses because of capacity issues. Although the current performance evaluation of CFEs provides vital information that can be used to enhance learning-by-doing, it is important to apply the same performance evaluation framework at regular intervals to capture CFEs' performance trajectory. Therefore, CFEs should not sit and wait but continuously evaluate their performance, understand the factors affecting their economic dimension, and act upon them (Meijaard et al., 2020). This chapter also shows that CFEs still need financial support through grants and technical support to help overcome capacity challenges and reduce internal factors that influence their performance. Improving the business environment and the adverse influence of external factors on performance is critical in improving CFEs' performance. Humphries et al. (2020) confirm the importance of grants, technical support, and cooperation at the initial stages of the development of CFEs and also note that development takes time, and CFEs improve through learning by doing.

In order to enhance the performance of CFEs, this study demonstrates that the majority of performance-influencing factors are contextual and even CFE-specific. This chapter shows that climate change and labour availability are critical factors for agricultural CFEs, while complex administrative procedures are critical for timber CFEs. Recent studies also note additional factors, such as the history of communities harbouring CFEs (Engbring and Hajjar, 2022; Siegner et al., 2022a). This evidence indicates that exploring contextual factors that explain performance is imperative to understanding CFE performance and developing strategies to improve performance properly. This is because the influence of different factors changes as CFEs evolve, necessitating continuous assessment of these factors at different stages (start-up, growth, maturity, and decline) of a CFE.

The low performance of CFEs on the economic dimension may also be attributed to the fact that they did not give substantial importance to economic performance and were more interested in social and environmental performance. This is reflected by intermediate but skewed CFEs in the sample. One of the key assumptions of the methodology in this research was that CFEs give the same importance to their economic, social, and environmental dimensions. However, the results show that some CFEs are skewed performers, unable to balance objectives or favour social and environmental objectives. For future studies, verifying if CFEs give more importance to a particular dimension and allocate weights to the different

dimensions based on community interests will be important. This approach may paint a different picture of CFEs' performance and reflect better what performance means to their management and communities.

This chapter classified the factors influencing CFEs' performance into three categories: (1) policy support, (2) institutional support through continuous capacity building, and (3) community engagement (see Table 17).

Table 17: Factors influencing CFE performance by category

Category	Internal	External
Policy support		• Taxation • Market prices
Institutional and capacity building	• Market knowledge • Income generation capacity	• Administrative delays • Access to markets
Community engagement	• Collaboration with the local government administration • Engagement with community members	• Proximity to major cities

Policy support through, for example, tax rebates for the social contribution of CFEs has been discussed (Badini et al., 2018; Killian and O'Regan, 2018); however, the qualifying conditions to benefit from these incentives differ from one country to another (Hemels, 2023). This confirms Killian and O'Regan (2018), who note that some small community social businesses may not benefit from tax incentives due to difficulties meeting the qualifying conditions. Thus, creating an enabling environment for CFEs requires cross-collaboration between different institutions to provide policy, financial, and technical support packages. Institutional support through different partnerships to enhance CFE capacity, facilitate market knowledge, and ensure vertical integration are critical (Siegner et al., 2022b; Humphries et al., 2020). Furthermore, Humphries et al. (2020) confirm this, highlighting that CFEs move through a learning trajectory by doing; therefore, external financing of start-up costs coupled with continuous technical support is critical for performance in the long run. Additionally, community engagement is critical for community forest monitoring and labour provision, as well as in facilitating engagements with local administration. Vega (2019) notes the importance

of community engagement, highlighting that CFEs with strong community cultures are more likely to succeed.

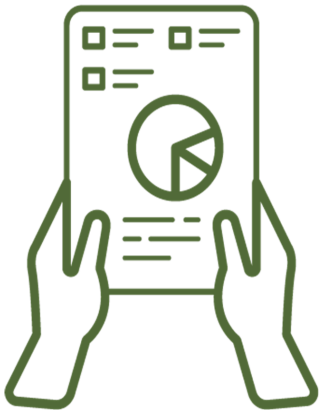
The CFE performance evaluation framework in this chapter was developed to be as simple as possible. However, a large-scale application to CFEs will require some prerequisites. CFEs that do not record information on their income and expenditure without differentiating their fixed cost from operating cost will find it challenging to use this framework. According to CFE law in Cameroon, CFEs must have an annual report of their operations, which local forestry officers often verify. However, in most cases, they have financial figures but lack the structure to report in a coherent format that adequately reflects their performance. In addition, these reports are often submitted when requesting official documents such as waybills for timber operations or certificates of origin for NTFPs; thus, most CFEs operating consistently keep some financial figures. Furthermore, over the last decade, many CFEs have received capacity building on record keeping, and a larger fragment is making efforts to keep records of CFE operations (Foundjem-Tita et al., 2018). One of the key strengths of this framework is its very objective; this is principally because many CFEs' performance evaluation frameworks have been based on subjective evaluation of their members and community members. Consequently, this resulted in tensions because, in most cases, not all stakeholders agree with these subjective assessments; therefore, this framework fills that void. However, this strength is also a weakness because subjective assessments permit a nuanced view of CFE performance that objective indicators cannot provide. Therefore, the application of this framework should be complemented by the assessment of factors that influence performance based on subjective assessment and events that occurred during the assessment period of CFEs.

3.6 Conclusion

The objective of this chapter was to evaluate the performance of CFEs in Cameroon from the economic, social, and environmental dimensions and to understand the factors influencing their performance. This research contributes to the scholarship on the performance evaluation of CFEs by proposing a contextualised multi-dimensional framework for CFE performance evaluation and empirically testing the framework using 9 CFEs in Cameroon as a case study. The CFEs varied largely in terms of overall performance, with the majority of the sample being intermediate performers (55.55%), of which 22% were skewed, 33% were low performers, and 11% qualified as effective performers. The factors influencing these performance levels of CFEs are context-specific and have varying levels of impact on performance, where internal

factors such as market knowledge of CFE management, income generation capacity, collaboration with local government administration, and community engagement influenced their performance. In addition, external factors such as taxation, market prices, administrative delays, market access, and proximity to major cities also adversely impact performance. Although this finding is not representative of CFEs in Cameroon, considering the sample size, it permits a nuanced understanding that CFEs are at different performance levels and are influenced by different factors. However, further research is required to apply this framework to a more representative sample of CFEs.

Considering that the sampled CFEs are relatively young and CFEs need time to develop, the future performance of these CFEs can be expected to improve, especially if some key factors influencing their performance are addressed. The results show, however, that for every CFE, it is important to have good access to markets and information on market prices, limited administrative procedures, good relationships with government agencies, and community engagement. Therefore, policy support through favourable regulation and investments in improving the business environment are also necessary.



CHAPTER 4: COMMUNITY CAPACITY FOR SOCIAL ENTERPRISE DEVELOPMENT: EMPIRICAL EVIDENCE FROM COMMUNITY FOREST ENTERPRISES (CFEs) IN CAMEROON

Community Capacity for Social Enterprise Development: Empirical Evidence From Community Forest Enterprises (CFEs) In Cameroon[8]

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Abstract

With increasing forest devolution globally, community forest enterprises (CFEs) are emerging as potential options for local development based on forest resources—CFEs trade to meet their economic, social, and environmental goals; however, empirical studies have highlighted capacity deficiencies as key drawbacks to their development. However, knowledge of these capacity gaps is low. This chapter uses a systematic framework to explore capacity and deficiencies in capacity and the relation between the two in CFEs in Cameroon. Using the contextualised organisational capacity theory in combination with asset-based community development theory, data was gathered from 31 CFEs based on focus group discussions (FGDs). Principal component analysis and descriptive statistics were used to evaluate community capacity at individual, organisational (CFE), and network levels. In addition, Pearson correlation tests were used to explore the relationships between different domains of community capacity. The results indicate that community members and development practitioners agree that communities are weak in creating partnerships, networking, and resource mobilisation. The participatory community evaluation highlights significant capacity gaps in infrastructure, members' skills and knowledge, and a sense of community. This confirms that capacity gaps were more extensive at the individual and social network level, with organisational capacity scoring better overall, except in community cohesion and resource mobilisation. Although the capacities of individual members of CFEs are generally low, their effectiveness in achieving their goals is significantly impacted by the capabilities of individual members and their networking abilities. Therefore, efforts to enhance CFEs should focus on developing these capacities through a collaborative process involving various stakeholders, with policy backing and community involvement.

Keywords: Organisational capacity, community forestry, partnerships, networking, sustainable development

[8] This chapter is based on a paper published in Environmental Development as Piabuo, S. M., Ingram, V., Runhaar, H., Hoogstra-Klein, M., Foundjem-Tita, D., & Minang, P. A. (2023). Community capacity for social enterprise development: Empirical evidence from community forest enterprises (CFEs) in Cameroon. Environmental Development, 47, 100884. https://doi.org/10.1016/j.envdev.2023.100884

4.1 Introduction

The last three decades have been marked by a paradigm shift in forest management from centralised government management to the devolution of management rights to local communities to increase local participation in forest management (Shackleton and Campbell, 2001; Minang et al., 2017). Over time, more than 15% of tropical forests have been allocated to community management and are a source of livelihood for more than 1.2 billion people (FAO and UNEP, 2020; RRI, 2014; Agrawal et al., 2008). To ensure livelihood improvement through the devolved access and management rights to rural communities, community-based development approaches that promote social change, address the needs of the poor, and establish economic resilience have emerged over the past decade (Chaskin, 2001; Minang et al., 2019). These community-based approaches for local development equally used business approaches in generating profits for community development. These approaches coincide with growing enterprises with a principal social mission that emerged at different scales globally (Eversole et al., 2013; Antinori and Bray, 2005; Foundjem-Tita et al., 2018). These approaches have led to the widespread proliferation of community forest enterprises (CFEs), widely defined as "an entity undertaking a commercial business based on forests or trees. A credible representative body oversees it. The enterprise can claim legitimacy within a self-defining community in terms of people and area, and it generates and redistributes profits within that community*"* (Macqueen, 2008, p.3). Hence, these CFEs have been promoted due to their ability to create employment, wages, capital accumulation, profit sharing, investments in public goods, and enhance sustainable forest management (Donovan et al., 2006).

However, due to the poor economic performance of CFEs, the ability of CFEs to generate profits for social development has been questioned over the past decade (Lescuyer et al., 2015; Gilmour, 2016; Ojha et al., 2016; Minang et al., 2017). The capacities of these communities to respect business principles while respecting sustainable forest management practices have been underscored as a key drawback (Piabuo et al., 2021). Since CFEs are rooted in a community, they are often developed based on the available capacities in that community (Hsia, 2021). The evaluation of community capacity so far has been done in a fragmented manner, with most authors focusing on communities' business and governance capacities (Foundjem-Tita et al., 2018; Piabuo et al., 2018; Beauchamp and Ingram, 2011). Many efforts have been made to develop these business management capacities of local communities involved in CFEs (Minang et al., 2019; Macqueen, 2010). Unfortunately, only some elements of a community's

capacity, such as a sense of community, have generally been improved (Foundjem-Tita et al., 2018; Piabuo et al., 2018). Zurcher et al. (2018) indicate that employing a systems approach permits a better understanding of the system and the relationship between capacities, thereby enabling greater impact. This permits better self-organisation (Otrom, 2009) and more effective and efficient use of natural, social, and economic assets. Additionally, it facilitates the development of synergies to tackle emerging challenges (Vachon et al., 2001), as well as the development of social networks necessary for a CFE to function and achieve development objectives (Beckley et al., 2009; Ojha et al., 2016). Chaskin (1999) emphasises that employing a systems approach has the advantage of considering other community elements, such as infrastructure and social capital, highlighting the need for community capacity building. The reason for taking such an approach is that community capacity (1) is more than the collection of individual capacities, (2) should be considered as the outcome of ongoing and multiple non-linear interactions between systems within a community, and (3) is responsive to its external environment.

However, studies employing a systems approach in evaluating the community capacity of CFEs are sketchy or non-existent in Cameroon; this research, therefore, aims to fill this gap. Contrary to existing studies that dwell on practitioners' perceptions of community capacity, this research captures community capacity from the perspective of practitioners and communities, painting a clear image of community capacity in CFEs. As a result, the chapter goes a step further to investigate the relationship between the domains of community capacity to underscore capacity domains for prioritisation during capacity development efforts.

Therefore, this study contributes to the literature exploring community capacity development in CFEs. This is in contrast to much of the community development literature, which focuses either on economic outcomes in terms of quantitative indicators (including employment rate and income) to determine "success," e.g., Beckley et al. (2002); Beesley and Russwurm (1989), and Schatan (1990) or on social gains (including education attainment, community activeness, and community satisfaction) (Brown, 1993; Goudy, 1990). In this case,we follow Beckley et al. (2009), who view community capacity as encompassing a range of assets and outcomes. This sharply contrasts traditional and reductionistic approaches to community capacity and captures the complexity of a community dealing with certain situations (Amadei, 2020). Therefore, the following research questions are addressed:

1. What are the existing areas of capacities and deficiencies that affect the economic, social, and environmental performance of CFEs in Cameroon?
2. What is the relationship between the different capacities?

From a theoretical perspective, this evaluation is difficult because contingency theories developed by Fiedler (1967), House and Mitchell (1975), and Vroom and Yetton (1973) underscore that leadership and management styles should be adapted to the organisational context (Schmid, 2006). Goodman et al. (1998) highlighted that they should be contextualised and appropriate assessment methodologies developed; this chapter will, therefore, contextualise CFEs in Cameroon. CFEs have specific risks, opportunities, and challenges embedded in their hybrid character, which makes community capacity evaluation complicated. This chapter seeks to overcome these challenges by (i) empirically taking a system approach to evaluate community capacity and deficiencies at the individual, organisation (enterprise), and network level and (ii) by analysing the relationship between capacities to guide CFE development practitioners to prioritise community capacity development initiatives in a better way.

The research focuses on CFEs in Cameroon because the country has been practising community forestry for over 25 years (Dryad, 2015; IIED., 2019). A review of two decades of community forestry in Cameroon highlighted the importance of community capacity (Foundjem-Tita et al., 2018; Piabuo et al., 2018). An empirical investigation using recent data covering all aspects of capacity is thus critical for practice. Thus, this chapter seeks to draw lessons for CFEs in Cameroon, community forestry, and CFEs in other countries.

4.2 Conceptual Background on Community Capacity of CFEs

4.2.1 Defining community capacity

A community is generally defined as people sharing common interests or goals (Williams and Lawson, 2001). Verity (2007) adds that they should live in a geographically defined area with some level of interdependence, sharing the same desires and aspirations with a sense of belonging relating to members in all aspects of life. While community capacity is generally defined as the ability of community members to work together to maintain changes (Hounslow, 2002; Howe et al., 2001), researchers in the rural development domain use a broader approach to define community capacity; they introduce concepts of community assets, organisation,

facilities, and social capital. Easterling et al. (1998) used the concept of assets to define community capacity as "the set of assets or strengths that residents individually and collectively bring to the cause of improving community quality of life." In contrast, Jackson et al. (1999) defined community capacity as "a wholistic representation of capabilities (those with which the community is endowed and those to which the community has access) plus the facilitators and barriers to the realisation of those capabilities in the broader social environment." However, the widely used definition of community capacity is that of Chaskin (2001, p. 7), who used different types of capitals to underscore community capacity as: "the interaction of human capital, organisation resources, and social capital existing within a given community that can be leveraged to solve collective problems and improve or maintain the wellbeing of that community. It may operate through informal social processes and organised efforts by individuals, organisations, and social networks that exist among them and between them and the larger systems of which the community is a part." The ability of communities to use their individual and collective knowledge and resources to enhance the economic, social, and environmental performance of the CFEs and the well-being of the entire community comes out as the overarching message from the different definitions. These different definitions all emphasise community capacity as the collective valorization of individual, collective (organisation), and social networks for collective gain as part of a large system. Moreover, it also emphasises that community capacity exists in different domains; these domains will be explored further by levels (individual, organisational, and networks) below.

4.2.2 Construction of the framework

The concept of community capacity developed in this chapter draws on Chaskin (2001), which is widely used in conceptualising community capacity (Hacker et al., 2012; Turner et al., 2017). Community capacity is conceptualised at three levels: individual, organisational, and network (Chaskin, 2001). Skills at the individual level include human capital, leadership skills, awareness, training, knowledge, education, and participation in community-related activities (Chaskin, 2001; Bennett et al., 2010). At the organisational level, capacity refers to aspects that improve organisational performance, such as human resources, physical resources such as materials, facilities, and equipment, key intellectual resources such as organisational strategic planning, business know-how, production system, inter-institutional linkages, and process management (Aref and Redzuan, 2009). The network level captures the social context, patterns,

and relationships between individuals, the organisation, and other formal and informal partners, including local decentralised community organisations (Chaskin, 2001).

The dimensions used for assessing community capacity (Easterling et al., 1998; Chaskin et al., 2001; Laverack, 2001; Khosravi and Badaruddin, 2013) highlight the ability of community members to mobilise internal resources and external access resources (Laverack, 2001; Bush et al., 2002; Gibbon et al., 2002). Furthermore, the nature of social relations includes how the community interacts with other stakeholders, their relationships, and the role of other agents (Easterling et al., 1998; Chaskin et al., 2001). Moreover, other dimensions include the capacity of communities to establish organised structures that enhance community dialogue, leadership that encourages civic participation, and maintenance of community values with an appropriate learning culture (Cottrell, 1964; Goodman et al., 1998; Easterling et al., 1998; Chaskin et al., 2001; Laverack, 2001).

Therefore, the organisational capacity theory and the asset-based mobilisation theory (Nash, 2010; Shahidullah and Haque, 2016) are employed to capture the internal and external capacities of CFEs. These theories capture the capacity of organisations, individuals, and social networks to improve the overall well-being of the CFEs. In particular, the Organisational capacity theory emphasises how an organisation's characteristics can ensure the achievement of sustainable development goals and enterprise objectives (Christensen and Gazley, 2008). These characteristics include a sense of community/organisational culture, strategic leadership, resource mobilisation, shared vision, financial management capacity, and participation (Allison and Kaye, 2005). Subsequently, CFEs are characterised as individuals of divergent educational and professional backgrounds endowed with varied individual, public, and institutional asset mobilisation.

Meanwhile, the asset-based community development theory emphasises the individuals' and organisations' capacity to identify problems and build on their assets to resolve them (Shin et al., 2014). This chapter adopts Kretzmann and McKnight's (1993) definition of community assets as the "capacity and technology of individuals, organisations, institutions", where community members can map community assets and devise options to maximise them to meet community needs. Individual assets include members' knowledge and talent, including education, training, and knowledge of community members, such as skills or training related to forest management, marketing, business planning and development, financial management, agriculture, health, and education. Figure 8 expands on organisational capacity and asset

mobilization dimensions, drawing from Chaskin's (2001) framework. It contextualises these dimensions to include organisational resources, human capital, and social capital while also considering natural resource endowments in terms of availability.

Tseng and Siedman (2007) propose that communities are social settings with social processes or transactions between groups of people to use resources within the organisation, which can be human, economic, or natural resources within the framework of a particular organisation to achieve particular aims. In the case of CFEs, individuals within a community with specific capacities in financial management, strategic leadership, and specific skills and knowledge can mobilise these skills to develop and contribute to an organisation. The CFE represents the organisation, which requires key skills that define its strength, such as shared vision, participation, sense of community, resource mobilisation capacity, and natural resource availability. However, the dominance of infrastructure/absence of capacity, partnerships, and the organisation’s social networks can affect organisational capacity. These relationships are all bidirectional; thus, individual capacities can enhance organisational capacity through social networks, and the individual capacity of members can be enhanced. Additionally, the organisation's social networks can be broadened through strategic leadership, skills, and knowledge of members.

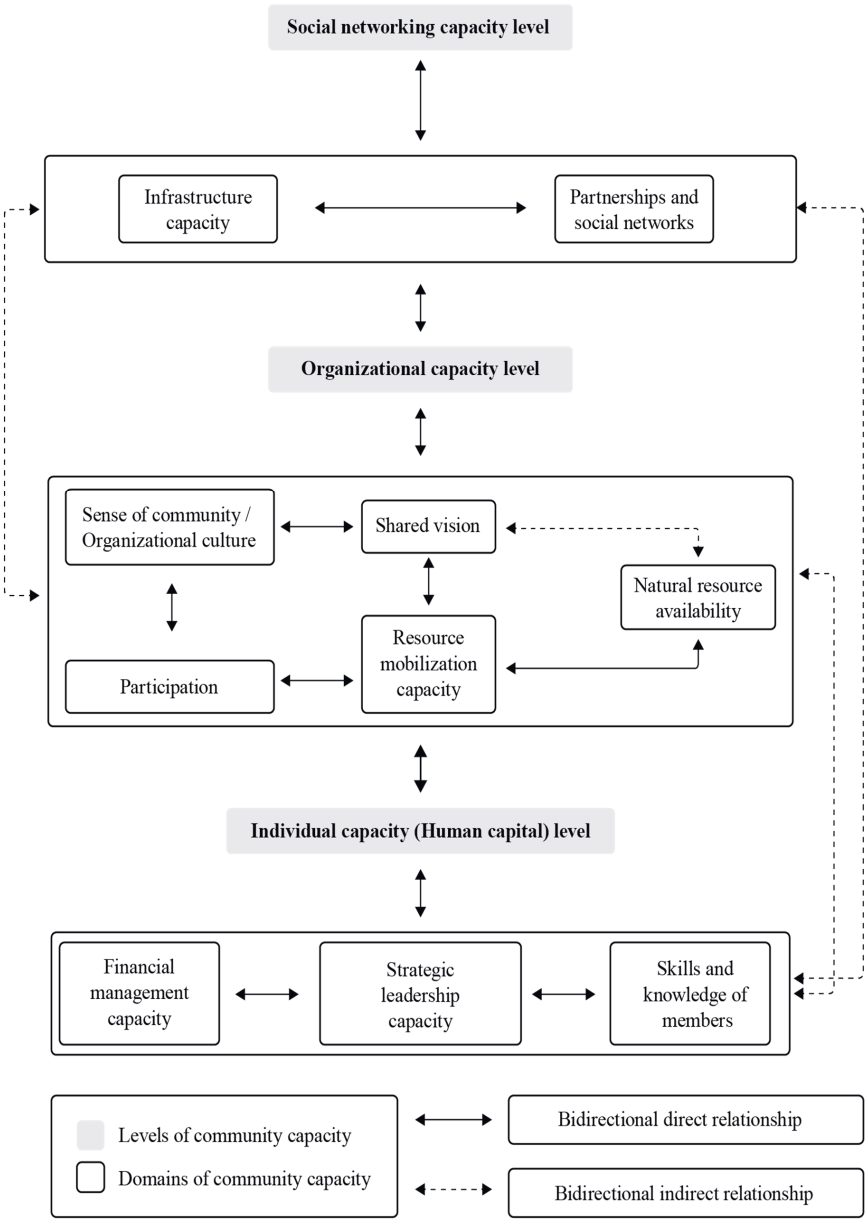


Figure 8: A Conceptual Framework for Community capacity of CFEs in meeting their economic, social, and environmental objectives.

This emphasises a system of relationships between individual, organisational, and social network levels of community capacity and between different capacity domains. This new framework further allows a systemic evaluation of community capacity and the relationship between community capacity domains, which will be explained in the next section.

4.2.3 Community capacity domains

Organisational capacity level

A sense of community/organisational culture is the relationship between an individual community member and the organisation (Sarason, 1974). For staff engagement and commitment, organisational culture should permit vertical and horizontal collaboration, communication, and participation in decision-making (Han et al., 2015; Satar, 2018). Vertical communication in this study refers to an established communication strategy where the management team communicates to the community and the CF management committee about enterprise activities. Therefore, it relates to how the CFE management advises the management team. Horizontal communication, on the other hand, refers to how community members participate in decision-making on the use of profits and aspects such as the election of the management team.

Participation refers to the effective engagement of community members from different socio-cultural divisions (youths, women, men, and minority groups) of the community (Foundjem-Tita et al., 2018; Piabuo et al., 2018); this includes the election of leaders, community activities, organising meetings, and general oversight of management activities (Foundjem-Tita et al., 2018).

Shared vision is the capacity of community members to blend their personal goals and aspirations with those of the organisation (Allen and Allen, 1987). It is, therefore, crucial to engage members in a common cause (Murray and Dunn, 1995; Bopp et al., 2000).

Resource mobilisation capacity captures the ability of a community to mobilise resources from internal and external sources, identify resource mobilisation opportunities, and develop them.

Natural resource availability includes the abundance of forest and non-timber forest products (NTFPs), which affects the capacity of a CFE to generate income in conjunction with the accessibility of production trends.

Human capital level (individual capacity of community members)

Financial management capacity entails maintaining transaction records, preparing clear financial statements, implementing an auditing system, managing debt, and the management's capacity to record and report financial information plans, including budget planning (Haupt and Padayachee, 2016; Han et al., 2015).

Strategic leadership capacity is fundamental in aligning and maintaining actions towards the mission and objectives of the CFE by sharing experiences and knowledge to create innovations that have a societal impact and address societal problems while ensuring enterprise sustainability (Dees and Anderson, 2006). Management capacity refers to the ability of management to search and adapt processes to meet customer needs while enhancing the organisation's marketing, communication, and quality systems (Andreasen and Kotler, 2008). In the CFE context, this implies the ability of CFE managers to mobilise community assets, develop marketable products, and generate profits for community development.

Skills and knowledge refer to the skills and knowledge of individuals within the community in the CFE context on subjects related to sustainable forestry and business management, marketing, enterprise development, financial management, health, and education.

Social networks level (social capital)

Infrastructure capacity refers to the existence of infrastructure within the community that enables business/community development. This was assessed by investigating the presence of community infrastructures, including local government offices, storage rooms, roads (in km), clinics, hospitals, schools, guesthouses, tents and camps, restaurants, hotels, and shops.

Partnerships and social networks refer to the collaborations between local groups, public institutions, local government, non-profit organisations, social enterprises, and other companies to leverage growth. The CFE context includes research and educational organisations, donor agencies, non-governmental organisations (NGOs), and other community forest enterprises.

4.3 Methodology

4.3.1 Evaluating community capacity

This chapter draws on the theoretical framework developed in Section 2 to evaluate the community capacity of CFEs in Cameroon with ten community capacity domains and 45 capacity indicators (see Appendix Table A3). An interview guide that captures the domains was developed. Although quantitative methods provide broad knowledge, they do not offer data on the different aspects of community capacity. Inspired by Aref (2011), quantitative methods were thus used to investigate barriers to community capacity development. This study, therefore, employs a mixed method of qualitative and quantitative design to benefit from the advantages of qualitative and quantitative research designs. Qualitative data collected through focus group discussions (FGDs) were analysed to bring out community capacity gaps from the different CFEs, and quantitative techniques such as correlation analysis were used to capture the relationship between the different community capacity domains.

4.3.2 Testing of the survey instrument

Utilizing Lovell et al. (2015) as a framework for evaluating community capacity in the absence of quantitative data, qualitative studies were consulted for insights on key indicators. Additionally, the manual of procedures for CF management was referenced to contextualise these indicators within the specific context of CFEs in Cameroon.

Table 18: Test of internal consistency for community capacity domains

Community capacity domains	Indicators	Cronbach's alpha (α)
Resource mobilisation capacity	2	0.795
Sense of community	3	0.852
Shared vision	2	0.989
Leadership	3	0.837
Participation	3	0.823
Financial management	5	0.842
Skills and knowledge	7	0.842
Partnerships and social networks	6	0.844
Infrastructure	10	0.825
Natural resource availability	5	0.916

Inspired by Lovell et al. (2015), the indicators contextualised to capture community capacity domains were pre-tested in one community, and elements with low factor loadings were removed after factor analysis; other elements were removed when not adapted to the community forest context. The questionnaire was finally made up of 10 community capacity domains captured using 48 indicators (see Appendix A3). Cronbach's alpha was used to capture the level of internal consistency within dimensions (Table 18).

4.3.3 Sampling and data collection

Data for this study were collected during the implementation of a research and development project called "DRYAD: Financing Sustainable Community Forest Enterprises in Cameroon," executed by the World Agroforestry Centre between June 2015 and June 2020 (World Agroforestry Centre, 2015). Data used were collected from 31 communities between January 2017 and June 2018 from the five regions of Cameroon: Centre (16), South (2), Littoral (3), East(6), and Southwest regions (4) of Cameroon (see Figure 11). These regions account for more than 85% of CFs and CFEs in Cameroon, and only CFs with a valid simple management plan (SMP) were considered; this was done to ensure that only legally authorised communities make up the sample.

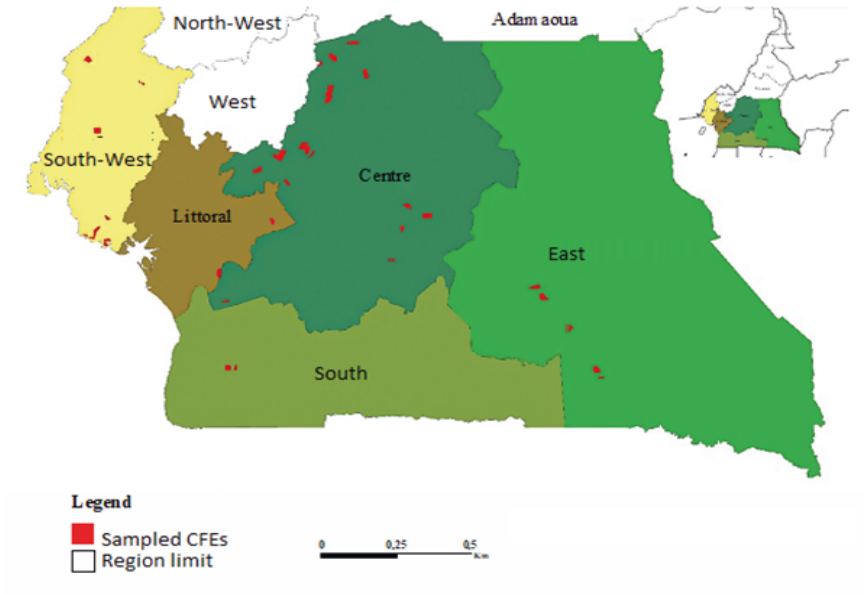


Figure 9: Sampled CFEs for community capacity evaluation

Secondary data sources such as annual enterprise activity reports, minutes of CFE meetings, contracts with partners, and other legal documents (waybills, annual exploitation permits, and environmental impact notice) were collected and used during field visits to CFEs, providing more insights into past operations of the CFE, including, income generated, source of income and use of income. Additionally, CFE books showed the number of jobs created through CFE activities, salaries paid to community members, and engagement of CFE with other partners. Moreover, the minutes of meetings showed how often CFE management meets with community members to decide on CFE management, information sharing between CFE, and community engagement in key decisions.

Focus group discussions (FGDs)

This study was carried out in two parts to capture differences in practitioners' and communities' perceptions of community capacity. Firstly, a sample of 10 CFE development practitioners based on their experience in practice and research on CFE were purposefully selected by the research team and requested to take an online survey. These development practitioners scored the community capacity indicators and domains based on their perception of where CFEs in Cameroon need significant capacity building or where they think CFEs have the most significant capacity gaps. Secondly, the survey was used to evaluate the community capacity of 31 CFEs from a total of 41 CFEs with a revised SMP (GFW, 2019). Thus, the sample represents 75% of CFES. Lovell et al. (2015) used an individual approach to evaluate community capacity; however, they suggest that such an approach can create significant differences due to selected individuals and proposed a collective approach.

FGDs were used as a collective data collection and validation tool, ensuring that responses captured the views of all social groups within the community. They were organised with a representation of men, women, and youths. In some communities, where necessary, FDGs comprised of minority tribes such as the Baka people in the East region and the Bedjang people in the Centre (Ngoume village) was used. Focus group participants were asked to rate 48 community capacity indicators organised into ten community capacity domains. FGDs were first conducted with CFE managers, and the CF management committee members in all the communities visited. Separate focus groups were held with women and youths from the community. In villages with minority groups, a fourth focus group discussion was held with the members of the minority group to understand their implications in community affairs and the enterprise (see Table 19). Focus group discussions with CF and CFE management

comprised nine members, youths and women averaged seven per focus group, and the two focus groups with the minority population comprised nine individuals. In total, 731 persons participated in the 92 FGDs. At the end of each FGD, the scores were summarised to participants for validation.

Table 19: Constitution of FGDs

	Data collection instrument	Number of focus group discussions	The average number of participants per FGD	Total number of participants
Focus group discussions	CF management committee and CFE manager	31	9	279
	Youths	31	7	217
	Women	31	7	217
	Minority groups (Bedjangs and Baka)	2	9	18
Total		**92**		**731**

A scoring sheet with 5-point Likert indicators: 1=No capacity, 2=little/some capacity, 3= neutral, 4=good knowledge (Capacity), and 5=excellent mastery (Capacity) were used. The scoring of indicators was based on the community's perception of their capacity. This approach was employed because Lovell et al. (2015) suggest that non-development practitioners' perceptions of community capacity are more viable and comparable between locations. These scores were explained to focus group members, and after discussions on each indicator, the FGD participants were made to understand their expected capacity levels for each indicator, using this as the benchmark to score their current capacity level. In most cases, FGDs came to a consensus on a score based on their current practice. In some FGDs, all the members could not agree; elements of proof (record, minutes) and the majority point of view were considered as justification to allocate a score of the majority.

Transect walks: To capture natural resource availability and the capacity of CFE members to manage these resources sustainably, a team made up of the forest management officer, four youths with good knowledge of the forest, and the community and researchers laid transects within the forest. Transects were laid out in the forest to collect information about forest-related activities and the nature of vegetation in the forest. Two transects (one along with areas with low activity and another in areas with considerable activity) were laid, resulting in a total of seven plots per CFE, with each plot covering 625 m^2 sampled. The main aim of the transects

was to collect data on vegetation status and the intensity of activities and identify the types, abundance, and uses of the tree species recorded in the plots across the transects. In both cases, the plots were separated from each other by at least 250m, as shown below. In each plot, information was collected about tree species, their diameter at breast height, and their main uses. In addition, GPS points and elevation data were collected for each plot (see Figure 10).

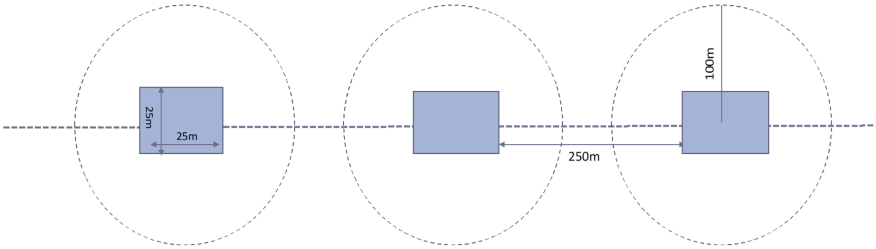


Figure 10: Layout of plots along the transects for verification[9]

The transects permitted the team to capture the availability of timber species, NTFPs, and the rate of exploitation by comparing densities in areas of high activity and low activity. During the walks, the team discussed exploitation techniques and their sustainability, and scoring was done on their ability to sustainably exploit these resources. For agricultural activities, recording land uses in high-activity areas permitted us to know the major crops cultivated, their productivity, and possible effects on the environment were discussed. Additionally, the assessment of the capacity of the CF to engage in aquaculture was mainly done by looking at streams that do not dry off during the year.

4.3.5 Data analysis

In the first stage of the analysis, the relative importance index (RII) was adopted to rank practitioners' perceptions of capacity domains in which they perceive CFEs in Cameroon are poor. The RII was chosen because of its simplicity in Likert-scale studies and wide use in the scholarly literature (Kazaz et al., 2012; Kaming et al., 1997). Mean, standard deviation (SD), % of the variance, and factor loadings were used to capture the level of community capacity for each indicator and dimension. Table 20 summarises the objectives and methods of analysis employed to attain the objectives.

[9] Note: Lengths indicated are not to scale and are indicative only.

Table 20: Summary of analysis methods employed

The key research objective of the analysis	Method of analysis	Source of data
Expert perception of key capacity gaps	Relative importance index (RII)	Expert ranking of community capacity domains that CFEs need significant support
Empirical evidence of community capacity gaps in Cameroon	Mean, standard deviation (SD), % of the variance and factor loadings, KMO and Bartlett's test	Community scoring of capacity indicators and domains through FGDs
Establish a relationship between different community capacity domains	Correlation analysis	Dimension reduction through factor analysis of data from community scoring

Although community capacity varies across the various dimensions, these dimensions are related. The Pearson correlation test was used to understand the reciprocal relationship between the dimensions. This permits us to know the strength of the relationship, the sign, and the level of significance, which is indicated by the coefficient of correlation varying between -1 and +1, with values closer to +1 being strongly positively correlated and values closer to -1 being strongly negatively correlated (Mukaka, 2012).

4.4 Results

4.4.1 Rating of community capacity gaps by development practitioners

Development practitioners were asked to rate the capacity areas where communities confront the greatest difficulties in using forest resources for community development based on their assessed degree of community ability. Improving these specific areas is expected to support the socio-economic and environmental progress of CFEs. The relative importance index and the rankings of community capacity by development practitioners are presented in Table 21. Resource mobilisation capacity (0.910) is ranked first; thus, development practitioners perceive that communities seriously lack this capacity. This capacity domain captures the ability of communities to generate revenue from resources in their communities through trade. The ability of communities to create and maintain partnerships and social networks for enterprise development was ranked as the second community capacity domain with significant gaps; this

is because their ability to partner with public, private sector firms, and civil society organisations determines the type of support they receive and thus their growth. These two findings also correlate with the findings of Duguma et al. (2018), who ranked benefit generation and partnerships as the first and second most important enablers of community forest success.

Table 21: Expert ranking of community capacity domains

Community capacity domains	Relative importance index	Rank
Resource mobilisation capacity	0.911	1
Partnerships and social networks	0.819	2
Shared vision	0.778	3
Participation	0.736	4
Leadership	0.708	5
Financial management	0.681	6
Skills and knowledge	0.653	7
Sense of community	0.625	8
Natural resource availability	0.625	8
Infrastructure	0.542	9

The shared vision was classified as the third domain where communities lag; an immediate outcome of this incoherence is low participation and ranked fourth. This, therefore, underscores the fact that aligning CFE's vision with community interests is key to enhancing participation. Proper leadership is required to have this in place; development practitioners think the leadership of most communities is not appropriate and needs proper support. Financial management capacity, skills, knowledge of community members, and natural resource availability were classified as sixth, seventh, and eighth positions, respectively. Development practitioners think the community capacity gap for a sense of community and infrastructure is not high and thus is ranked eighth and ninth, respectively. To adequately gauge these expert perceptions' authenticity, communities used the same indicators and domains to score their capacity. The following section presents empirical evidence of community capacity evaluation by communities.

4.4.2 Community evaluation of community capacity

Table 22 gives an overview of the different domains of community capacity. Results show that the factor loadings for all indicators are greater than 0.7. The scale percentage of variance is

above 70%, and KMO and Bartlett's test values are all above 0.7; thus, the indicators adequately explain the domains and are adequate for factor analysis. The mean (+-SD) values show the scores for the different capacity domains; while they reflect the mean for all indicators in each domain, they also indicate the empirical situation of CFEs for each domain (Appendix Table A4 shows details for indicators). The results suggest that CFEs scored higher on organisational capacity out of the six domains, except for the sense of community, which had a mean score of 2.84. The scores given for community asset mobilisation are generally low, except for natural resource availability.

Table 22: Results of Community Capacity Evaluation

Domain	Mean scale (+-SD)	items factor loading	scale % of the variance	KMO and Bartlett's test
Organisational capacity level				
Sense of community	2.84 (1.34)	0.7-.0942	73.58	0.74
Shared vision	4.29 (1.15)	0.84	70.56	0.71
Participation	4.07 (1.21)	0.75-0.88	70.467	0.85
Resource mobilisation	2.51 (1.34)	0.852	72.52	0.80
Natural resource availability	4.08 (1.16)	0.74-0.90	63.42	0.792
Human capital level (individual capacity of members)				
Skills and knowledge	1.58 (1.18)	0.76-0.82	80.425	0.82
Financial management	3.19 (1.59)	0.72-0.90	76.73	0.72
Leadership	3.94 (1.29)	0.74-0.849	78.157	0.87
Social network level				
Infrastructure	1.38 (.722)	0.786-0.948	78.98	0.86
Partnerships and social networks	1.33 (.55)	0.75-0.94	75.73	0.89

Organisational capacity level

Several key indicators capture the community's perception of organisational capacity. For instance, a sense of community reflects the transparency of the management team in making the community books readily accessible to members. However, this aspect is significantly deficient within the communities, averaging 1.96, an indication of weaknesses in governance by the leadership. Community engagement in decision-making and regularity in holding community meetings have average scores of 2.9 and 3.64, respectively. Having a shared vision

is captured through CFE's capacity to pass their dream and mission to community members and have their buy-in. In most cases, community members showed proof of a good understanding of the vision of the enterprise. This is reflected by the high scores of 4.22 and 4.3, respectively, attributed to clear rules and regulations and a clear organisational chart.

The capacity of community members to participate in community activities had an average score of 4.07. Communities rated their participation in the election of the management team at 4.16, the participation of women, youths, and minority groups in leadership at 3.5 on a scale of 5, and community participation in decision-making at 4.48. The average score for resource mobilisation in this sample is 2.51; however, in most cases, communities have spent years without any activity due to their inability to negotiate and subcontract timber exploitation to partners. Nonetheless, only six CFEs showed proof of constant sales records, business transactions, and a good understanding of partners and funding sources. These CFEs have been consistent in activities and possess income and expenditure statements. The average ratings for the availability of resources that could be developed into products for enterprise development were found to be as high as 4.08, and most of the NTFP resources can be exploited sustainably without negative impact on the environment with easy access by women, youths, and minority groups.

Human capital (individual capacity of members)

Communities' leadership rating averaged 3.94, with leaders scoring high on demonstrating some level of motivation to lead the group (4.16) and a low rating of the leadership team associated with not having the experience to meet targeted production and revenue objectives (3.64). This highlights that although leaders have the right motivation and reputation for meeting community vision, they do not seem to have the required experience to produce goods and services and make profits for community development. Most of these leaders have been engaged in sub-contracting timber but lack the same experience in other community businesses, such as self-production and marketing of timber, non-timber forest products, agriculture, or other businesses. The capacity of CFEs to manage finances requires a clear recording and filing of all transactions, with the capacity to keep income and expenditure statements receiving the lowest score of 2.93. This is because communities do transactions; however, they do not keep records of the transactions, such as the amount spent, the amount generated, and how income was spent, thus making it difficult for management to be accountable. Most of the communities did not have outstanding debts or loans, thus the score of 3.97. However, most of these

communities did not have bank accounts with a standard bank; in most cases, they had accounts in micro-finance/cooperatives or did not have an account. Resource mobilisation capacity is critical to adequately generate profits for development from available resources.

For community members to adequately develop CFEs as SEs, they require a basket of skills and knowledge. Table 23 illustrates that community members have skills in agriculture; however, these skills are for subsistence agriculture; when it comes to large-scale agriculture, community members still require additional training. Communities were especially poor in business management (1.15), marketing (1.29), and financial management(1.06); very few community members have skills in these topics.

Social networking capacity

The mean score for partnerships and social networking is low (1.48); this is reflected through CFEs' capacity to collaborate with research and educational organisations (1.4), non-governmental organisations (NGOs) (1.48), and ministries (1.67). Research and educational institutions and NGOs have been working with communities to help them create the community forest and develop their simple management plans and annual exploitation permits. Other NGOs and partners have further trained communities on sustainable forest management practices. Furthermore, ministries partnered with these communities to enforce the law and other regulations, including advising communities. However, most of these partnerships did not enhance the entrepreneurial dimension of these communities, with partnerships involving other community forests often being informal for information sharing.

Communities with a mix of different aspects of infrastructure set the basis for community capacity development in other aspects. The rating for this domain is extremely low, averaging at 1.38. This underscores the fact that these communities are in areas with a significant infrastructural gap. In addition, most of the schools in these communities lack teachers, didactic materials, or even classrooms, which makes it difficult for students to learn and consequently contributes to the high rate of rural-urban migration of youths. Moreover, most of these villages do not have hospitals; they have clinics with very little equipment, drugs, or health personnel. Furthermore, the road network within these communities is poor, and most are not motorable during the rainy season.

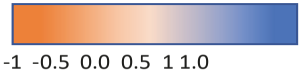
4.4.3 Correlation between domains of community capacity

To strategically develop community capacity, it is important to know which community capacity domains can have positive spillover effects on others if developed. The correlation analysis (Table 23) shows a strong and positive correlation between skills and knowledge with partnerships; this relationship is statistically significant at a 5% level. The correlation analysis equally shows a positive but weak relationship between financial management and leadership; this is true because community members will trust leaders who keep good records of funds, manage funds for community interest, and enhance the achievements of the community's visions. There is also a statistically significant relationship between financial management and resource mobilisation; when the community keeps clear financial transactions and good management of funds, it is enough to prove to partners to engage with the community for income-generating activities.

The participation of community members also depends on the type of leadership, as the correlation table shows a very strong positive correlation between participation and leadership, which is statistically significant at a 1% level. Thus, community members participate more when the leader is reputable, is elected by community members, and when the books are open to all community members. Moreover, community members participate more when they share the group's vision; thus, the positive correlation between shared vision and participation in this relationship is statistically significant at a 1% level.

Table 23: Correlation between domains of community capacity

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
The individual capacity of members(Human capital)	(1) Financial management capacity	1.000									
	(2) strategic leadership capacity	0.363*	1.000								
		(0.045)									
	(3) Skills and knowledge	-0.194	-0.045	1.000							
		(0.295)	(0.811)								
Organisational Capacity	(4) Sense of community	0.779*	0.287	-0.076	1.000						
		(0.000)	(0.117)	(0.683)							
	(5) Participation	0.313	0.714*	0.023	0.196	1.000					
		(0.087)	(0.000)	(0.904)	(0.291)						
	(6) Shared vision	0.104	0.582*	0.000	0.066	0.533*	1.000				
		(0.578)	(0.001)	(0.999)	(0.722)	(0.002)					
	(7) Resource mobilisation capacity	0.700*	0.452*	-0.207	0.524*	0.372*	0.201	1.000			
		(0.000)	(0.011)	(0.264)	(0.002)	(0.039)	(0.278)				
	(8) Natural resource availability	0.208	0.722*	-0.241	-0.003	0.751*	0.664*	0.399*	1.000		
		(0.261)	(0.000)	(0.192)	(0.988)	(0.000)	(0.000)	(0.026)			
Social networking capacity	(9) infrastructure capacity	0.023	-0.247	0.161	0.032	-0.249	-0.310	-0.097	-0.294	1.000	
		(0.904)	(0.181)	(0.386)	(0.865)	(0.178)	(0.090)	(0.602)	(0.108)		
	(10) Partnerships and social networking	0.064	-0.003	0.536*	0.083	0.161	0.297	0.023	0.076	-0.179	1.000
		(0.731)	(0.987)	(0.002)	(0.656)	(0.386)	(0.104)	(0.900)	(0.686)	(0.336)	



* p<0.05, parenthesis represents the value of p

The participation of community members also enhances the management of natural resources; the correlation matrix shows a positive and strong correlation between participation and natural resources, which is statistically significant at a 1% level. Thus, when community members participate, they can better monitor the forest resources to prevent encroachment and work together for sustainable exploitation of resources.

The leadership of communities and associated enterprises significantly affects how people see the community. The correlation analysis shows a strong positive correlation between leadership and shared vision; therefore, a good leader should be able to make the group's vision known and shared by all members. Consequently, this will enhance community engagement and support for group activities. Moreover, leadership correlates with resource mobilisation, which is the ability of leaders to seek innovative ways of raising money to meet the social goals of the group, which is important in ensuring adequate resource mobilisation. Furthermore, the leadership of a group affects the natural resources; this study shows a positive and strong relationship between leadership and natural resources, with the relationship showing a 1% significance level. Thus, good leadership enhances sustainable management of the resources by engaging the group in sustainable management practices, ensuring partners respect sustainable forest management and monitoring of forest resources.

There is equally a positive correlation between a sense of community and resource mobilisation; when community members share the same vision with a clear organisational structure, they can better attract investors and donors or organise themselves to undertake income-generating activities. In addition, there is a positive but weak correlation between resource mobilisation and the availability of natural resources. This is because mobilisation from these communities depends on the resources they have in their forest. Therefore, for these communities to continuously mobilise resources, they must manage their resources sustainably. Some communities are taking measures such as tree planting to reconstitute their forest with high timber tree species. The correlation analysis underscores a strong correlation between infrastructure and community members' education level, especially for communities with many schools and teachers who benefit from educational facilities. There is equally a weak but positive significant relationship between infrastructure and partnerships. This is due to the limited accessibility and lack of infrastructure in

these communities, making it difficult for the community to engage with partners and other social networks.

4.5 Discussion

One of the key contributions of this chapter is the analysis of community capacity from the perspective of practitioners and community members. Studies to date have dwelled on practitioners' perspectives of community capacity. Expert opinion of the most crucial community capacity domains for CFE development ranked resource mobilisation capacity, capacity for partnerships and networking, shared vision, participation, and leadership as the main capacity domains communities lack most. In contrast, community evaluation ranked infrastructure, social networking, members' skills and knowledge, and resource mobilisation capacity as the capacity domains with the most significant gaps. Thus, these results underscore that the technical support CFEs received reflects expert perceptions of the community capacity gap, not the community's perceptions. However, communities and development practitioners agree that communities need significant partnerships, networking, and resource mobilisation support. This finding corroborates with Hall et al. (2003), who highlight that a major challenge is a lack of partnerships that develop and attract qualified staff with skills to help organisations meet their mission. In addition, the low scores by community members for asset mobilisation capacity are also related to low skills and knowledge, highlighting that community entrepreneurship capacity depends on the individual attributes of community members (Stam, 2010; Tamásy, 2006). CFE initiatives in the USA and Europe are successful because they are situated in communities where education, years in the labour force, work record, and occupation of employees and community members contribute to the success (Oliver and Shapiro, 1995).

The asset endowment of a community in terms of human resources, physical resources, and social capital are key elements of community capacity that have not been focused upon in CFE literature in Sub-Saharan Africa. Some communities have seen community engagement drop due to community perceptions of poor management and being side-lined from management activities, leading to a loss of a sense of community. Moreover, the community forest is often perceived as the "business" of a small group of individuals. The low participation of women, youths, and

minority groups in leadership is explained by context-specific and traditional cultural factors that CFEs have not overcome to engage different members of their community effectively.

One of the major challenges Foster and Mathie (2001) identified is the community culture that does not favour entrepreneurship; the culture of the community should value innovation and allow change and risk-taking. Distance from markets and services emerged as a major challenge faced by rural communities, which are remote with poor road networks and thus cannot attract a significant supply of services such as high-speed internet, industry, and processing companies. Consequently, this reason makes them unattractive to investors. Minang et al. (2019) underscore that although community partnerships are generally low, partnerships aimed at enhancing knowledge generation and sharing can catalyse innovation. To unlock innovations and promote local asset mobilisation by CFEs, Minang et al. (2019) propose inter-CFEs and private sector partnerships and collaboration, increased capacity building, capital investment, and incentive mechanisms (financial and non-financial).

A key contribution of this chapter is the employment of the three levels of analysis, building on the existing literature that uses only one level—organisational capacity (Foundjem-Tita et al., 2018; Duguma et al., 2018). This research defines the community as a system with individuals whose capacities are harnessed within an organisation for a common good while leveraging social networks. The organisational capacity gaps identified in this chapter align with existing research, emphasising the importance of considering and prioritising a community's organisational capacity and its individual and networking capacities to enhance overall community capacity. (Minang et al., 2007). This finding is supported by the significant relationship between individual capacity domains, such as financial management and leadership capacity, and organisational capacity domains, such as sense of community, participation, and natural resource abundance. Furthermore, social networking correlates with the skills and knowledge of community members. Many discussion points in this chapter are based on community evaluation of their capacity, which is tied to the observation of Lovell et al. (2015), who underscored that community evaluation is always better.

4.6 Conclusion and Policy Implications

Over the past two decades, governments, development partners, and NGOs have invested a significant amount of money in the process of improving forest sustainability, decentralisation, and empowerment of forest-dependent communities. However, capacity gaps have been reported in the literature as one of the major setbacks to these efforts. Contrary to papers that have reported capacity gaps on specific domains, this chapter uses a broader systems approach to conceptualise community capacity on three levels: individual community members, organisational (i.e., community forest enterprises (CFE), and social networks. This permits a better view of community capacity gaps at different levels and further captures the gaps perceived by development actors and practitioners in CFE development and the communities themselves. This approach permits a holistic evaluation of community capacity from different perspectives and paints a better picture of the real situation. This chapter's findings offer guidance for civil society organisations, NGOs, and individuals involved in CFE development by emphasising the essential areas of community capacity needed to enhance the socio-economic and environmental aspects of CFEs. It also points out the areas where CFEs typically lack capacity and identifies the specific domains of community capacity that, when enhanced, can positively impact other areas. The results indicate that development practitioners and communities agree that communities are weak in resource mobilisation, partnerships, and networks. However, the community evaluation indicates major gaps in infrastructure, members' skills and knowledge, and a sense of community. Communities had rated natural resource availability and shared vision more highly. The leadership capacity of community leaders was judged to be lacking by both development practitioners and communities. Consequently, both perspectives indicate that capacity gaps were higher at individual and social network levels, except for the domains of sense of community and resource mobilisation, where organisational capacity was scored higher.

The implications of this study are multiple: the conceptualisation of community capacity should not be limited to the level of the organisation (i.e., the CFE level) but should be seen as a system of three levels and different domains that are interrelated; thus, underscoring the need of a systems perspective. With capacity gaps found at all the different levels, any process of capacity development should include multiple stakeholders. For example, infrastructure development, especially that of roads, hospitals, and schools, is an important activity undertaken by the

government and requires community lobbying and networking. Individual capacities were strongly positively correlated with different organisational capacity domains. Thus, an essential option for enhancing organisational and community capacity is to enforce the individual capacities of community members as a starting point and then enhance networking and partnerships, which can lead to enhanced skills and knowledge of the community. Doing so solves the problem in most communities where only a few community members have sufficient capacity to run community affairs. The implications for CFEs in Cameroon are to prioritise developing individual capacities and leveraging these capacities to develop organisational capacity and networking capacities further. These processes take time, and evidence indicates that the desired outcomes are not achieved after a few training sessions but are the result of a process supported by the government, civil society organisations, international organisations, and the communities themselves.

CHAPTER 5: COMMUNITY FOREST ENTERPRISES IN CAMEROON: TENSIONS, PARADOXES AND GOVERNANCE CHALLENGES

Community Forest Enterprises in Cameroon: Tensions, Paradoxes and Governance Challenges[10]

Serge Mandiefe Piabuo

Abstract

Community Forest Enterprises (CFEs) are "a form of enterprise based on collective ownership or secured access to forest resources by a community." Their governance is derived from local community traditions, where tensions between direct "democratic" community control and hierarchical management structure are present, and which typically have multivariate objective functions with profits as only one of several goals. This definition underscores the presence of tensions that could adversely affect the achievement of the economic, social, and environmental objectives of CFEs. However, conceptual and empirical research on tensions within CFEs is sketchy. This research adapts and contextualises a framework using the paradox lens to explore CFE governance in Cameroon. Narrative inquiry research, focus group discussions, and confirmatory document analysis of 31 CFEs were used to characterise the performing, belonging, organising, and learning tensions within CFEs and explore the main challenges. A performing paradox was found, manifested in the differences in short-run and long-run perceptions of performance between CFEs, community, and village chiefs. An organising paradox was found, with tensions in the recruitment of external and resident labour and commercial tensions between CFE management, intermediaries, and community members. How the CFEs selected products to generate revenue from the forest created belonging tensions when the choice of products did not include women, and the gendered family context created factions that resulted in belonging tensions at the CFE level. Learning tensions occurred when CFEs grew and had to balance community pressure for social investments against reinvestment for financial sustainability. "Electing" or finding board members with adequate skills and experience, the power of boards to control management, and interdependencies between boards and management were the significant challenges faced by CFEs. The accommodation and information strategy employed by some CFEs to manage paradoxes is adequate and recommended to be continued.

Keywords: Governance; community forest enterprises; paradoxes and tensions; challenges

[10] This chapter is based on a paper published as Piabuo SM, Community forest enterprises in Cameroon: Tensions, paradoxes and governance challenges, *Environmental Development,Volume 44,2022,100762*,ISSN 2211-4645, https://doi.org/10.1016/j.envdev.2022.100762.

5.1 Introduction

Community forest enterprises (CFEs) have emerged and are increasing worldwide (Orozco-Quintero and Davidson-Hunt, 2010; Vega and Keenan, 2016; Foundjem-Tita et al., 2018). Over the last two decades, there has been a surge in the number of CFEs in countries such as Guatemala, India, Honduras, Mexico, Nepal, Bolivia, China, and Cameroon (Molnar et al., 2007). Community forest enterprises (CFEs) are promoted because they help facilitate the provision of essential services, and Community forest enterprises (CFEs) have emerged and are increasing in different parts of the world (Orozco-Quintero and Davidson-Hunt, 2010; Vega and Keenan, 2016; Foundjem-Tita et al., 2018). They contribute to local employment and the economy while enhancing sustainable forest management they are generally considered hotspots for biodiversity conservation (Molnar et al., 2007; Bernard and Minang, 2019).

Community forest enterprises (CFEs) are a particular form of enterprise because of the social and environmental objectives that drive them, although they employ business strategies to achieve such objectives. The enterprise can claim legitimacy within a self-defining community in terms of people and area. It generates and redistributes profits within that community. The economic objective of CFEs is to generate enough profits from the trade of forest products such as timber, Non-timber forest products (NTFPs), agriculture, and tourism. Profits generated are used to address social problems such as access to education, health, water, electricity, and communication while ensuring sustainable use of forest resources (Minang et al., 2019). These multiple objectives underscore the hybrid character and the collective ownership system of CFEs.

This hybrid character has been reported to be a critical disadvantage for CFEs in meeting their economic, social, and environmental objectives (Piabuo et al., 2018; Kenfack Essougong et al., 2019). Antinori and Bray (2005, p.1534) define CFEs as ″a form of enterprise based on collective ownership or secured access to a forest resource by a community, with forms of enterprise governance derived from local community traditions, where tensions between direct ‘democratic’ community control and hierarchical management structure are present, and which typically have multivariate objective functions with profits as only one of several goals.″ Macqueen (2008, p.3) also defines community forest enterprises as an “entity that undertakes commercial business based on forests or trees.” Leadership involves a credible representative body overseeing it. This

underscores the presence of tensions resulting from diverse stakeholders with conflicting interests that can affect CFE's ability to meet objectives.

Literature on hybrid organisations shows that effective governance of hybrid organisations has become a topic of increasing international attention (Dees, 2012; Smith et al., 2012). The centrality of the social mission of hybrid organisations means they are not profit maximisers but use profits to achieve their principal social mission (Chell, 2007; Wilson and Post, 2013). Research on hybrid organisations has focused on transparency, representation, equity, accountability, participation, and performance (Piabuo et al., 2018; Kenfack Essougong et al., 2019; Oyono and Efoua, 2006; Tobith and Cuny, 2006; Nkenfack et al., 2009; Monsi, 2014; Ngang, 2015). Additionally,, literature on the governance of hybrid organisations has been dominated by mission drifting issues, from managing tensions between principal social missions and commercial exploitation (Smith et al., 2013; Zahra et al., 2009).

Studies underscore that even when fundamental governance principles are respected, governance of hybrid organisations still poses significant challenges due to paradoxes and tensions emanating from diverse stakeholders (Smith et al., 2013; Pache and Santos, 2010). Smith and Lewis (2011, p.381) underscore that ″as organisational environments become more global, dynamic and competitive, contradictory demands (tensions) intensify″. This is because paradox denotes contradictory but interrelated elements that are simultaneously logical in isolation but irrational (Lewis, 2000). These tensions manifest in different forms: social responsibility-profitability (Margolis and Walsh, 2003), exploitation-exploration (Smith and Tushman, 2005), efficiency-flexibility (Adler et al., 1999), collective-individual (Murnighan and Conlon, 1991), and control-collaboration (Sundaramurthy and Lewis, 2003). Lewis (2000) argues that these tensions become more persistent as organisations grow; Quinn (1988) further underscores that the organisation's fate depends on the leadership's response to these tensions. So far, although different topics on CFE governance have been explored (e.g., mission drift, respect of governance principles), adequate conceptualisation and empirical exploration of how tensions and paradoxes manifest within CFEs are sketchy

This study, therefore, seeks to use Cameroon CFEs as a case study, and the chapter will explore the different stakeholders, roles and responsibilities, paradoxes, and tensions inherent within CFEs.

Governance challenges encountered by Cameroonian CFEs will be investigated, and strategies to manage tensions, paradoxes, and governance challenges will be proposed. To this end, this research will answer the following research questions: Who are the different stakeholders, and what are their roles and responsibilities in the management of CFEs in Cameroon? What are the paradoxes and tensions encountered in the management of CFEs in Cameroon? What governance challenges do CFEs encounter? Furthermore, what strategies can be employed to manage tensions, paradoxes, and challenges?

This study advances research on CFE governance in developing countries from an empirical and theoretical perspective. The theoretical contribution of this research is enshrined in an innovative contextualised theoretical framework that combines the relational model of Mason (2009), which explores relations between stakeholders and the categorisation of tensions and paradoxes based on the works of Smith et al. (2013) and Lüscher and Lewis (2008). Empirically, this research is a pioneer in using data collected from CFEs in Cameroon and tropical Africa to characterise and highlight governance tensions and paradoxes within CFEs. Additionally, it also provides solutions that CFE development practitioners can use to overcome prominent governance tensions and paradoxes. The research builds on data collected on CFE governance over three years, seeks to build from the literature to map the governance system of these CFEs, underscore key governance tensions and paradoxes faced by CFEs in Cameroon, and propose adequate adaptation strategies. The authors believe that this will be of great significance to practitioners who are involved in CFE development in Cameroon and Africa. Thus, it provides evidence-based insights on how to detect and manage governance tensions, paradoxes, and challenges within CFEs.

The rest of the chapter is structured as follows: Section 5.2 is dedicated to the theoretical framework, Section 5.3 to methodology, Section 4.4 to the presentation of results of the study, Section 5.5 discusses the chapter, and Section 5.6 is dedicated to the general conclusion.

5.2 Theoretical framework

To appropriately understand CFE governance, it is critical to understand how diverse stakeholder expectations are linked to paradoxes emerging from the interaction of diverse actors with diverse objectives in the same space. Mason (2009) underscores the diversity of stakeholders (see Figure 11) coverage with multiple expectations—service users expect ethical governance, internal staff

expects board-level strategic leadership, local communities expect proper stakeholders' interests to be protected, and the local government expects maximisation of social benefits, funding bodies expect proper use of funds, while support groups expect a culture of accountability and transparency. Referring to this context, the following definition of governance is conceptualised by Mason (2009) as a good fit for SEs:

"Strategic and operational board-level leadership enable service users, managers, trustees, and other defined stakeholders to create and maximise social benefit" (Mason, 2009; p. 216).

Building from this definition, Mason (2009) proposes a relational model of three critical stakeholders with dynamic relations. The interaction of the many components of the model shows the dependencies and inter-relatedness of each group over the other. Smith et al. (2013) further highlights that tensions and paradoxes enforce the diversity of stakeholders and governance challenges. Thus, understanding and managing relations between different stakeholders is essential. Smith et al. (2013) further that these insights and tensions should be conceptualised as paradoxes because they reflect conflicts within CFEs connected with a broad set of organisational theories. To better understand these paradoxes and how to manage them, mastery of the governance structure is critical; internal systems and actors are at the heart of managing paradoxes and form an undeniable link between tensions at the centre of the organisation and the performance of SEs (Lüscher and Lewis, 2008; Sundaramurthy and Lewis, 2003; Bloodgood and Chae, 2010). Figure 11 shows a theoretical framework that captures Mason's relational model (2009) and the categorisation of tensions by Smith et al. (2013) and Lüscher and Lewis (2008). It permits a clearer view of managing divergent stakeholders to meet organisational aims.

Combining diverse stakeholders with varied expectations and co-existing institutional logic creates tensions and conflicts (Roundy, 2017). These tensions and conflicts have implications on community engagement and partnership ability, negatively affecting operations (Piabuo et al., 2018). The categorisation of these tensions into belonging, performing, organising, and learning tensions by Smith et al. (2013) and Lüscher and Lewis (2008) is used in this chapter.

Performing tensions emanate from divergent performance metrics between management committees, staff, community members, and local administration relating to the goals and mission of CFEs. This can be attributed to the divergence of commercial priorities versus social regarding

who or where profits are enjoyed (reinvestment or in social mission). Performing tensions also originate from performance metrics, objective measurements, quantitative, qualitative, and unstandardised measurement systems (Battilana and Dorado, 2010; Smith et al., 2013; Pache and Santos, 2013; Doherty et al., 2014; Ebrahim et al., 2013).

Organising tensions can emanate from organisational values and culture and conflicts developed around workforce mobilisation, such as local (within the community) vs. external labour (from another community), male vs. female employees, and volunteers with no managerial experience versus paid staff with management skills. Organising tensions also emanate from choosing between professional affiliations that are social-oriented vs. industry-oriented, as well as selecting partnerships between social-oriented and business-oriented partners (Berger et al., 2004; Smith and Lewis, 2011; Battilana and Dorado, 2010; Sakarya et al., 2012; Battilana and Lee, 2014; Doherty et al., 2014; Ebrahim et al., 2013; Pache and Santos, 2013).

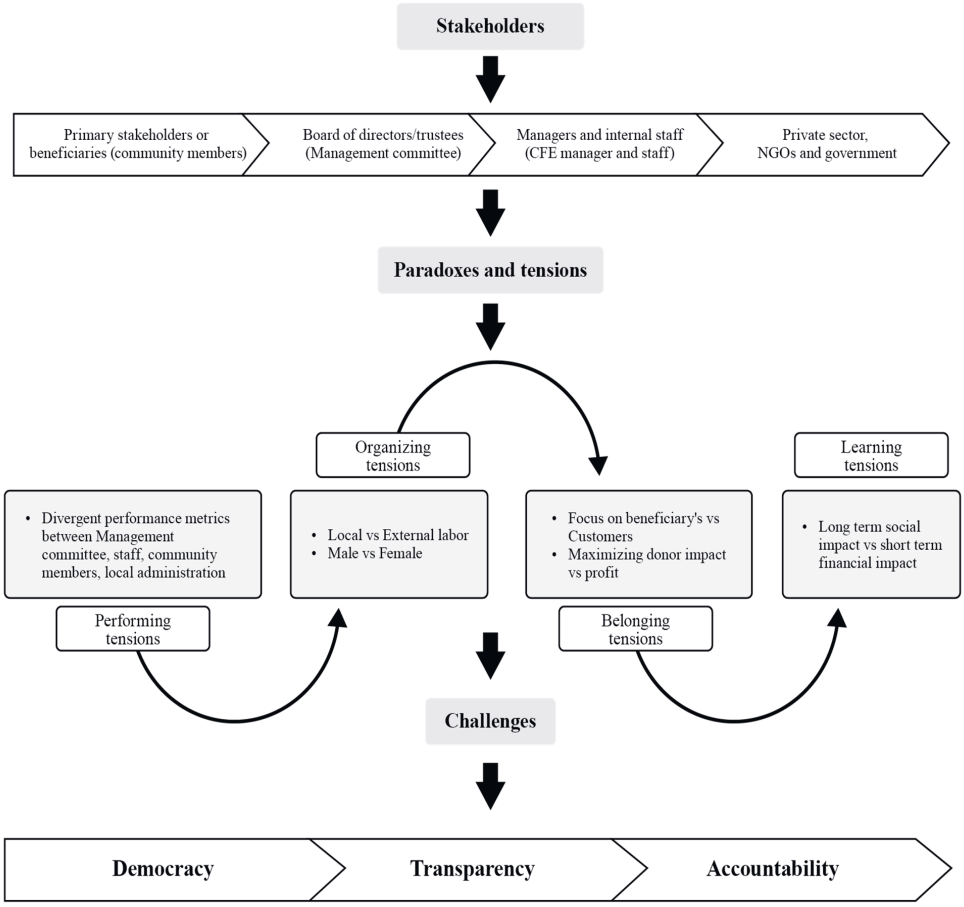


Figure 11: Theoretical framework

Belonging tensions can emerge from the established identity amongst members of the organisation, for example, social against commercial preference when carrying out activities. Conflicts often emanate from ownership in the form of mission custodians against capital contributors or through brand policy, unified against the expected or standardised approach. Belonging tensions also emanate from the target population, focusing on customers or beneficiaries. The source of financial resources also exacerbates belonging tensions: earned income vs inadequate resources. Belonging tensions are also amplified by management principles relating to maximising the usage of donor funds or profits (Battilana and Dorado, 2010; Sakarya et al., 2012; Pache and Santos, 2013; Battilana and Lee, 2014; Doherty et al., 2014; Liu et al.,2015).

Learning tensions may surface when organisations lose the connection with their original mission when implementing growth strategies. Conflicts may arise from decisions about location and growth outside the local community, sometimes including comparing short-term financial effects with long-term social impact (Foreman and Whetten, 2002; Smith et al., 2013).

The complexity of board-level decision-making and relationships is highlighted by the dynamic nature of these relationships and compounded by their formal and informal nature from groups with divergent expectations. Accountability, democracy, and transparency emerge as critical governance challenges faced by CFEs (see Figure 13) (Mason, 2009). The accessibility and openness of the board are indicated through transparency, while accountability is an indicator of board-level performance. Inclusivity of recruitment, voting procedures, and board-level decision processes are critical parameters used to define democracy (Spear, 2004). For example, the voting of skilled board members against unskilled popular board members, separation against resolution of competing norms, and not-for-profit against profit legal entities are all paradoxes.

5.3 Methodology

5.3.1 Sampling and distribution of sample

This study uses data generated by a 5-year DFID-funded DRYAD project, "Financing Sustainable Community Forest Enterprises in Cameroon" (2015-2020). In collaboration with local non-governmental organisations (NGOs), data used were collected from 31 CFEs between January 2017 and June 2020 from five regions (see Figure 12) of Cameroon and studied: Centre (16), South (2), Littoral (3), East (6), and Southwest regions (4).

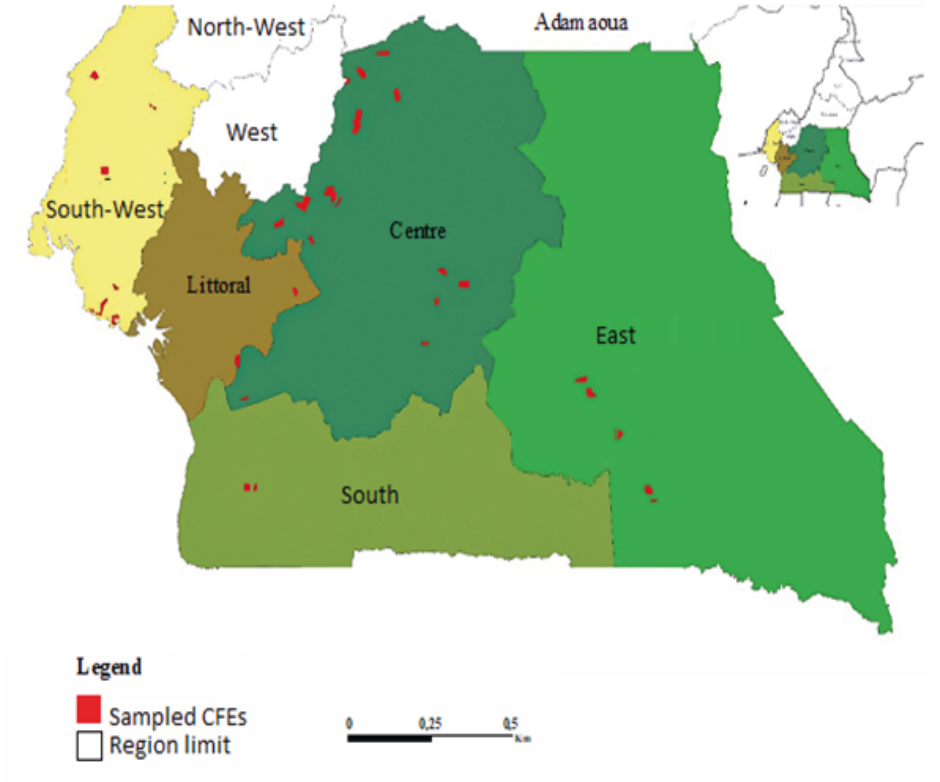


Figure 12: Sampled CFEs for Governance of CFEs in Cameroon: Tensions, paradoxes and challenges

These regions account for more than 85% of CFs and CFEs in Cameroon, and only CFs with a valid simple management plan (SMP) were considered; this was done to ensure only legally authorised communities make up the sample.

Table 24: Typology of CFEs sampled

Typology	Number	Percentage	Size (average number of employees)		Average area in community forest used for activity (ha)
			Full time	Part-time	
Agriculture/food processing	16	52%	3	16	15
Aquaculture/livestock	1	3%	4	27	0.1
NTFPs	8	26%	4	51	2000-5000
Other (Charcoal production)	3	10%	3	5	200
Timber	3	10%	4	26	200
Total	**31**	**100%**			

As shown in Table 24, agriculture/food processing CFEs were the dominant typology of enterprises, followed by NTFPs, charcoal, and timber. The average number of full-time employees was similar, while part-time had differences due to the job requirements of the different typologies of CFEs. The average area of community forests in Cameroon varies between 2000-5000 ha; NTFPs can be collected all over the forest, which is why we have a large affected area. For the other typologies, the area of CF used for CFE activities is relatively smaller. Timber averages 200ha for the authorised area in the annual exploitation permit. On the other hand, agricultural CFEs cultivate an average of 10-15ha per year, while charcoal production uses waste wood over an average of 200ha per year. Aquaculture CFEs created fishponds that covered 1000m^2 (0.1ha).

5.3.2 Data collection

This study employed several tools for data collection; a narrative inquiry approach (Atkinson and Delamont 2006) was used to complement data collected through in-depth interviews, Focus Group discussions (FGDs), and secondary data from CFE documents.

Narrative inquiry: Narrative inquiry research was used in the first stage of the study because it encourages a multicultural approach to data collection and permits the investigator to comprehend how the CFEs are shaped over time and by reality (Chase, 2011). Narratives by the CF delegate

and CFE manager permitted the team to trace the history of the CFEs in contexts and over time. Different narrators were chosen to allow different voices to be heard, thus preventing one voice from dominating and distorting data. One of the critical disadvantages of narrative inquiry research lies in its dependence on respondent claims (Clandinin and Rosiek, 2007). However, contrary to historical accuracy, the meanings linked to the story and the contextualisation of the environment within which activities unfolded were of greater interest to the team.

The voices of CFE members involved in the past and present governance setup were investigated to clarify governance paradoxes. This was done by crosschecking narratives from the CFE manager and CF delegate with narratives of a community member. However, narrative accounts are highly subjective and often influenced by temporal factors, closeness to significant events, and role in the organisation (Lewis, 2000).

In-depth interviews: The chapter's research focuses on examining the development of tensions in CFEs and methods for dealing with them. Following the literature (Smith et al., 2013), we began by studying CFE members in managerial roles. Specifically, in each CFE, we interviewed the manager and then the management committee delegate. These interviews were used to (i) understand the governance structure of the CFEs and the major stakeholders that collaborate with CFEs. The internal rules and regulations of the CFEs guided the discussions for each CFE; it is a written document that outlines the management board, rules, and responsibilities of members and sets out the operational and governance framework of the CF and CFE. Data collected using these interviews were triangulated with CFE reports, accounts, and minutes of meetings from 2017 to 2020. A purposeful sampling approach was employed for the selection of interviewees (Lincoln and Guba, 1985). To interview other members, we employed the snowball technique (Lincoln and Guba, 1985) to enlist interviewees. By doing so, the team was guided by other CFE members and key stakeholders within the community.

Focus group Discussions: Focus group discussions (FGDs) with the CFE management team (3 people), CF management committee (02 people), and community members (5) were used to discuss emerging tensions from narrative inquiry and in-depth interviews on tensions, paradoxes, and challenges faced by CFEs. It also permitted the team to dig more into the perspectives of the different groups and better articulate the categorisation of tensions, paradoxes, and governance

challenges. Table 25 outlines the various sources of data collection and the corresponding number of participants. Participants in the research were provided informed written consent for ethical concerns.

Document review: Individual narratives were compared with organizational narratives to capture governance paradoxes. Additionally, information from written documents such as annual reports, minutes of meetings, internal organization rules, financial records, and administrative documents were consulted and used to match information from narratives.

Table 25: Summary of data collection tools and number of participants

Stakeholders involved	**Number of narrative inquiries**	**The average number of participants per FGD**	**Total number of participants**
CF management committee	31	1	31
CFE management team members	31	1	31
	Number of in-depth interviews	**The average number of participants per FGD**	**Total number of participants**
CF management committee	**31**	**1**	**31**
CFE management team members	31	1	31
Community members	31	2	62
	Number of focus group discussions (FGDs)	**The average number of participants per FGD**	**Total number of participants**
CF management committee	31	2	62
CFE management team members	31	3	93
Community members	31	5	155
Total			**496**

5.3.3 Data analysis

This chapter builds on the iterative analysis approach of Mason and Doherty (2016), which is employed to identify and categorise paradoxes emerging from social enterprises. A contexualised

iterative strategy is used, beginning with an exploration of the social background, followed by the social activities of community members and stakeholders, and then organising individual narratives. The team started by elaborating on the dominant forms of paradoxes, challenges, and governance systems of CFEs. The iterative process was engaged to unlock "first-level" paradoxes, challenges, and governance systems from the data and subsequent feedback into the theory (Mason, 2009; Lüscher and Lewis, 2008) and then corroborates the emerging governance issues.

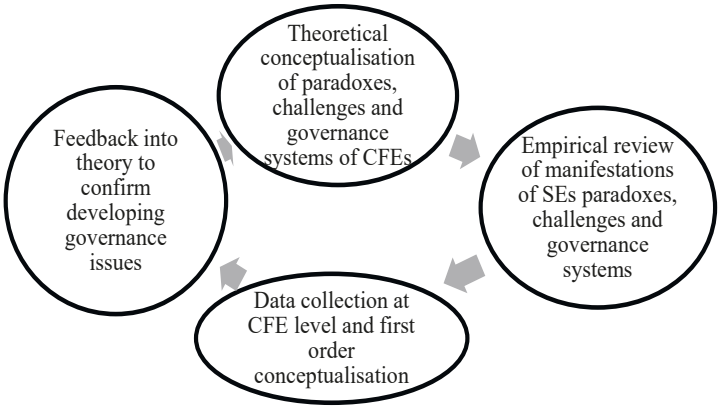


Figure 13: Data analysis framework for emerging paradoxes, challenges, and governance systems of CFEs (adapted from Mason and Doherty (2016)

To fully operationalise the approach highlighted in Figure 13, seven steps adapted from Mason and Doherty (2016) were employed in this chapter for data analysis. The first step starts with reading available documentary evidence, followed by a proper analysis of narrative inquiry, interviews, and FGDs. This was done to correlate critical events with the organisational timeline's narratives. The second step was dedicated to data categorisation of narrative inquiry, interviews, and FGDs with the help of documents. In the third step, notes and transcripts were reread to enrich first-level paradoxes, challenges, and governance systems, thus enhancing the employment of an open coding system. Information from the three data sets was converted using the open coding system to obtain a usable categorisation of paradoxes, challenges, and governance systems. After this stage, the fourth stage was dedicated to feedback on the theory to confirm the developing governance issues, differences between theoretical conceptions, and emerging governance issues.

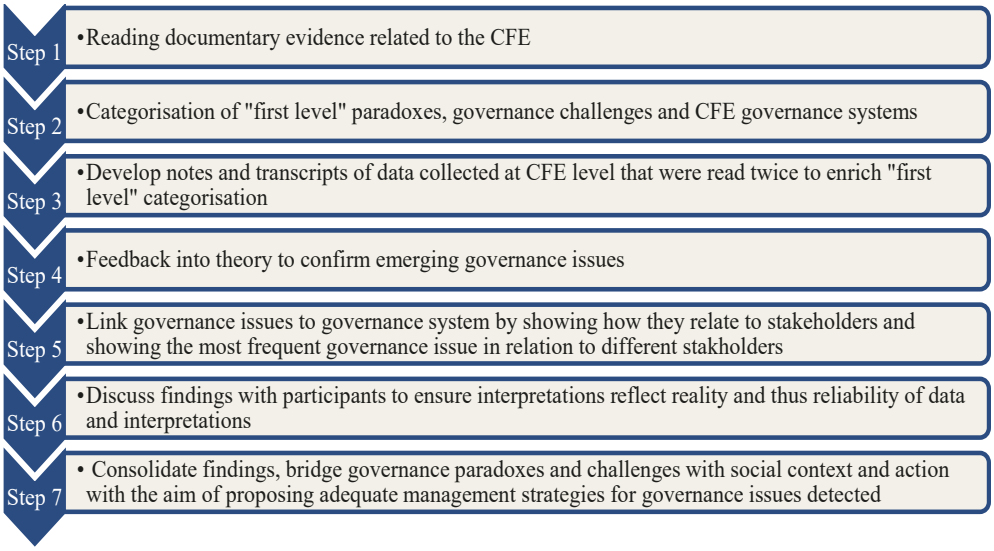


Figure 14: Iterative steps employed analysis and application of the analysis framework developed (adapted from Mason and Doherty, 2014)

In the fifth stage of the analysis, the focus was on connecting new governance issues to the previously identified governance system and examining their relationships with various actors. Therefore, this involved categorizing the most significant or common governance issues and the actors involved, following the framework suggested by Smith et al. (2013). Options for managing these governance issues and overcoming governance challenges employed are highlighted at this stage. In the sixth stage, data analysis was conducted continuously throughout the study to ensure the reliability and accuracy of the findings, following the approach of Miles and Huberman (1994). Furthermore, the findings were then reviewed with participants to confirm that their views were accurately captured, interpreted, and reflected in real-world situations. The seven steps were dedicated to incorporating comments from participants and finalising the analysis with a discussion of management strategies. For proper understanding, these paradoxes and governance challenges were linked to the social context and social actions of the CFEs, and thus, management strategies developed in this respect.

5.4 Results

5.4.1 Governance System of CFEs in Cameroon

To better understand what drives paradoxes in CFEs and how they manifest, it is critical to understand the governance structure, key stakeholders, and their roles and responsibilities. We build from CFE narratives and in-depth interviews to develop a template governance structure for CFEs. As Antinori and Bray (2005) outlined, CFEs are characterised by collective ownership. CFEs in Cameroon belong to the communities to which the community forest was allocated. They have the right to exploit all forest products for the development of the community. Figure 15 shows the governance system of CFEs in Cameroon.

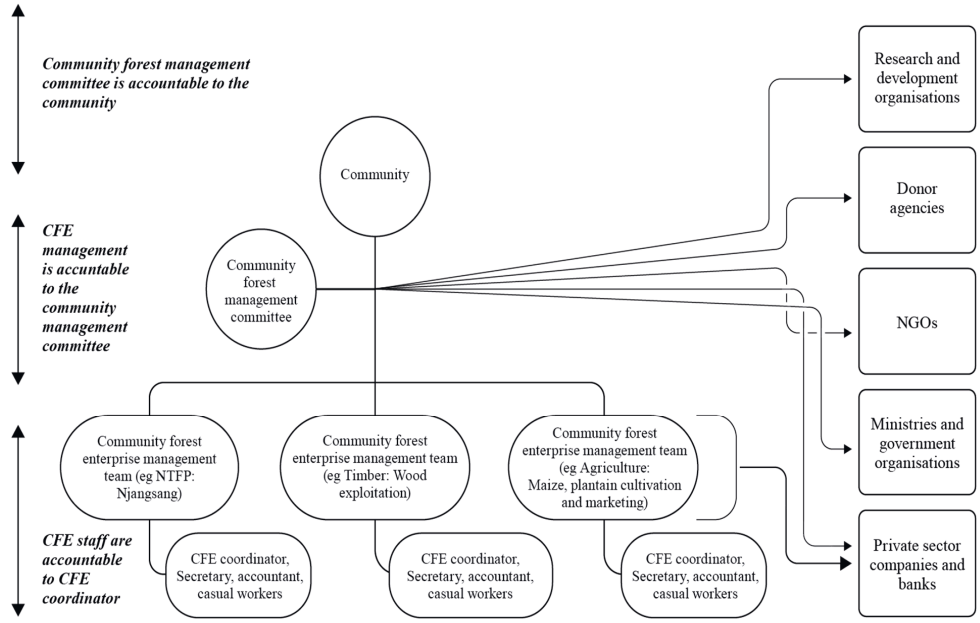


Figure 15: Governance system of CFEs in Cameroon

Here, the community elects a management committee to manage the forest on its behalf, and the forest proceeds are used for community development. To raise revenue for community development, the management committee can develop different business ventures based on market demand and resources available within the forests. These business ventures or enterprises are often developed around natural products such as Non-timber forest products (NTFPs), timber,

agriculture, apiculture, and even agricultural processing; these enterprises are called community forest enterprises. As outlined in Figure 15, the CFEs employ business approaches to exploit resources of interest, and profits are used for community development by the management committee. Thus, the CFE management team is answerable to the management committee. The CFE team is often headed by a CFE coordinator, who leads all aspects of enterprise development, production, and sales and keeps records and linkages with different partners. The CFE coordinator supervises other personnel within the CFE. The organisational setup described above underscores different levels of information asymmetry and agency issues that can lead to tensions; the first level is downward accountability and transparency from the CFE management team to the CF management committee and from the CF management committee to the community. Issues of participation and representation between the CF management committee and the CFE management team also arise. These participation and representation requirements often conflict with demands for competencies, thus arousing tensions. Therefore, failures at one point in the governance system can lead to systemic governance tensions.

The community, community forest management committee, and the community forest enterprise management team also interact with diverse stakeholders with different interests. Based on the in-depth interviews and FGDs, the CFE landscape in Cameroon is dominated by five major categories of stakeholders: research and international development institutions, local non-governmental organisations, ministries and government bodies, donor agencies, private sector companies, and financial institutions. Local NGOs and research/international development partners seek to see improved livelihoods, sustainable forest management, and inclusion of disadvantaged social groups through research and development. While donor agencies seek to ensure that donor funds are appropriately used, government agencies seek to ensure that CFEs respect regulations. Meanwhile, private sector firms and financial institutions seek profit maximisation from their interaction with CFEs. The arrows show the direction of the relationship, and the thickness indicates the intensity of the relationship. The intensity of the relationship is captured as the frequency at which stakeholders interact on an annual basis. As shown in Figure 15, CFEs interact most with research and international development organisations, NGOs and ministries, or government agencies. Most of these partners link directly with the CF management committee because they are the entry point to the CFE and are authorised to sign legal documents with partners. For international organisations, CFEs in Cameroon are in regular contact with the

Worldwide Fund for Nature (WWF), the World Agroforestry (ICRAF), the Centre for International Forestry Research (CIFOR), and the National Institute for Research in Agriculture (IRAD). As for donor agencies, DFID and the European Union are the major donors. The Ministry of Forestry (MINFOF) dominates collaboration with ministries and government bodies, which control and ensure that CFs respect their simple management plan (SMP). Also, the Ministry of Agriculture (MINADER) collaborates with CFs to train members on sustainable agriculture.

5.4.2 Paradoxes within CFES in Cameroon

Performing paradox

The performance paradox manifests itself mainly through differences in perceptions of performance in the short-run and long-run between CFE management and the community. CFE management has a fundamental performance matrix in the short run, which is the enhancement of the enterprise's operational system, revenue generation, and reinvestment in the enterprise for the financial stability of the CFE. In the long run, when the enterprise is operationally efficient, CFEs become profitable and can invest in social projects. However, communities do not have this perception of CFE performance; they do not care about enterprise profitability; what matters is the immediate provision of social amenities by the CFE. These differences in perceptions of the CFE performance matrix often lead to tensions within communities; CFE managers are accused of using CFE funds for their private motives and not for social investment as expected. In some cases, these tensions continue even after significant information about the current situation of the CFEs and the reinvestment process being employed by CFEs. Performing tensions also manifest in CFEs through differences in performance evaluation between CFE management and local authorities like village chiefs. In three CFEs, village chiefs requested their share of the revenue from CFE activities and even went further to instigate youths against CFE management for refusing to use the revenue for other purposes. Therefore, performing tensions exist between CFE management community members and village chiefs.

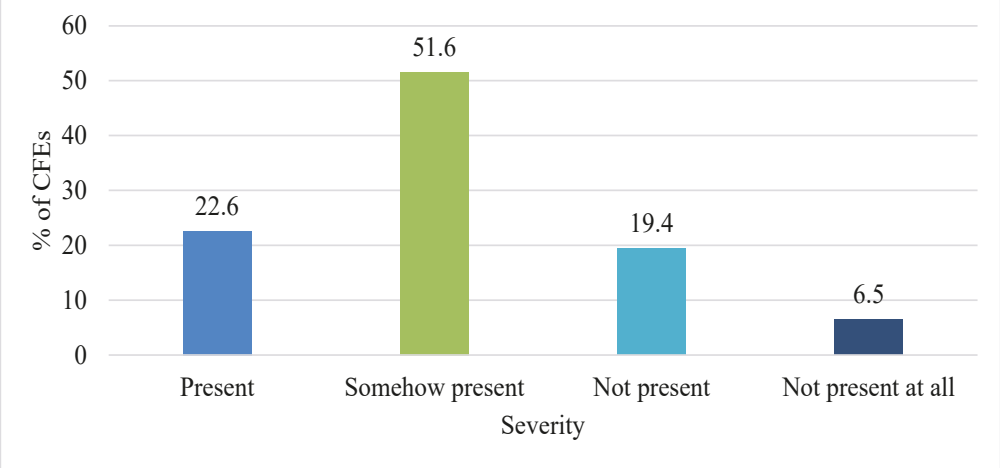


Figure 16: Severity of performing tensions (%) within CFEs in Cameroon

The severity of these tensions is not uniform across all CFEs.51.6% (see Figure 16) of sampled CFEs accepted that they suffered from one of the above forms of performing tensions but with traces of it somehow present. Also, 22.6% acknowledge the existence of these tensions, with evidence of ongoing tensions at the time of data collection; this was prominently related to tensions between the CFE and the community on the use of revenue and between the CFE and the village chiefs. Only 25.9% of the sample did not record or acknowledge the presence of performing tensions. This is due to the strategies employed by these CFEs to deter such tensions and by some CFEs to manage performance tensions, as further discussed in this chapter.

Organising paradox

These paradoxes emerge from the internal organisation of CFE activities, where field data collection reveals the dominance of paradoxes between competence and membership in the community. When CFE operations started in most communities, members knew it would create employment opportunities, and the target of these CFEs was to train and employ community members residing in the village. After training and employment, some members were still underperforming, especially in administration and financial management roles. This prompted some CFE managers to recruit qualified workers from neighbouring towns, thus spurring tensions with local community workers. The managers were confronted with satisfying local employees against overall organisational performance. These tensions often lead community members of

affected family employees to take action to deter the success of CFE activities or even boycott CFE activities. Figure 17 shows the severity of the organising tensions within CFEs in Cameroon. All CFEs confirm the existence of organising tensions, although the severity of these tensions is not the same. 77.4% confirm that they are largely present in their community; thus, it is a recurrent issue in communities they are fighting with (Figure 17).

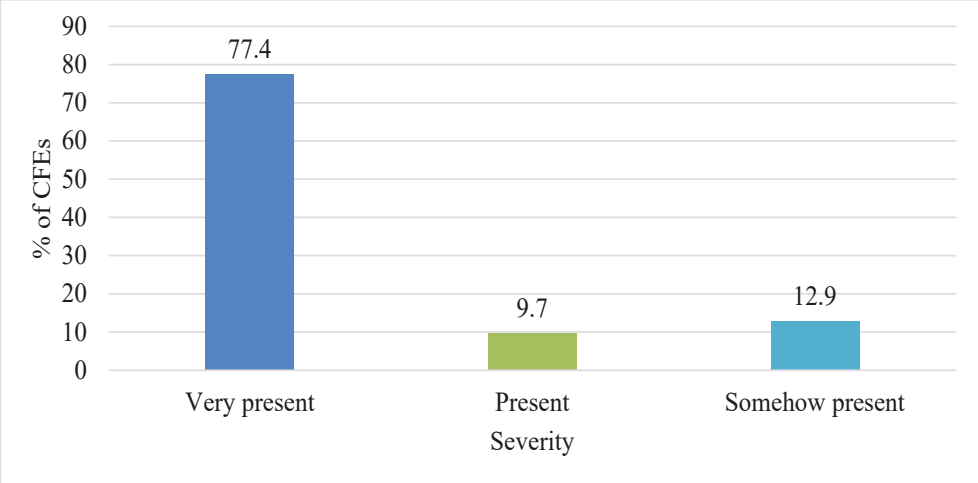


Figure 17: Severity of organisational paradox (%) within CFEs in Cameroon

Conflicts emerged in one of the CFEs because more qualified workers from neighbouring towns were recruited. Some of the studied CFEs suffered from serious governance and competence issues in the East region. When the CFE started activities, members were recruited based on competence; thus, some non-natives were recruited. Community members started to rebel against the management team of the CFEs for employing "non-natives," complaining that the CFE was for community members. New incompetent members were therefore recruited to meet community demands, making it difficult for CFEs to realise planned activities because qualified and well-trained members were fired. Some organisational tensions also emanate from the type of activity carried out by CFEs. For example, climate-dependent activities such as maize cultivation come with serious problems for managers. During peak production, rainfall covers three months, and most community members prefer to work on their private farms and are not ready to accept or devote adequate time on CFE farms, even when wages are paid. This creates conflict with the

initial CFE objective of creating local employment. This was observed in maize production enterprises and cassava processing enterprises, thus forcing CFEs to seek external labour.

Commercial tensions between CFEs and "middlemen" through price wars and the quest for raw materials often lead to intra-community tensions and questions on community commitment. This form of organisational tension is particular to CFEs that buy raw materials from communities such as njangsang for processing enterprises that compete with "middlemen" to buy products. In some cases, community members who sell to "middlemen" were seen as working against the success of the CFE, thus creating community tensions.

Belonging paradox

This paradox emanates from the organisational identity theory, which explains the differences in perceptions among members of the organisation about who they are and what they do as an organisation (Smith et al., 2012). Belonging tensions within CFEs are characterised by identity differences between individuals and CFEs and differences in values and affiliation between individuals and CFEs. The first level of tension arises because some social groups, such as women, by culture, do not find themselves affiliated with some CFE activities, such as timber exploitation. Culturally, the typology of CFE products facilitates the affiliation of different social groups; men and young boys are easily affiliated with timber exploitation, while women and young girls are often more affiliated with exploiting non-timber forest products and agriculture. For example, during the FGD meeting in one of the CFs, it was found that there were two CFEs; one was dealing in artisanal timber logging, and the other was in NTFP (njangsang).

One of the women noted: "In this village, you cannot force women to get into artisanal timber logging; traditionally, timber is for men, but since the coming of the NTFP (njangsang), CFE women have been more engaged and share the vision."

Additionally, belonging tensions emanate when the vision and aspirations of different social groups are not represented in the management committee and value set illustrated in CFE's vision and actions. Rural communities in which CFEs operate are often made up of families; when these families have a good understanding, it can be a very good mechanism to enhance the CFE vision. However, in CFEs, when families are divided into factions due to family problems, tensions arise

when a conflicting family is in the top position. Thus, the identification of members to CFE objectives and activities is not motivated by a common goal but by family loyalty. This is further reflected in governance tensions as they evolve within the community. For instance, in one of the villages in the East region of Cameroon, the former CFE manager said, *"Look at the records, revenue is increasing, we are hitting our targets, but the family of the former delegate is castigating me because I am from the palace, these problems are not based on CFE management, they(former delegate family) do all to tarnish my work because of family conflicts*."

This underscores the fact that belonging tensions can evolve based on foundational conflicts between families of the community that are just extended to the CFE. The belonging paradox questions the foundations of the "community" to which CFEs are centred; when the severity of the belonging paradox (figure 18) is high, we can question if the CFE was created based on a community sense of belonging or if these tensions have just evolved over-time. Figure 18 shows that 96.8% of CFEs confirm that a belonging paradox exists in CFEs as one form of tension or another.

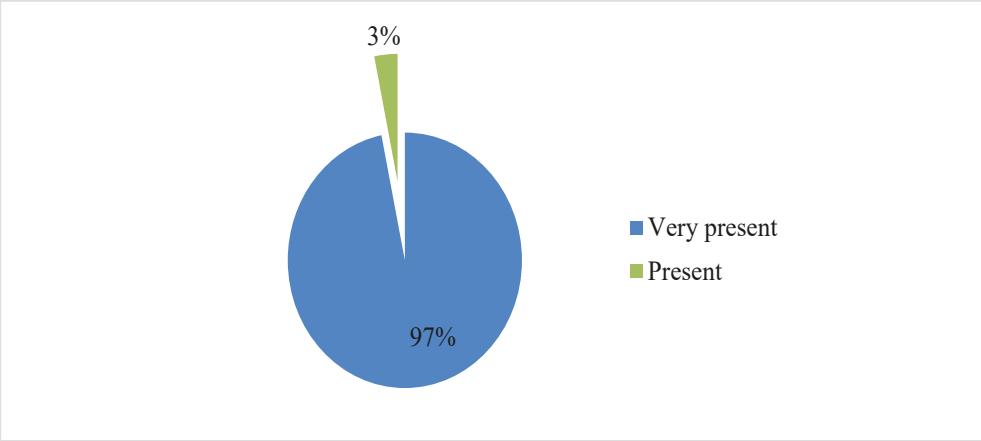


Figure 18: Severity of belonging paradox (%) within CFEs in Cameroon

Also, 3.2% confirm belonging tensions; as stated above, these tensions emanate from the type of CFE products, incorporation of social groups, and foundational family conflicts. In most communities, belonging tensions emanate from the type of CFE product because, historically, most CFEs have been timber-based. By diversifying CFE products, different social groups started

having a sense of belonging and enhanced community engagement, thus reducing belonging tensions. For example, the manager of one of the enterprises in the centre region noted:

"*Before the coming of the njangsang enterprise, CFEs were for men because timber was the most dominant; today, we have njangsang, now women are involved because njangsang is a female activity. I am now the manager of the njangsang enterprise, and other women intervene in different activities of the enterprise and get revenue from that, and now women see the value of CFEs*."

Thus, the choice of CFE products is critical in enforcing belonging tensions or mitigating those considering social affiliations or divisions based on community preference for particular products.

Learning paradox

CFEs grow through different stages, evolving from setup through survival, followed by breakeven and then growth. Navigating through these growth pathways often requires CFEs to make decisions that delay or divert social mission. Learning tensions in CFEs in Cameroon evolve when CFEs are transitioning from start-up to breakeven point; thus, revenue generated must not be used for community projects only when profits are made. Communities have been used to the timber subcontracting system in partnership with timber exploiting companies, which bear the whole cost and pay an agreed amount per cubic meter of wood exploited to communities. Thus, in most cases, this amount was considered as profits and used for community development; hence, communities see all revenue as profits. When CFEs now take up all production activities and bear the costs, they can only invest in community projects when cost elements are fully covered, but community members see this revenue as profits and put pressure on CFEs to invest in community forest social projects even when CFEs have not crossed the breakeven line. CFE managers are thus found at the crossroads of satisfying community demand for social projects or ensuring the financial sustainability of the CFEs by reinvesting in the CFEs. These tensions only manifest as CFEs transition from one stage of growth to another. As Figure 19 points out, only 16% of CFEs confirmed that learning tensions are strongly present, while 4.9% said that emerging learning tensions are present, and the CFEs are devising options to manage them. Meanwhile, the majority of the CFEs (79%) underscore that learning tensions are not present in their community.

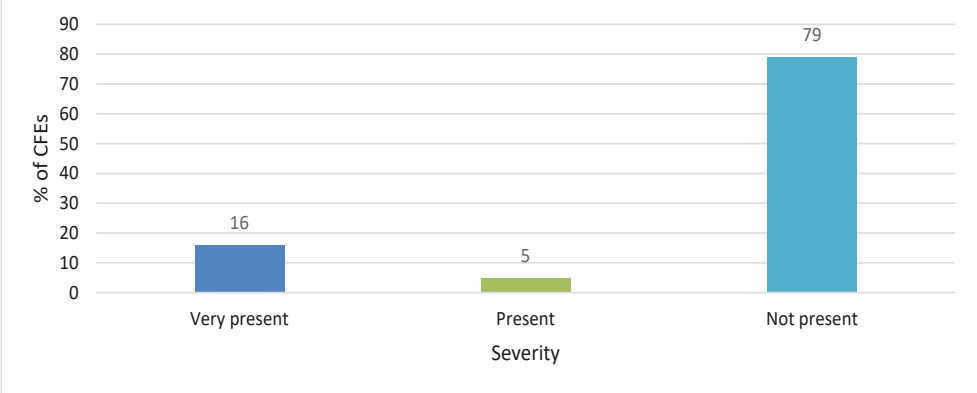


Figure 19: Severity of learning paradox (%) within CFEs in Cameroon

Due to community pressure, timber and njangsang enterprises in one of the villages gave financial aid to 16 older men and women; they also paid the school fees of two young girls from the community to pursue their medical studies. Also, maize and njangsang enterprises in another community contributed and donated pharmaceutical products to the integrated health centre. These community projects were executed when these CFEs were not making profits. Despite this, CFE managers and the management committee decided to do so to reduce pressure from the community in a bid to avoid community revolt. Therefore, CFE managers often encounter difficult situations where they must balance competing priorities, particularly when there are urgent community needs or health issues.

5.4.3 Governance challenges

Several governance challenges peculiar to social enterprises often exacerbate the governance paradoxes mentioned above. Based on the focus group discussions, the following governance challenges are peculiar to CFEs in Cameroon.

"Electing" board members with adequate skills and experience

The management committee members of CFs in Cameroon are often elected during general assembly meetings. Management committee members are often elected based on their popularity and not on their capacity to fulfil the terms of reference for the position. This leads to the election of board members who have the zeal to promote and support CFEs but cannot play their role of

oversight and advisory. For example, most CFs have a board member accounts auditor, whose role is to audit the books and accounts of the CFs and ensure they meet the demands of transparency and accountability in management. However, most members cannot read, write, and understand basic income and expenditure statements. This often leads to further accountability challenges because the accounts auditor becomes obliged to accept reports from CFEs without proper control. The same goes for the election of CF delegates who cannot appropriately negotiate with different stakeholders in the interest of the community, which often leads to conflicts with partners because the village community thinks they are being cheated in business relationships.

Managing such challenges is often difficult because, after the election, board members of most management committees are trained in sustainable management and governance through support from non-governmental organisations (NGOs). However, by the time they start grasping the concepts, their term of office reaches the point of expiration, and they are obliged to step aside for the election of a new committee, with the cycle continuing. Some communities often have problems with supporting NGOs because they decide to violate the internal rules and regulations to keep those they think are competent even after the expiration of their mandate. Thus, this remains a significant challenge in managing capacity deficiencies and respecting governance norms.

The power of boards to control management

Power imbalances have been registered between management committee members who lack the capacity and financial resources and CFEs management committee who control financial resources and have a team of employees under their control. These findings confirm the works of Berle and Means (1932), who argued that in situations of management dominance, there is a "legal fiction of shareholder control." This power imbalance has resulted in some managers running CFEs in their interests to the detriment of the CFEs and the community. For example, 16.12% of sampled CFEs reported cases of mismanagement of funds by CFE managers for personal interests, which resulted in community tensions. To enhance board control and capacity, some communities have created the position of an honorary board member, reserved for former delegates who play an advisory role so that the current board can leverage their capacities and experience. However, the success of these measures depends a lot on the relationship between outgoing and incoming delegates.

Interdependencies between boards and management

Distinguishing between the management committee and CFE management in Cameroon is often challenging. Most communities elect only committed individuals to management committee boards, who are usually limited in number. Consequently, many CF management committee members end up assuming positions inside the CFEs, creating difficulties in separating their functions. This separation is also tricky because drawing a line between strategic issues to be managed by the committee and operational issues to be managed by CFE management is often difficult. This challenge of separating roles further enhances accountability and transparency as community members often accuse CFE management and the committee of conniving for their private interests instead of the community ones.

5.4.4 Strategies employed by CFEs to overcome paradoxes and challenges

Tensions within CFEs are evolving through the developmental stages and in space as the CFEs expand their scope to different partners and markets. Thus, overcoming such evolving tensions is complicated because there is no single fixed rule that, when applied, fixes everything. Also, as these tensions are context-specific in some cases, responses need to be contextualised. Table 26 summarises the findings, applied strategies, and possible recommended strategies for overcoming tensions and challenges faced by CFEs in Cameroon.

Overcoming the paradox of performing and learning in CFEs has been rather difficult. These paradoxes intensified during the first year and first revenue from CFE operations, as community members had great expectations despite their limited understanding of the CFE functioning structure. Some CFEs proceeded by calling a general assembly to present activity reports of the CFE. During this general assembly, the concept of CFEs and the idea of using profits instead of revenue was reiterated, and revenue and expenditure statements were presented. After the presentation of these accounts, 60% of productive CFEs understood; however, 40% did not actually understand the concept, and thus, continuous sensitisation was done. In the second production season, a further 15% of the productive communities showed a good understanding of the phenomenon. However, 25% of the communities sampled remained unconvinced and continued to demand community investments even when the CFEs were not making profits. To reduce community tensions and prevent the disengagement of community members from CFE

activities, some CFEs decided to invest in pressing community projects even when they were not making profits. In addition, some community elites (village chiefs) saw revenue from CFEs as money that should be distributed to the community and requested the sharing of revenue. CFEs typically followed a two-step process to address this issue: they initially met with the village chief to outline the purpose of the project and the allocation of funds. If the chief remained unconvinced, the matter was escalated to the sub-divisional delegate, who referenced the community forestry law and management guidelines to explain to the chief that the funds were intended for communal development and not for individual distribution.

Table 26: Major paradoxes, current strategies, and recommended strategies

Paradoxes	Manifestation of tensions within CFEs in Cameroon	Major stakeholder concerned	Current strategies	Recommended strategies
Performing	Differences in short-run and long-run performance, differences in perception between CFEs and community, village chiefs	CFE management, village chiefs, and community members	Sensibilisation of community members	Continuous sensitisation and information to the community about the operational framework of CFEs
Organising	Recruitment of external labour vs resident labour. Commercial tensions between CFE management, commercial intermediaries, and community members	CFE management, community, and commercial intermediaries	Use of external labour	Limited use of external labour enhances the continuous training of community members through partnerships with capacity-building institutions.
Belonging	CFE product selection creates belonging tensions when such products traditionally do not include women (e.g., timber) Embedded family problems create factions that generate belonging tensions at the CFE level.	CFE management, community, and family factions	Product diversification	Product diversification, market linkages, and partnership development

Paradoxes	Manifestation of tensions within CFEs in Cameroon	Major stakeholder concerned	Current strategies	Recommended strategies
Learning	Managing community pressure for social investments against reinvestment for CFE financial sustainability	CFE Management, Community	Sensibilisation, Meeting community demands against CFE sustainability	Continuous sensitisation and information to the community about the operational framework of CFEs

To address the belonging tensions, CFEs have engaged in developing activities that are women-oriented; they are increasingly seeking options to diversify their product portfolio. This is the case for CFEs in the littoral and south regions who went for plantain and pistachio production. In the community, plantain production is male-dominated, while pistachio is female-dominant. This strategy helps reduce belonging tensions and engages all social groups in CFE activities; thus, it is highly recommended as a mitigation strategy. This can further be extended through partnerships and vertical market linkages for these value chains. Like performing and learning tensions, overcoming organisational tensions within CFEs has been very challenging. CFE managers had to make a decision that went against one of the critical objectives of the CFE, which is to create employment for local community members. In the second production season, all the maize production CFEs (five) resorted to external labour during the peak production period to meet production objectives. However, for community members who were dedicated to working but had issues meeting required productivity levels, partnerships for capacity building and technical support were recommended.

5.5 Discussion

This chapter underscores that CFEs in Cameroon interact with a wide array of stakeholders. Direct stakeholders include the community, and key stakeholders include the CFE management, the management committee, and the community members. Five major indirect stakeholders can be identified: local non-governmental organisations, international organisations, ministries and government bodies, donor agencies, and private sector firms. Schusser et al. (2015) also identified a similar group of actors involved in community forestry in five countries (Cameroon, Nepal, Namibia, Germany, and Indonesia). Their study underscores the predominance of politicians, public administration, forest administration, traditional leaders, boards, donor organisations,

associations, support associations, forest user groups, forest entrepreneurs, consultants, research institutions, media, and religious organisations. Schusser et al. (2015) identified several stakeholder groups in their analysis due to their multi-country methodology, which resulted in some overlapping categorisations. For example, associations and support associations are categorised in the case of Cameroon under local non-governmental organisations.

Regarding the intensity of collaboration, captured as the frequency of meetings, this research shows that CFEs interact most with international research and development organisations, local NGOs, ministries, and public agencies. Schusser et al. (2015) find similar results with public administration, forest administration, forest user groups, and forest entrepreneurs collaborating highly with CFEs. This chapter identifies the forest management committee as a relevant stakeholder, just like other studies (Jones and Mosimane, 2000; Schiffer, 2004; Foundjem-Tita et al., 2018). Additionally, several studies identified NGOs as essential stakeholders in CFE development (Shackleton et al., 2002; Jones and Mosimane, 2000; Schiffer, 2004). In addition to highlighting the intensity of relationships, this study underscores that the diversity of interests of different stakeholders and different levels of accountability can generate tensions and paradoxes; the possible tensions and paradoxes were not discussed in the cited papers.

Although tensions and paradoxes have been extensively investigated in the literature, their manifestations are context and time-specific. Performing tensions within CFEs in Cameroon manifests as differences in short-run and long-run perceptions of performance between CFE management, the community, and village chiefs. Margolis and Walsh (2003) find similar results when they underscore that performing tensions emanate from contradictions between the quest for enterprise profitability and investment in social projects. Lüscher and Lewis (2008) found that performance paradoxes arise when managers take on new tasks and objectives during restructuring, leading to their performance being assessed using different measures. The findings of Lüscher and Lewis (2008) are consistent with that of this study in the sense that CFEs are in a constant quest for financial stability. Therefore, the role of the management is to restructure the enterprise to be financially viable, and the changing role of managers along the CFE life cycle does not coincide with a rigid community perception of performance. The specificity of performing paradox within CFEs is enshrined in the differences in the perception of performance metrics dynamics, leading to persistent tensions over time.

Lüscher and Lewis (2008), in their study, highlight that belonging tensions emanate from differences in beliefs and values between sub-groups within the enterprise. This chapter underscores that societal perception of CFE activities creates sub-groups, thereby generating belonging tensions. This is the case where timber has been labelled socially as a dominant male activity; thus, women automatically keep away from the activity. However, they become very active when female-oriented activities such as NTFP agriculture are exploited. In addition, belonging tensions arise when opposing sub-groups, such as family factions, emerge inside the CFE framework. These unique characteristics are particular to the CFE setup in Cameroon.

Organising tensions manifest differently in different organisational settings. In this research, they manifest as tensions originating from the recruitment of residents and external labour and sales to CFE management and commercial intermediaries. However, the manifestation differs from those of other studies: collective-individual (Murnighan and Conlon, 1991) and control-collaboration (Sundaramurthy and Lewis, 2003). Smith and Lewis (2011) underscore that learning tensions become evident as organisations struggle with new rules, as they have to build on past experiences and destroy the past to build a new future. However, as CFEs operate on a continuum and aim for financial sustainability to support social investments, they are faced with the choice between reinvesting for financial sustainability or prioritising social investment.

This chapter's findings align with other studies that show linkages between multiple stakeholders, paradoxes, and tensions (Gotsi et al., 2010; Puranam et al., 2006). Building on empirical findings, revising, and providing an improved conceptual framework is relevant. This revised theoretical framework permits us to understand that these tensions are embedded in organisational systems, are socially constructed, or are from the legal design of CFEs. This analysis reveals that performing and belonging tensions are socially constructed. Community members have created and generally accepted this belief that all CFE revenue should be used for community projects and timber activities should be allocated to men. Thus, this chapter underscores that performing tensions can also generate learning tensions for CFEs at different stages of development. Differences in perception of CFE performances pose CFE managers with a dilemma of reinvesting in CFE growth or financing community projects. In addition, when there are discrepancies in performance views among various groups, these tensions often arise when CFE activities fail to include all social groups in the community. Traditionally, timber exploitation is considered a male activity; thus,

when CFEs are purely timber-based, women are often side-lined. These linkages are shown in Figure 20 through the reverse arrows, indicating the circularity in paradoxes and inter-relationships.

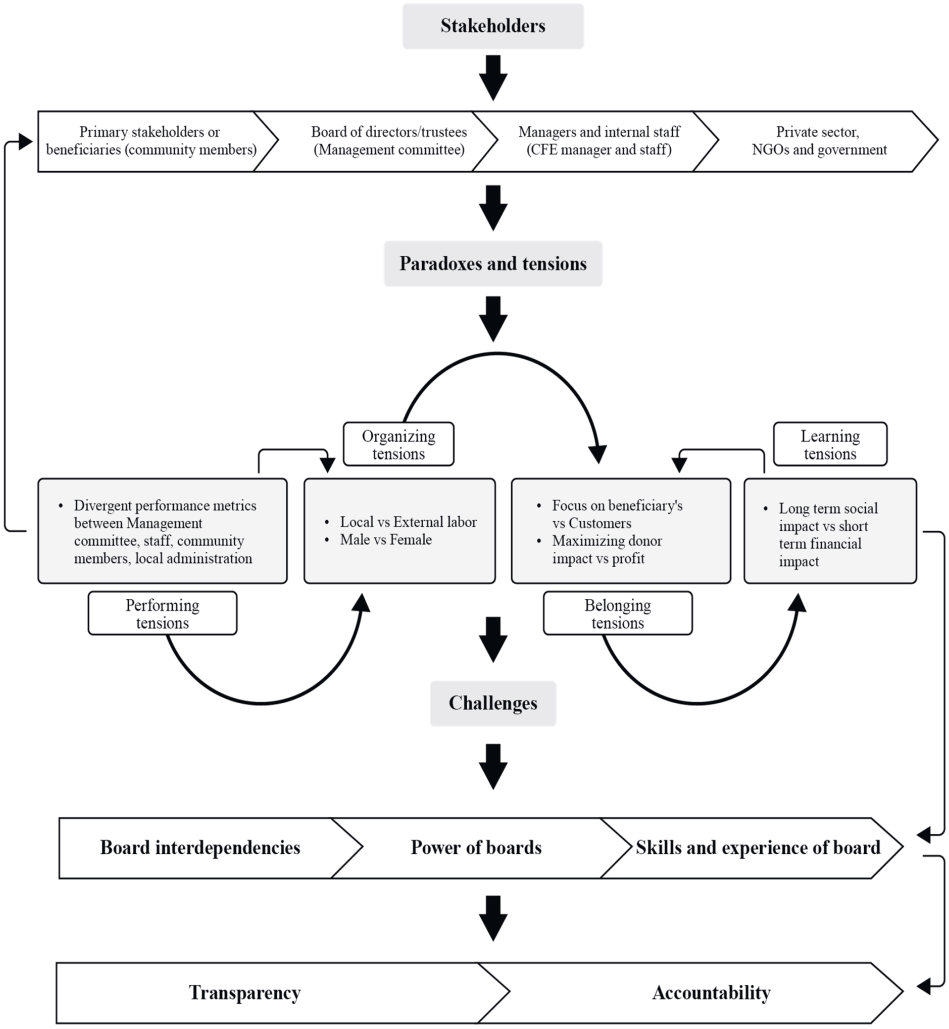


Figure 20: A revised theoretical framework for the governance of CFEs in Cameroon: Tensions, paradoxes and challenges

Gotsi et al. (2010) also confirm linkages between learning, organising, and belonging tensions. However, their clarity differs based on contexts. For CFEs in this study, organisational and learning paradoxes can be termed as evolving from organisational systems (see Figure 20). Although the choice of agricultural products reduced belonging tensions, it also created organising tensions because agricultural activities have peak periods when labour is scarce (thus, reverse connection in Figure 20). Hence, community members are confronted with choosing between

working on their farms or community farms for a wage. Consequently, most community members decided to spend more time on their farms, resulting in a labour shortage. This resulted in late planting and poor production in some CFEs in the first production season; in the next production season, CFE management decided to employ full-time external labour during this peak production season, which resulted in some tensions among community members. Nevertheless, this decision led to higher production and revenue from CFEs.

Different options have been employed in the literature to manage tensions and paradoxes; these can be categorised as splitting (Poole and Van de Ven, 1989), repression, and regression (Kraatz and Block, 2008). Active responses that involve partisan mutual responses to paradoxes and continuous efforts to reduce paradoxes have been widely applied in the literature (Abdullah et al., 2016). However, as cautioned by Lüscher and Lewis (2008) and reiterated by Abdullah et al. (2016), there is no clear-cut relationship between paradox type and responses, but a plethora of responses should be adapted to the context and time.

For CFEs in Cameroon, context-specific active responses were employed to manage the dilemma between retaining unqualified resident employees and qualified external employees. CFEs followed a two-step process: first, they arranged training for their personnel, enhancing performance for specific individuals. However, some staff members could not reach the desired performance levels despite the training. Also, to reduce belonging tensions, CFEs embarked on choosing activities that are not only profitable economically but equally inclusive gender-wise; this has been done through the promotion of NTFPs and agricultural CFEs. So far, this measure has galvanised community engagement in CFE activities with the inclusion of diverse social groups. The development of NTFPs-based CFEs means the CFEs become competitors to "middlemen" who have been sourcing products from communities. Community members were thus expected to sell to the CFEs because the CFEs belong to the community. However, belonging tensions have further been exacerbated when community members sell their produce to "middlemen" due to loyalty, to the detriment of the community.

The study's CFEs also use reciprocal responses as described by Clegg et al. (2002) and Smith and Lewis (2011), although they were precise to community contexts. To mitigate belonging tensions between the community and commercial intermediaries, CFEs changed the legal form of CFEs to

co-operatives where members sell to the CFEs and still benefit from profits made by CFEs, hence creating a competitive market advantage. This has so far succeeded in galvanising members around NTFP enterprises and reducing tensions between factions of community members and CFE management.

5.6 Conclusion

This chapter's results highlight the dynamic and interconnected interaction between stakeholders, paradoxes, conflicts, and governance difficulties. The key stakeholders involved in CFE management have equally been discussed by other papers such as Foundjem-Tita et al. (2018) and Kimengsi et al. (2022). Most of these authors, such as Kimengsi et al. (2022), explored the role and responsibility of these actors vis-à-vis CFE activities and governance principles such as participation, equity, transparency, accountability, conflict management, and efficiency. However, how these stakeholders with divergent views relate to paradoxes and tensions has not been explored in the literature; this chapter is, therefore, innovative in exploring and filling this gap. Also, governance challenges discussed in this chapter, such as transparency and accountability, were discussed by Piabuo et al. (2018) and Kimengsi et al. (2022) in Cameroon and Nepal. Similar to previous studies, these parameters were evaluated as outcomes of a process with unclear root causes in both studies. Contrary to the original paradigm in this chapter, transparency and accountability concerns are seen as results of other governance challenges that arise from paradoxes and difficulties. This chapter, therefore, goes a step further to relate governance challenges to paradoxes that have not been unearthed in governance literature and offers an opportunity for the practitioner to tackle the root causes rather than the outcomes. The discussion focused on paradoxes in community forestry, specifically examining contradictions between formal forest transfer and informal influence and how they connect to Ostrom's theory on managing the commons. However, studies identifying and categorising paradoxes and tensions in CFE operations, especially in Africa, were challenging to find; therefore, this research offers scope for enriching literature and filling in this gap. The strategies suggested in this chapter to address tensions and paradoxes align with those proposed by other authors like Piabuo et al. (2018), Kimengsi et al. (2022), and Kenfack-Essougong et al. (2019) to tackle governance challenges related to transparency, participation, equity, and effectiveness. However, these papers did not look at it from the perspective of paradoxes and tensions.

This chapter looks at CFE governance and unravels the dynamics of tensions within CFEs. It explores different stakeholders' roles and responsibilities and how they contribute to or ameliorate paradoxes, tensions, and governance challenges encountered by Cameroonian CFEs. It proposes strategies to manage tensions, paradoxes, and governance challenges. The research confirms previous studies by Foundjem-Tita et al. (2018) that identify direct stakeholders as community members, management committees, and CFE management teams. Further, private sector enterprises, NGOs, civil society organisations, funders, and government ministries are considered indirect stakeholders. The results show that community members have an interest in getting maximum benefits from CFE through social amenities and sustainable forest management. Conversely, the CF management committee seeks to ensure the CFE management works in the interest of the community, while the CFE management seeks to maximise revenue and profits from CFE activities for social investment. Private sector companies are business partners who seek to maximise their profits. On the other hand, NGOs seek to support CFEs in enhancing financial sustainability and sustainable forest management; government ministries ensure CFEs respect regulation, while donor agencies provide financial support and ensure funds are used for that purpose. These divergent actors with different interests interact in a common space, often leading to tensions and paradoxes.

This chapter reveals that a performing paradox manifests through differences in short-run and long-run perceptions of performance between CFEs, community, and village chiefs. An organising paradox was also found due to tensions in the recruitment of external labour and community labour. Also, commercial tensions exist between CFE management, commercial intermediaries, and community members. The selection of products to commercialise as a CFE creates belonging tensions when the choice of products does not include women and family problems also create factions that generate belonging tensions at the CFE level. Learning tensions arise when CFEs grow and result in community pressure for social investments competing with the need for reinvestment to ensure CFEs' financial sustainability.

These tensions are further exacerbated by challenges embedded within CFEs, which include the generally non-democratic appointment of board members with adequate skills and experience, the lack of power of boards to control management, difficulties in managing interdependencies between boards, and major management challenges, especially if CFEs aim to steer their

operations using "good governance." Based on the empirical data, a revised theoretical framework that better captures the characteristics of CFEs in Cameroon is proposed. This framework can guide practitioners in better identifying and overcoming paradoxes and challenges. It also highlights how the definition and separation of roles of stakeholders within a CFE are important so that organisational systems can better overcome these tensions and how technical support and community sensitisation can support this. Partnerships with support organisations for management capacity building are also crucial in promoting good governance. Therefore, developing and implementing a clear communication strategy for community members and other stakeholders is critical in reducing information asymmetry among stakeholders and thus reducing tensions. The accommodation and information strategy employed by some CFEs to manage paradoxes was found to help reduce such tensions.

CHAPTER 6: SYNTHESIS

6.1 Introduction

Community forest enterprises (CFEs) have been promoted over the last decade due to their perceived potential to reduce biodiversity loss and societal inequality, create local jobs, and contribute towards community projects such as education, health, and clean energy (Newton et al., 2016; Teitelbaum, 2016; Erbaugh et al., 2020). The ability of CFEs to pursue economic, social, and environmental objectives means that CFEs are characterised by their hybrid character (Foundjem-Tita et al., 2018). However, this hybrid character comes with challenges such as performance evaluation, tensions, paradoxes, governance challenges, and community capacity gaps (Siegner et al., 2021). The literature on CFEs over the past three decades lacks clarity on overcoming challenges emanating from their hybrid character, particularly in different countries and cultural contexts (Siegner et al., 2021; Engbring and Hajjar, 2022). The focus has mainly been on CFE governance, promoting income generation while ensuring inclusivity and sustainable forest management (Foundjem-Tita et al., 2018; Humphries et al., 2020; Engbring and Hajjar, 2022). However, the challenges CFEs face due to their hybridity have not been adequately conceptualised and empirically explored in the CFE literature. For example, the literature on governance stresses principles like participation, transparency, accountability, and representation (Piabuo et al., 2018; Butler, 2020). Still, there are gaps in understanding the tensions and paradoxes arising from interactions of CFEs with diverse stakeholders. The literature also lacks an adequate framework for CFE evaluation without subjective bias, as performance evaluations based on qualitative indicators are often contested due to their subjective nature. Capacity evaluation for CFEs has focused on CFE management without considering a systems approach that includes other societal components (Baker and Boshoven, 2017). Despite having economic, social, and environmental objectives, CFEs face challenges in mainstreaming these in their operations. Furthermore, the CFE literature lacks adequate conceptual and empirical resources to provide solutions to such challenges (Siegner et al., 2021).

The social enterprise lens has been proposed to view CFEs because it provides a holistic framework for hybrid organisations such as CFEs. The social enterprise literature is rich with studies on hybrid organisations and can provide a framework for understanding CFE challenges that come with hybridity and possible options for overcoming them (Siegner et al., 2021). The social enterprise lens can help overcome CFE development challenges by providing an innovative,

sustainable, and community-centred approach (Engbring et al., 2021; Siegner et al., 2021). It also permits employing the social enterprise literature to provide contextualised solutions to develop CFEs to challenges faced by CFEs (Egunyu et al., 2016; Engbring and Hajjar, 2022; Seigner et al., 2021). The social enterprise lens can permit the development of CFEs to achieve 'ideal' social enterprise characteristics. These characteristics include economic viability, community empowerment, sustainable resource management, capacity building, market access, access to financial resources, monitoring and evaluation, collaboration, income diversification, and a focus on social impact. (Enbring and Hajjar, 2021; Seigner et al., 2022a; 2022b).

This thesis employs the social enterprise lens to explore CFEs. Specifically, this thesis improves theoretical and empirical scholarship on CFEs and social enterprises by enhancing an understanding of their characterisation, performance, and conditions for success. It also enriches the social enterprise literature by filling gaps related to performance evaluation, tensions, and paradoxes identified by Lin (2023). It combines literature on community forestry, CFEs, and social enterprises, focusing on Cameroon. The findings will be crucial for policymakers and practitioners in creating an enabling environment for CFEs to thrive. As also introduced in Chapter 1, this study's overall research objective was to employ the social enterprise lens to explore CFEs. This thesis aims to understand the extent to which CFEs can be classified as social enterprises, their performance, and the criteria needed for their success. To achieve this objective, the following research questions in this thesis were explored:

1. To what extent can CFEs in Cameroon be classified as social enterprises?

2. How successful are CFEs in Cameroon when viewed as social enterprises?

3. Which conditions must be fulfilled for Cameroon’s CFEs to function as successful social enterprises?
    a) What community capacity is required for CFEs to be successful social enterprises?
    b) What governance conditions are required for CFEs to be successful social enterprises?

These research questions have been addressed in the four empirical chapters (Chapters 2 to 5). First, this chapter reflects upon the main findings for the research questions and discusses these findings in the broader research context (Section 6.2). Section 6.3 presents research contributions

to science and society. Section 6.4 is dedicated to the implications of the thesis for policy and practice. Further, a reflection on the methodology is presented in Section 6.5, while Section 6.6 is devoted to recommendations for further research, and personal reflections are provided in Section 6.7.

6.2 Main Findings in Response to Research Questions

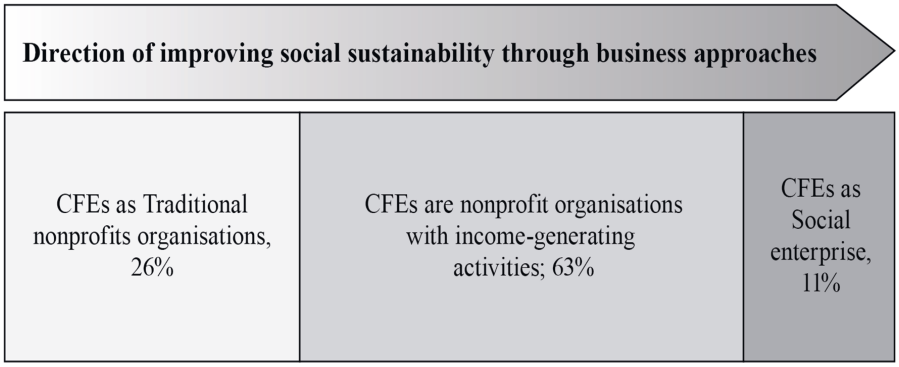
6.2.1 Research question 1. To what extent can current CFEs in Cameroon be classified as social enterprises?

Theoretical and empirical studies have proposed that CFEs should be considered social enterprises (Foundjem-Tita et al., 2018; Siegner et al., 2021; Engbring and Hajjar, 2022). The "ideal type" three-dimensional framework of economic/entrepreneurial, social, and participative governance, proposed by the Emergence des Entreprises Sociales en Europe (EMES) of Defourny and Nyssens (2012), has been widely used to characterise and classify social enterprises. However, in practice, the operations of CFEs do not always meet the "ideal" characteristics of social enterprises. A conceptual and empirical understanding of how CFEs can be classified as social enterprises is limited globally and even more difficult to find in Africa (Charnley and Poe, 2007; Foundjem-Tita et al., 2018). This thesis aims to expand the conceptual literature using a combined framework of EMES and Alter's (2004) sustainability continuum to understand the Cameroonian case and enrich the existing literature on CFEs and social enterprises in Cameroon and Africa. Understanding the extent to which CFEs are classified as social enterprises permits the understanding of the different forms of CFEs and the challenges faced by CFEs. With this understanding, tailored enterprise development support packages can be designed to meet the actual situation of various CFE forms.

To answer the research question, *To what extent can the current CFEs in Cameroon be classified as social enterprises?* Chapter 2 notes that only 11% of the sampled CFEs are classified as social enterprises, 63% are non-profit organisations with income-generating activities, and 26% are traditional non-profits. This implies that most CFEs in Cameroon are non-profit organisations with income-generating activities, not social enterprises. For CFEs to operate as social enterprises, they must apply complete business approaches characterised by continuous production of goods and services, with paid labour and some economic risk-taking. This requires coordinated efforts between government ministries, national and international support organisations, donor agencies,

and forest communities to reduce the challenges preventing CFEs from operating as social enterprises. This involves government investments to enhance rural community access, implement CFE enterprise and sustainable forest management regulations, and create a conducive climate for rural entrepreneurship with proper governance.

In Chapter 2, it is shown that only 11% of the sampled CFEs in Cameroon meet the criteria to be designated as social enterprises. These CFEs frequently develop products and services, undertake economic risks, and maintain participatory governance to benefit society. Chapter 2 also notes that 89% of sampled CFEs cannot be classified as social enterprises. 63% are classified as non-profit organisations with income-generating activities, that is, they: 1) are not in continuous production of goods and services, 2) only engage in income-generating activities at irregular intervals when opportunities arise, 3) employ local community members and have an explicit social aim, and 4) participatory governance is not very strong. Lastly, 26% of CFEs are traditional non-profits, which means they: 1) are not into continuous production of goods and services, 2) do not take an economic risk, 3) depend on external grants to meet their social and environmental objectives and 4) have a social aim with participatory governance (Figure 21). This finding contradicts the outcomes of other studies in Northern and Latin America, where most CFEs can be classified as social enterprises (Enbring and Hajjar, 2021; Seigner et al., 2021). Enbring and Hajjar (2021) show that CFEs in Mexico are in continuous production of goods and services, take a significant economic risk by running CFEs, and largely depend on revenues from sales of CFE products and services. They also note that CFEs employ community members and contribute to the community's social and environmental development while enhancing participative governance. However, the low percentage of CFEs qualifying as social enterprises in Chapter 2 aligns with that of Wavehill Consulting (2010), who showed from a survey of community woodlands in Wales that from a sample of 125 CFEs, only 20% could be classified as social enterprises. Similar outcomes were noted by Pollard and Tidey (2009) from a sample of 124 CF groups in England, of which only 12% could be classified as social enterprises. These studies support the findings of this thesis that CFEs cannot be classified as social enterprises.



Classification of CFEs on the Social Sustainability Continuum Alter (2004)

Figure 21: Synthesis of results for community forest enterprises as social enterprises

Chapter 2 indicates that CFEs face challenges preventing them from operating as social enterprises. It shows that these challenges relate to dependence on timber trade through sub-contracting with timber exploiting companies, resulting in CFEs receiving low prices. Limited timber species are in community forests, and transaction costs are high due to the landlocked nature. Also, some CFEs are small and possess already intensively exploited forests, making them less attractive to timber-exploiting companies. These findings were confirmed by Mbile and Macqueen (2019), who note that timber operating partners to CFEs often pay meager fees compared to market prices. Foundjem-Tita et al. (2018) also highlight that the high transaction cost for CFE operations due to bad roads and the inaccessibility of some communities make extracting and selling forest products from these communities unprofitable. In addition, governance problems, such as excluding certain social groups from benefits, negatively impact the participatory governance of CFEs (Eloundou, 2012; Maffo and Bokkestijn, 2015). Similar challenges have been reported in Nepal and Mexico (Xu and Hyde, 2018; Ambrose-Orji et al., 2015), and Seigner et al. (2022a) note strategic choices of CFEs as a determinant factor in Canada and the USA. Also, conflict of identity explains the low percentage of CFEs as social enterprises; developing market activities often threaten the core social aspect of certain communities, which may lead to a shift in the original mission of CFEs, thus preventing some CFEs from engaging fully in business development (Siegner et al., 2021).

These challenges have made CFEs adapt and develop different business forms to meet their objectives. For example, in Chapter 2, CFEs that are landlocked, with minimal access to markets or partners and very high transaction costs for the trade of forest products and services, prefer to rely heavily on grants and prioritise conservation. These CFEs are classified as traditional non-profits. Chapter 2 also shows that other CFEs are more accessible; however, due to the nature of roads and the challenges of accessing diverse partners, they cannot continuously trade forest products and services; hence, they depend on grants and trade when an opportunity arises. These are non-profit organisations with income opportunities. The last set of CFEs in Chapter 2 have access to markets, the right forest resources, and CFE leadership to identify forest products and services and continuously engage in trade with partners. In so doing, they enhance the economic, social, and governance dimensions of CFEs. These are CFEs that operate as social enterprises.

6.2.2 Research question 2. How successful are CFEs in Cameroon when viewed as social enterprises?

The CFE performance literature has been dominated by studies evaluating only the economic aspects of CFEs (Antinori and Bray, 2005; Humphries et al., 2012; Vega and Keenan, 2014). Some studies have also concentrated on the social and environmental dimensions (Maldonado et al., 2017). The few that considered all three dimensions of CFEs—economic, social, and environmental, and that permitted them to be characterised as social enterprises used qualitative indicators (Siegner et al., 2022a, 2022b). CFE teams used Likert items and self-reporting to measure their performance (Siegner et al., 2022a), but this approach can be subjective and contested based on the sampled individuals (Wong-on-Wing et al., 2007). These contestations are more prevalent within CFEs because they deal with multiple stakeholders who view performance from different lenses (Smith et al., 2013). An adequate performance evaluation framework would reflect the objectives of CFEs with quantitative indicators capturing all three dimensions: economic (operational efficiency, profits, and net profits), social (number employed (male/female), the value of employment, community projects, and environmental (incidences of illegal logging, deforestation for economic activity). Such a framework is used in Chapter 3 as a basis for the performance analysis of nine CFEs in Cameroon.

To answer the research question: *How successful are CFEs in Cameroon when viewed as social enterprises?* Chapter 3 concludes that the majority (55.55%) of sampled CFEs are in the middle (average) between low performers (33.33%) and effective performers (11.11%). Three CFEs are low performers with poor scores on all three dimensions. The CFEs scoring in between can be divided into two groups: one scoring average on all three dimensions and the other with good performance on the social and environmental dimensions and poor on the economic dimension. External factors like taxation, market prices, administrative delays, market access, and proximity to major cities also affected performance. Chapter 3 suggests that future CFE performance could improve if crucial factors are addressed. However, access to markets, limited administrative procedures, good relationships with government agencies, and community engagement are essential for the success of a CFE.

The findings in Chapter 3 show that only 11.11% of the sample were effective performers with excellent scores on all three dimensions. Most CFEs (55.55%) were intermediate performers; of these, 22.22% are skewed with good performance on the social and environmental dimensions and poor on the economic dimension, while another 33.33% register average scores on all three dimensions. The last set of CFEs (33.33%) could be termed "low performers" because they presented low scores on all three dimensions. Overall, the majority (five out of nine) of the sampled CFEs performed poorly on the economic dimension compared to the social and environmental dimensions. Similar outcomes were noted by Adhikary (2019), who registered the poor financial performance of CFEs in Nepal, with costs initially 2.5 times higher than revenues but decreasing over time.

Significant internal and external challenges faced by CFEs account for this low performance on the economic dimension. Chapter 3 notes the dominance of external challenges, such as taxation of timber and market price fluctuations for forest products. Chapter 3 highlights that administrative delays in acquiring legal documentation for wood exploitation and NTFP trade, together with the landlocked condition of some communities, are the primary external problems CFEs face. Moreover, internal factors such as community members' lack of market understanding, limited income-generating potential, cooperation with local government, and community involvement significantly impact CFE performance. The findings in Chapter 3 support Charnley et al. (2022), who note that poor market access in African countries resulted in less than 5% of harvestable forest

resources being sold, thus resulting in insufficient revenue for CFEs. They note that CFEs with poor roads and those far from district headquarters are likelier to perform poorly economically due to high transaction costs and poor market access. The findings in Chapter 2 also align with those of Foundjem-Tita et al. (2019), who note that taxation of CFEs in Cameroon makes it difficult for them to compete with private sector firms. Inter-ministerial collaboration and financial and technical support were noted by Warnholtz et al. (2020) as prerequisites for positive CFE economic outcomes.

The hybrid character of CFEs means that performing well on their economic, social, and environmental dimensions can be very challenging and thus will require CFEs to make strategic choices or develop adequate skills to balance between the three dimensions. Seigner et al. (2022b) note that the strategic decisions of CFEs influence their performance towards a particular dimension. Some CFEs may prefer to give more importance to social and environmental dimensions over economic dimensions, affecting their overall performance. Chapter 3 identified CFEs that are skewed, and that performed well on social and environmental dimensions but poorly on economic dimensions. However, it is unclear whether this was a strategic choice or the inability of CFEs to balance between the economic, social, and environmental dimensions. These findings also align with those in Chapter 2, in which some CFEs depend on grants and are not engaged in producing goods and services, thus resulting in poor economic outcomes. Therefore, incorporating a strategic choice in performance evaluation can permit the allocation of weights between different dimensions, thus enhancing CFE performance evaluation.

6.2.3 Research question 3. What community capacity is required for CFEs to be successful social enterprises?

Chapter 2 of this thesis notes that it is essential to evaluate community capacity to develop adequate community capacity-building initiatives. Chapter 3 further notes that the poor economic performance of CFEs also relates to the insufficient capacities of their market products and infrastructure capacity. The ability of CFEs to function as successful social enterprises depends on their ability to galvanise their individual, organisational, and network capacities to trade in forest products and services to meet their economic, social, and environmental objectives (Chaskin, 2001; Bagnoli and Megali, 2011). The poor capacity of rural forest communities to identify,

collectively extract, process, and sell forest products and services for community development has been underscored as a significant drawback to CFE development (Humphries et al., 2020; Duguma et al., 2018). The evaluation of community capacity has been fragmented, primarily focusing on business and governance capacities. Zurcher et al. (2018) suggest that using a systems approach to assess human, organisational, and network capabilities may enhance comprehension of the system and the interconnections among capacities. This approach considers other community elements, such as infrastructure and social capital, and emphasises the need for community capacity building. Chapter 4 employs a systems approach to evaluate community capacity in Cameroon's CFEs at the individual, organisational, and network levels. The analysis of the relationship between domains of community capacity will help development practitioners prioritise community capacity development initiatives, as current studies on this approach are limited in Cameroon.

Chapter 4 responds to the research question: *What community capacity is required for CFEs to be successful social enterprises?* by concluding that the community capacity required for CFEs to be successful social enterprises must be met at the *individual level* (the skills and knowledge of community members), the *organisational level* (resource mobilisation capacity and a sense of community), and the *network level* (the capacity to create and maintain partnerships, social networks, and infrastructure capacity). Chapter 4 also notes that community capacity should be evaluated as a system at these three levels and their interrelated domains and requires a systems perspective. The implications for CFEs in Cameroon involve prioritising the development of individual capacities and leveraging these for organisational and networking capacities.

In Chapter 4, the community capacities identified for CFEs to be successful social enterprises require: at the *individual level*, skills and knowledge of community members; at the *organisational level*, resource mobilisation capacity and a sense of community; at the *network level*, the capacity to create and maintain partnerships, social networks, and infrastructure capacity in rural communities. The capacity gaps at the individual level align with the findings of Bakouma and Seve (2012), who confirm that 78.2% of members in rural communities in Cameroon have not gone beyond the primary school level. Stam (2010) also notes that community entrepreneurial capacity depends on community members' skills and knowledge. At the organisational level, the findings align with those of Foundjem-Tita et al. (2019), who note that the capacity of CFEs to

raise funds for CFE development and community engagement are the key challenges to CFE development in Cameroon. The community capacity gaps identified at the network level in Chapter 4 also align with the findings of Humphries et al. (2020), which confirm the importance of establishing and maintaining beneficial partnerships. The study notes that collaborations with NGOs, like the Tropical Forest Institute, have been instrumental in enhancing the skills and knowledge of community members within Brazilian CFEs over ten years. The poor infrastructure capacity of CFEs was confirmed by Adebayo et al. (2016), who noted that a lack of roads and infrastructure reduces market access and increases rural-urban migration, making rural communities unattractive for businesses.

Chapter 4 also indicates that strategically developing community capacity involves understanding which domains are associated with each other. Results in Chapter 5 reveal a strong correlation between skills and knowledge with partnerships, financial management with leadership, and resource mobilisation. Participation of community members depends on leadership type, with a strong positive correlation at a 1% level. Reputable leaders, open books, and shared visions increase participation. Participation also enhances natural resource management, enabling better monitoring of forest resources and sustainable exploitation. Similar relationships were noted by other studies in Latin America (Engbring and Hajjar, 2022; Humphries et al., 2020). The positive relationship between community participation and natural resource management identified in Chapter 4 aligns with the findings of Piabuo et al. (2018) and Ngang (2015), who confirmed the positive influence of community participation and sustainable forest management in Cameroon. Chapter 5 also emphasises that leadership is crucial in shaping community perception and engagement; a strong positive correlation exists between leadership and shared vision, resource mobilisation, and natural resources. Also, good leadership was found to encourage sustainable management practices by ensuring that partners respect sustainable forest management and participate in monitoring resources. Yan (2011) confirms this by indicating that enhancing participative leadership can improve organisational performance and promote innovation. Other scholars highlight that good leadership can enhance the individual capacities of members and employees, thus improving organisational performance (Kim and Schachter, 2015; Usman et al., 2022). A sense of community also influenced resource mobilisation, as a shared vision attracts investors and galvanises community members to participate in CFE activities. The analysis in Chapter 5 shows a strong correlation between infrastructure and community education. Additional

research emphasises the connection between an individual's entrepreneurial abilities and infrastructural networks(Nguyen et al., 2023).

To overcome these community capacity challenges identified in Chapter 4, it is vital to consider prioritising community capacity domains that can potentially influence other community capacity domains. Chapter 4 notes that infrastructure development, such as roads, hospitals, and schools, requires government action. In addition, Chapter 4 reveals that individual capacities are strongly correlated with different organisational capacity domains, suggesting that enforcing these capacities as a starting point and enhancing networking and partnerships can lead to improved skills and knowledge. This will require increased investments in rural education in Cameroon so that more youths can understand entrepreneurship principles early. Furthermore, continuous support to organisations (NGOs) providing entrepreneurship education to youths and adults should be promoted. This approach addresses the problem of limited capacity in most communities, in which only a few members have sufficient ability to manage affairs. Therefore, CFEs in Cameroon should prioritise developing individual capacities and leveraging these capacities to develop organisational and networking capacities.

6.2.4 Research question 4. What governance conditions are required for CFEs to be successful social enterprises?

Hybrid organisations face significant governance challenges due to paradoxes (elements that are logical in isolation but irrational simultaneously) and tensions (social vs. commercial objectives) from diverse stakeholders with different interests (Smith et al., 2013; Michaud, 2013; Pache and Santos, 2010). Mason and Doherty (2016) note that to effectively develop strategies to overcome tensions and paradoxes, it is essential to characterise these tensions because they intensify as organisations become global, dynamic, and competitive environments become more complex. As organisations grow, these tensions become more persistent, and the organisation's fate depends on leadership's response to these tensions. Understanding the stakeholders' interests, manifestations of tensions (often context and place-specific), and resulting governance challenges are critical in deducing the governance conditions required for CFEs to be social enterprises. So far, CFE governance research has focused on mission drift, respect for governance principles, adequate conceptualisation, and empirical exploration of tensions and paradoxes within CFEs. This is

because governance conditions can provide more insights into how CFEs interact with stakeholders and deal with conflicting interests and objectives. Chapter 5 explores stakeholders' interaction with CFEs, their interests, and how these interests lead to tensions and potential governance challenges emanating from these tensions. Based on this analysis, governance conditions are deduced for CFEs to overcome challenges adequately.

In response to the question, *What governance conditions are required for CFEs to be successful social enterprises?* Chapter 5 concludes that performance paradoxes involve differences in short-run and long-run perceptions of performance between CFEs and community members. For CFE management, the short-term performance objective is revenue generation and ensuring financial viability, while the long-term objective is an investment in social projects. However, the community members are interested in short- and long-term community investments. Organising paradoxes arise from external recruitment and labour tensions while belonging paradoxes arise from product selection and family factions. Learning paradoxes arise when CFEs grow, leading to pressure for social investments and financial sustainability. These paradoxes are exacerbated by challenges within CFEs, such as the non-democratic appointment of board members with adequate skills and experience, the lack of power of boards to control management, and difficulties in managing interdependencies between boards and CFE management.

Results from Chapter 5 indicate that CFEs interact with direct stakeholders (the CFE management team, the CF management committee, and community members) and indirect stakeholders (local NGOs, international organisations, ministries, government agencies, donor agencies, and private sector firms). Similar findings were noted by Schussler et al. (2015), who employed a multi-country (Cameroon, Nepal, Namibia, Germany, and Indonesia) approach and had a more extensive set of stakeholders, including those from this thesis along with politicians, public administration, forest administration, traditional rulers, boards, donors, research institutions, media, and religious organisations. These diverse stakeholders have different interests. For instance, Local NGOs and research partners work to enhance livelihoods and sustainable forest management for disadvantaged social groups. Donor agencies aim to ensure proper use of funds, government agencies aim to enforce regulations, and private sector firms and financial institutions seek to maximise profits when interacting with CFEs.

The interaction of CFEs with diverse stakeholders with different interests results in paradoxes. These paradoxes can be classified into performing, belonging, organising, and learning. Chapter 5 reveals a *performing paradox* characterised by differences between CFEs, community, and village chiefs in the short-run and long-run perceptions of performance. An *organising paradox* arises from tensions in external recruitment and community labour, as well as commercial tensions between CFE management, commercial intermediaries, and community members. The selection of products for commercialisation and family factions within the community creates a *belonging paradox*. *A learning paradox* arises when CFEs grow, leading to community pressure for social investments competing with reinvestment for financial sustainability. These paradoxes are exacerbated by embedded challenges within CFEs, such as non-democratic board appointments, lack of board control, and difficulties managing interdependencies. Engbring (2020) confirmed the performing paradox by noting trade-offs between financial and social outcomes. Mason and Doherty (2016) also support this by stating that win-win situations between stakeholders are often temporary. Additionally, Engbring (2020) supports this by noting that at certain moments in CFE development, managers will prioritise revenue generation over social objectives.

Just as Chapter 5 reflects an organising paradox as the choice of qualified vs. domestic labour, other studies in Mexico also confirm the existence of organising tensions over communal governance practices over enterprise management principles (Molnar et al., 2007; Valdez et al., 2012). The results in Chapter 5 also justify the low capacity of CFEs because CFEs always prioritise local labour over external qualified labour, resulting in poor economic outcomes, as noted in Chapter 3. Organising tensions in Mexico also manifest through decision-making among large traditional bodies or concentrating within the CFE management committee (Engbring, 2020). Just like in the case of CFEs in Chapter 5, case studies explored by Engbring (2020) also confirm that learning tensions result from investing revenues in community projects over reinvesting in CFE for growth. A key trend from the findings of Chapter 5 and case studies in other parts of the world is that CFEs continuously face tensions, and the manifestations of these tensions can be context-specific. However, common trends exist in these case studies.

Contrary to other studies, Piabuo et al. (2018) and Kimengsi et al. (2022) highlight that CFEs lack adherence to governance principles such as accountability, equity, and participation. Chapter 5 emphasises that governance challenges result from paradoxes and tensions emanating from diverse

stakeholders with divergent and conflicting interests. Additionally, Chapter 5 reveals that tensions result in the lack of power of boards to control management and interdependencies between the board and management. This is because, in most cases, management officials are also board members, creating a double role in decision-making, control, and execution.

Just as the manifestations of tensions are context-specific, context-specific strategies have been employed by CFEs to overcome tensions, paradoxes, and resulting governance challenges (Chapter 5). CFEs engage in staff training, promoting NTFPs and agricultural products to reduce belonging and organising tensions. Some CFEs decided to change their legal form of CFEs to co-operatives, in which members sell to CFEs while still benefiting from profits made by CFEs. This has helped galvanise members around NTFP enterprises and reduced tensions between factions of community members and CFE management, thus further reducing belonging and organising tensions. To reduce performance and learning tensions, CFEs engaged in community sensitisation have clear communications with partners and practice inclusive decision-making on using CFE revenue. Furthermore, Engbring (2020) confirmed the effectiveness of these traditional systems in reducing belonging and organising tensions because traditional communication systems have proven to be effective in promoting community participation in CFE decision-making in Mexico. These are different context-specific governance conditions employed by CFEs to reduce tensions, paradoxes, and CFE challenges.

6.2.5 Overall conclusion and final discussion

To conclude, this thesis aims to explore the functioning of CFEs as social enterprises. The main findings of the research questions are summarised in Figure 22. The findings show that despite significant attempts to develop CFEs that satisfy their economic, social, and environmental goals, the business aspect of enterprise development has not produced the desired results. This thesis shows that most CFEs in Cameroon cannot be classified as social enterprises. They are in some form of business operation and find themselves in the middle between traditional non-profit organisations and social enterprises. This is supported by CFE performance evaluation, with a large share of CFEs in the middle between effective and low performers. This thesis thus illustrates that CFE development efforts in the country have succeeded in changing mindsets in rural forest communities to reduce dependence on grants and explore income-generating activities. However,

these efforts are insufficient for CFEs to function as social enterprises because they still suffer from challenges preventing them from meeting the required conditions.

These challenges can be categorised as external (infrastructure, policy, and institutional environment) and internal (internal organisation and capacity of CFEs) challenges. External challenges are obstacles that CFEs cannot influence directly; still, the CFEs depend heavily on them to facilitate their transactions. Internal challenges are those that CFEs can influence to streamline operations.

Chapters 2 and 3 discuss the challenges faced by Cameroon's CFEs due to their rural roots, including poor infrastructure and lack of access to markets. These challenges result in high transaction costs for CFEs and partners, reducing profit margins and discouraging business. The lack of basic infrastructure also leads youths to migrate to cities, leaving communities with older men and women who are not ready to take risks or innovate (Chapter 2). The policy and institutional organisation of the country also pose challenges. The Ministry of Forestry and Wildlife (MINFOF) has laws promoting CFEs, which are not reflected in the Ministry of Economy and Finance (MINFI) tax code. This lack of coordination with the MINFOF and MINFI prevents CFEs from benefiting from tax incentives, making it difficult for CFEs to compete with private firms. The production and sales operations of CFE products require lengthy administrative procedures, thus limiting the production capacity and preventing CFEs from meeting their economic objectives. The internal organisation of CFEs and the community also faces governance challenges, tensions, and capacity deficiencies (Chapters 4 and 5).

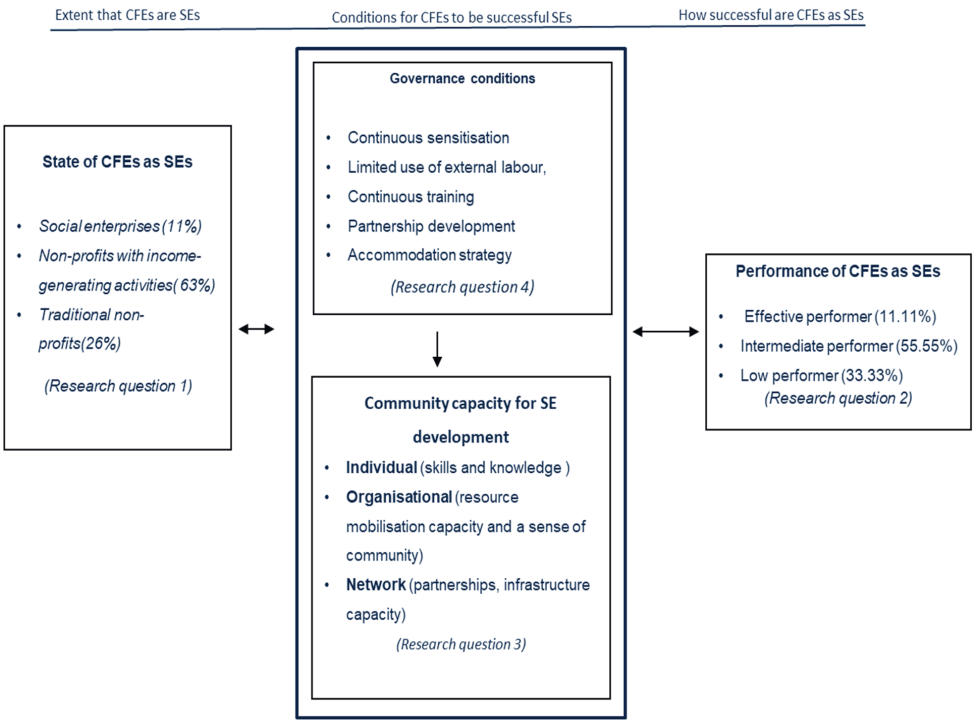


Figure 22: Synthesis of answers to research questions

The assessment of community capacity, tensions, paradoxes, and challenges faced by CFEs permits the identification of conditions to be fulfilled by CFEs to be social enterprises. Figure 22 highlights these conditions as outcomes of research questions three and four. For CFEs to operate as social enterprises, it is essential to have ongoing education and training, minimise reliance on outside workers, establish mutually beneficial partnerships, implement accommodation strategies, improve infrastructure, gather resources, and involve the community. Overall, the conclusion of the exploration of the functioning of CFEs as social enterprises can be summarised through the following seven statements:

1. Most CFEs in Cameroon operate as non-profit organisations with income-generating activities and not as social enterprises.

2. Most CFEs in Cameroon perform better on their environmental and social dimensions relative to their economic dimensions, thus preventing them from balancing performance on the three dimensions as successful social enterprises do.

3. CFEs suffer from community capacity gaps at the individual, organisational, and network levels, which prevent them from functioning as social enterprises.

4. Like social enterprises, the interaction of CFEs with different stakeholders results in tensions and paradoxes that exacerbate governance challenges; however, CFEs lack the capacity to overcome these challenges.

5. For CFEs to operate as successful social enterprises, significant financial support is required from governments and donors to improve rural infrastructure access to human capital development structures (schools, hospitals).

6. Policy support and continuous technical training for CFEs are needed to bridge capacity and governance gaps.

7. Although significant capacity and governance gaps (internal and external) prevent CFEs from operating as social enterprises, the small percentage of CFEs that operate as social enterprises and perform well on all three dimensions show the potential for CFEs to operate as social enterprises.

6.3 Research Contribution to Science and Society

Literature employing the social enterprise lens to view CFEs before this thesis focused on illustrating why CFEs should be considered social enterprises (Foundjem-Tita et al., 2018). This social enterprise literature can be used to overcome CFE challenges (Siegner et al., 2021) and organisational differences between CFEs when viewed as CFEs (Engbring and Hajjar, 2022). However, there is a lack of empirical and theoretical evidence on how to utilise the social enterprise literature to investigate CFEs and the obstacles they encounter. This includes aspects such as the

status of CFEs as social enterprises, assessing performance, governance conditions, and the community capacity necessary for CFEs to function as social enterprises. The main contribution of this thesis is the employment of the social enterprise lens to view CFEs. This is innovative because it provides a holistic approach to viewing hybrid organisations and permits one to see the bigger picture that connects the multiple objectives of hybrid organisations (Engbring and Hajjar, 2022). The hybrid character of CFEs means that traditional tools used to understand enterprises, their performance, governance, and capacity challenges may not be appropriate for CFEs (Siegner et al., 2021). This thesis enriches the CFE literature by borrowing from the rich social enterprise literature to understand the challenges CFEs face due to their hybrid character. For example, contemporary CFE governance is dominated by issues related to the respect of governance principles such as participation, stewardship, leadership, integrity, and transparency (Piabuo et al., 2018; Essougong et al., 2019). However, it does not provide an adequate framework to understand and overcome tensions and paradoxes emanating from the hybrid character of CFEs.

Chapter 5 of this thesis enhanced the CFE literature by incorporating the social enterprise literature using Mason's relational model (2009) to investigate the connection between stakeholders and the works of Smith et al. (2013) and Lüscher and Lewis (2008) to the categorisation of tensions and paradoxes. Also, traditional capacity evaluation and capacity-building initiatives focused on CFE organisational setup and did not consider a holistic approach to include the community and social networks (Minang et al., 2019; Macqueen, 2008). Chapter 4 used the social enterprise perspective to examine CFEs outside their organizational structure. It highlighted community capacity deficiencies at many individual, organizational, and network levels. Next to enriching the CFE literature, this thesis also contributes to improving the social enterprise literature. It fills research gaps identified by Lin (2023) by exploring CFE performance, tensions, and paradoxes using the social enterprise lens. Extending the social enterprise lens to the forest sector, specifically to CFEs in Cameroon, permits enriching the social enterprise literature by providing contextual evidence, which Defourny et al. (2021) note is required to further build the social enterprise theory.

In addition to contributing to the CFE and social enterprise literature, the combination of both permits this thesis to contribute to theory and framework development. Chapter 2 conceptualises and tests a new combined approach for classifying CFEs as social enterprises based on the EMES framework of Defourney and Nyssens (2012) and the social sustainability continuum of Alter

(2004). So far, no CFE and social enterprise literature study has combined these two approaches and empirically explored whether CFEs can be classified as social enterprises. The integrated approach offers a comprehensive understanding of how CFEs perform on the EMES indicators and how these scores categorise CFEs on the sustainability spectrum, addressing the research gap Pestoff (2013) identified concerning if and why enterprises can be classified as social enterprises.

In Chapter 3, the triple-bottom-line approach to developing a CFE performance framework using quantitative CFE performance measures allows easy comparison between CFEs. More importantly, it permits CFEs to report to different stakeholders and develop strategies to enhance their performance. It is an improvement on the performance frameworks used by Siegner et al. (2022a, 2022b) based on subjective, qualitative performance measures. The focus group discussions in Chapter 2 help to better understand the context behind the numbers, which are critical for understanding current performance levels and developing strategies for enhancing CFE performance. In Chapter 4, a new combined organisational capacity theory and the asset-based mobilisation theory (Nash, 2010; Shahidullah and Haque, 2016) on three levels, individual (human capacity), organisational, and social, is introduced and empirically tested. These permit an understanding of how different capacity levels contribute to overall community capacity. Given the interrelation between community capability levels and the limitations of financial and human resources, it is crucial to prioritise development initiatives. In Chapter 4, correlation analysis is employed to identify community capacity domains that correlate the highest with other capacity domains, facilitating the prioritisation of these community capacity domains. In Chapter 5, a combined relational model proposed by Mason (2009) and the categorisation of tensions by Smith et al. (2013) and Lüscher and Lewis (2008) is used to capture tensions, paradoxes, and governance challenges faced by CFEs. This combined framework permits the capture of different stakeholders within the CFEs space in Cameroon and also explores how tensions manifest within CFEs.

The conceptual frameworks developed in Chapters 2 to 5 and empirical findings provide tools that CFE development practitioners can use for CFE development. The contextualised multi-dimensional performance framework for CFEs permits CFE evaluation based on quantitative indicators. This allows different stakeholders to have quantitative measures of performance that reflect their perception of performance. This helps the CFE management team reduce performance tensions resulting from stakeholders' different perceptions of CFE performance, as described in

Chapter 5. The data generated from this framework can be useful by impact investors and firms who intend to make investment decisions related to investing in CFEs and can also permit them to track return on investment along economic, social, and environmental pathways. Community capacity-building is complex and often requires a significant financial incentive for diverse capacity-building themes (Minang et al., 2007; Hacker et al., 2012). Therefore, in situations of limited human and financial resources, CFE development practitioners are challenged with prioritising community capacity development efforts that can potentially influence other community capacity domains. In Chapter 4, empirical evidence from Cameroon shows that CFE development practitioners should prioritise capacities at the individual level, such as financial management capacity, strategic leadership, skills, and knowledge of CFE members. These capabilities have a strong positive relationship with organisational capacities, such as a sense of community, participation, resource mobilisation, and natural resource availability.

6.4 Implications for Policy and Practice

The findings from this thesis have implications for policy, institutions, and practice. These implications are relevant to key stakeholders such as governments, communities, and national and international development partners.

6.4.1 Policy and institutional implications for improving the business environment for CFEs

Chapters 2 and 3 highlight the importance of developing the business dimension of CFEs. Chapter 4 highlights significant gaps in the skills and knowledge of community members in business development. Chapters 3 and 4 also identify rural road infrastructure as a primary obstacle to market access, increased transaction costs, and reduced overall community capacity. In addition, infrastructure challenges adversely affect the ability of CFEs to trade in goods and services effectively. To overcome these challenges, the government can promote rural entrepreneurship by setting up rural community business incubation centres. These centres can go a long way to improving the business management capacity of community members and CFEs. Moreover, the government can facilitate rural entrepreneurship by improving road networks in rural areas. Furthermore, other services, such as telecommunication coverage and essential education and

health services, will significantly enhance the capacity of the communities for enterprise development.

In Chapters 2 and 3, CFEs selling timber pay taxes because there is no straightforward procedure to show that they self-exploit. Coordination between the Ministry of Forestry and Wildlife (MINFOF) and the Ministry of Finance (MINFI) to establish a precise mechanism for CFEs to show proof of self-exploitation can permit CFEs to benefit from tax incentives that reduce their production cost. Through this action, the Ministry of Finance can better measure the social and environmental contributions of CFEs to their communities and officially classify them as social enterprises.

One of the primary reasons for low production by timber CFEs, as seen in Chapter 3, was the delay in obtaining legal documents for timber exploitation. Institutional efficiency in reviewing CFE documents should be enhanced to facilitate securing an exploitation license.

Chapter 3 shows that agricultural CFEs suffered significantly from climate change, indicating that the availability of climate information can reduce losses by agricultural CFEs. To increase the resilience of people and businesses, the government can invest in facilitating access to climate information, interpretation of climate information, and decision-making for agricultural purposes, as this will help agricultural CFEs reduce losses due to climate change.

6.4.2 Practical implications for CFE management, community development practitioners, the research community, and donors

In Chapter 3, the analysis of CFE performance indicates that although timber CFEs generate revenue, they are ineffective in allocating their resources. There is a need for CFEs to allocate resources more efficiently and employ techniques to enhance labour productivity. Also, CFEs can be profitable by exploiting other forest resources such as NTFPs, agriculture, and aquaculture. The second implication from Chapter 3 is that substantial cost reductions can be achieved by sharing heavy equipment costs, such as mobile sawmills—an indication that more collaboration between CFEs can effectively reduce fixed costs and increase profits.

CFEs that collaborated with local forest administration to minimise the encroachment and illegal logging by elites and intruders had more success in effectively reducing agricultural encroachment

and illegal logging. It is, therefore, essential to foster partnerships between CFEs and local government authorities to reduce illegal logging and encroachment. Community mobilisation and cohesion can be critical to ensure that simple management plans are respected as a joint responsibility, not just that of the CF forest management committee alone.

In Chapter 5, the outcome of the community capacity assessment reveals that the conceptualisation of community capacity should not be limited to the level of the organisation (i.e., the CFE level) but should be seen as a system of three levels (social network, organisational, and human/individual) and that different domains are interrelated; thus, a systems perspective is required. This is important because capacity-building efforts at the organisational level may be jeopardised by gaps at the network or individual level; thus, international development and organisations implementing development aid (NGOs) should employ a holistic view of community capacity.

The analysis of community capacity in Chapter 5 indicates that individual capacities, such as financial management and strategic leadership, strongly correlate with organisational capacity domains, such as a sense of community, participation, shared vision, resource mobilisation capacity, and natural resource availability. Thus, an essential option for enhancing organisational and community capacity is to enforce the unique capacities of community members as a starting point and then enhance networking and partnerships, which can lead to improved skills and knowledge of the community.

The findings from Chapters 4 and 5 underline the critical importance of communication in enhancing community capacity and reducing tensions and paradoxes. Therefore, international and national organisations should consider supporting rural CFEs in developing and implementing a clear communication strategy for community members and other stakeholders to reduce information asymmetry amongst stakeholders and thus reduce tensions.

As illustrated in Chapter 2, CFE development requires attention from development partners to fill community capacity and governance gaps and transform CFEs from non-profit organisations with income-generating activities to social enterprises. However, this support must be adequately sequenced rather than having an array of support packages with different goals that do not always align with CFEs' goals or interests. Therefore, coordination of development activities between

national and international development partners over options for sequencing of support will enhance continuous support to rural communities in light of financial constraints.

6.5 Reflections on the Methodology

6.5.1 Contributions

The analysis of CFEs in this thesis is crucial to understanding the extent to and conditions under which CFEs can be classified as successful social enterprises. The contextualised analysis (cultural and social context) of these CFEs provides insights into governance conditions and community capacity gaps that need to be fulfilled for CFEs to be successful social enterprises. Contextual elements of CFEs were obtained through focus group discussions (FGDs) employed in all the empirical chapters. Although the sample size is limited in its representation of CFEs in Africa and globally, it documents the number of legally authorised CFEs in Cameroon. This sample helps formulate hypotheses and contribute to the global picture of CFE development in Cameroon. Additionally, it provides a valuable understanding of Cameroon and can be used to draw lessons for CFEs worldwide.

One of the key advantages of the data collection process in this thesis is the employment of several data collection tools to obtain quantitative and qualitative data. Chapters 2 to 5 used FGDs and CFE records (income and expenditure statements, minutes of meetings, contracts with partners, and community forest management plan) as primary data sources. Chapters 3 and 4 complemented information from FGDs and CFE records with data from transect walks and remote sensing. In Chapter 5, narrative inquiry research was also used. The combination of different methods permitted triangulation of information collected and ensured coherence between sources. This helped validate the robustness of the findings.

6.5.2 Limitations

This section reflects how the research design and procedure influenced and shaped this thesis. Data for this thesis was collected within the framework of the development project (DRYAD: Financing Sustainable Community Forest Enterprises in Cameroon) from 2015 to 2020. In 2016, when field operations started, more than 40 CFEs were targeted. However, due to the escalation of the anglophone crisis in the southwest region of Cameroon, data collection could not continue in CFEs

located in that part of the country at the later stages of the research. This resulted in a reduction in the sample size of CFEs. If not for the crisis, insights from the English-speaking part would have provided a more contextual understanding of CFE development in this region. The sample size of 31 CFEs used in Chapters 4 and 5 and that of Chapter 2 represent the ratio to authorised CFEs in Cameroon. Minang et al. (2017) noted that only 60 CFs had a valid simple management plan that authorises CFE development. Therefore, the sample size of 51.66% of the population is representative, and the findings can be extrapolated to Africa. The insights from these CFEs can also be helpful to the global community. For example, the findings from this thesis can be helpful to other African countries in the early stages of CFE development, such as the Democratic Republic of Congo, Gabon, Ethiopia, and the Benin Republic. Although only nine CFEs were sampled for Chapter 2, the findings from this chapter provide a conceptual tool for CFE performance evaluation and are tested for these nine CFEs. Thus, they can be helpful in CFE evaluation in different contexts and regions of the globe.

The sampled CFEs cover five regions, principally in the southern humid part of Cameroon, although these five regions account for more than 85% of CFs and CFEs in Cameroon. This thesis could have benefited from the contextual insights from the few CFEs in the country's northern parts.

However, due to limited time and funding, some potential indicators for CFE performance could not be integrated into the analysis. For example, ecosystem services (such as freshwater, soil productivity, fresh air, timber, construction stone, carbon sequestration, pollination, spiritual value, and local weather regulation) provided by CFEs through sustainable forest management were not incorporated into this study due to data collection constraints. Despite this, an evaluation of ecosystem services may provide more insights. The CFEs in this sample are relatively young (<3 years), but lessons and insights from this thesis can be very relevant in further improving the development of these CFEs. They can further serve as *lessons learned* for developing CFEs in other countries. This is especially important in Africa because community forest management has shifted from devolution, enhancing community rights and participation, to developing CFEs in the last decade. However, analysis of CFEs at different stages of development and ages could have provided more insights into how developing CFEs as social enterprises change through the CFE life cycle (infant, maturity, growth, and decline stage). For example, Chapter 3 evaluated CFE

performance as a snapshot of CFE performance during data collection. Therefore, considering the life cycle of social enterprises and for CFE development purposes, it would have been more effective to collect data at regular intervals over time (panel data) to gain more insights into how CFE performance varies. This analysis informs on critical actions at different stages of CFE development to ensure sustainable growth.

This thesis examines how CFEs developed activities around forest products such as timber, NTFPs, agricultural products, and aquaculture. However, this thesis did not cover CFEs that sell forest services, such as nature-based tourism, and ecosystem services, such as carbon. Empirical research from other parts of the world, such as South America and Asia, shows potential for community trade in forest services (Kooijman et al., 2021). Despite this, many projects on payment for environmental services (PES) within CF in Cameroon and Africa have been executed with little success, highlighting the need for empirical knowledge on obstacles to implementing PES and strategies to develop successful community enterprises based on the trade of ecosystem services has been missing. This could be an exciting research area because it could help landlocked communities sell ecosystem services for community development.

6.6 Recommendations for Further Research: Rethinking CFEs

The following research questions for the future emerged during the research process for this thesis.

Effectiveness of organisational configurations for CFEs: Two standard configurations of CFEs exist for community forestry in tropical central Africa (Piabuo et al., 2019). The first configuration examined in this thesis, as described in Chapter 5, is based on CFEs with a management team that runs daily affairs in the community's interest. Profits from CFEs are either reinvested or used for community projects. A CF management committee oversees the activities and ensures the manager works in the community's interest. In the second case, a group of entrepreneurs come together and create an enterprise within the community forest, where the management committee authorises the lead entrepreneurs to use the forest resources (Macqueen et al., 2019). The CF management committee ensures that activities adhere to the simple management plan. Based on an agreement with the entrepreneurs, a percentage of profits or a fixed amount is paid to the CF, which is used to implement social projects. The entrepreneurs have to employ workers from the community and respect national laws.

The operational differences in levels of accountability and use of profits influence the potential to meet the objectives of CFEs. However, empirical studies on these two configurations are few or lacking and could help raise awareness of the opportunities and constraints of both designs. This could be helpful in proposing a more efficient operational model for CFEs that can efficiently operate as social enterprises and provide adequate social services required for local development. Therefore, answers to the following question can provide more insights: Which organisational configuration of community-based forest enterprises is more effective in meeting community forest objectives considering the challenges rural forest communities face in Cameroon?

Scaling-up options for CFEs: Chapters 2 and 3 note institutional and policy issues that prevent CFEs from producing at scale. Increasing the production scale of CFEs and the number of CFEs will require a good understanding of policy and institutional barriers. However, this study did not explore policy and institutional barriers to scaling up CFEs or actions to overcome these barriers. Therefore, evaluating the legislative and institutional potential for expansion might aid in developing CFEs and is a promising subject for future study. Thus, answers to the following question could be good for future research: What are the policy and institutional barriers to scaling up (scale of production and number of CFEs) CFEs in Cameroon?

Market access and reach: CFEs are exploring options to improve market access and market share for forest products (Macqueen et al., 2015). Improved market access and partnerships were highlighted in Chapter 3 as options for enhancing the economic performance of CFEs. The CFEs in this study have explored different strategies to improve market access. However, an in-depth analysis of the effectiveness of these strategies is missing and is a relevant topic for further research.

Integration and collaboration: Vertical integration of value chains for high-value forest products emerged in Chapter 3 as an option to enhance the economic performance of CFEs, as supported by other researchers (Ingram et al., 2012; Macqueen et al., 2015). Value addition through better packaging, processing, and retail of products has been recommended. However, for products produced by CFEs, the economic, social, and environmental implications for CFEs moving upstream in the forest product value chain are not well known. This will thus be an exciting area

for further research in answering the following question: What are the economic, social, and environmental implications of vertical integration for CFE products and services?

6.7 Personal Reflections

My motivation to engage in this Ph.D. research was to understand how to develop successful nature-based enterprises, especially community forest enterprises. This motivation also aligns with my professional ambition as an environmental economist who firmly believes in the linkages between business and nature protection. Community forest enterprises are often located in rural areas with very low levels of infrastructure development, capacities, and access to capital for development. The complex structural challenges and diverse goals of CFEs make their development extremely difficult and intriguing to explore in challenging environments.

Working as a researcher with the World Agroforestry and, more specifically, as a team member of the "Dryad" project gave me the opportunity to be actively involved in project management, data collection, and analysis. I interacted with CFE members and communities to better understand the context of different communities and how they perceive community forestry and CFEs. This exposure helped me to have a great deal of information about the Cameroon experience, which I believe can also be helpful in other contexts. The Ph.D. research trajectory was instrumental in giving me the tools to scientifically draw lessons from the large array of data at my disposal.

The research process has been lengthy, challenging, and very enriching. I understood that rural enterprise development encompasses different challenges and opportunities at various levels. The policy, institutional environment, level of infrastructural development (road network and social amenities around the communities), capacities, and assets are significant within the community. Like in all other spheres of life, the social capital of rural business entrepreneurs shapes their pathways and greatly influences to what extent they can be successful. Therefore, creating and essentially maintaining good partnerships is crucial as it comes with fundamental values such as accountability and transparency.

Lastly, three key lessons have emerged from this Ph.D. research process: (1) CFE development requires multi-stakeholder effort to succeed. This has already been highlighted in many studies. However, the research process for this thesis indicates that these challenges are at different levels,

and the decisions of various stakeholders' influence success. (2) CFE development requires alignment with community beliefs and development perceptions. This is very important in creating a solid engagement between the CFEs and the community, which is crucial for success. (3) CFE development is a process that takes time and is even more challenging than conventional enterprises. Developing CFEs requires significant efforts in overcoming multiple challenges at different levels. It also involves engaging different stakeholders with different values and interests, which is also very challenging. Thus, finding what works in different contexts is essential in developing CFEs.

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Summary

Summary (English)

Over the past few decades, Community Forestry (CF) has emerged as a significant and influential approach to global forest management. Within the broader framework of CF, Community Forest Enterprises (CFEs) have been promoted and established in many countries. CFEs are broadly defined as a form of community forest management in which local groups and community members actively pursue economic activities within the framework of an organisational structure for producing, and commercialising forest products and services. CFEs are promoted because of their potential to enhance social well-being (reduction of societal inequality, job creation, and investment in community projects like education, health, and clean energy), economic development (through income generation), and environmental sustainability (through the promotion of local forest resource management to reduce biodiversity loss, deforestation, and agricultural expansion into the forest). Because CFEs pursue these economic, social, and environmental objectives, they exhibit a hybrid character and differ from traditional profit-maximising firms. The hybrid character of CFEs poses a challenge as they have to navigate complexities to achieve multiple goals. These challenges have resulted in mixed outcomes for CFEs over the last decades. These challenges relate to community capacity gaps, performance evaluation, tensions, paradoxes, and governance challenges that CFEs face in their operations toward meeting their economic, social, and environmental objectives.

CFE literature addresses several issues, amongst which are sustainable forest management and participation. However, it does not sufficiently address issues related to the hybrid character of CFEs. Therefore, some scholars have suggested exploring CFEs from a social enterprise (SE) perspective. The social enterprise lens offers a framework for characterising CFEs as community-focused enterprises, performance evaluations, and assessing community capacity gaps. Social enterprises can be contextualised to different countries, contexts, and sectors such as forestry, allowing for a better understanding of challenges and exploring sustainable solutions. This contextualisation is crucial for generating insights and addressing challenges in CFEs. However, there is a lack of conceptual and empirical evidence on the extent to which CFEs can be classified

as social enterprises, as well as performance evaluation, community capacity, tensions, paradoxes, and challenges faced by CFEs.

This thesis seeks to advance the study of CFEs by using the social enterprise literature to frame, articulate, and gain a deeper understanding of the functioning of CFEs, focusing on CFEs in Cameroon. In doing so, it makes use of a substantial body of literature that has extensively explored organisational dynamics within the broader spectrum of social enterprises, enabling the application of new insights to this research. It also provides empirical insights critical for CFE development practitioners, policymakers, and CFE management teams to improve the CFE business environment. Insights from this thesis are also relevant to other African countries at the early stages of CFE development.

This thesis answers the following research questions:

1. To what extent can CFEs in Cameroon be classified as social enterprises?

2. How successful are CFEs in Cameroon when viewed as social enterprises?

3. Which conditions must be fulfilled for Cameroon's CFEs to function as successful social enterprises?

   a) What community capacity is required for CFEs to be successful social enterprises?

   b) What governance conditions are required for CFEs to be successful social enterprises?

I combined the social enterprise and community forest literature to contextualise frameworks to answer the research questions presented as chapters in this thesis.

Chapter 1 (*General introduction*) provides a background of the thesis, research scope and gaps, research objectives and questions, conceptual framework, research methodology, and structure of the thesis.

Chapter 2 (*Community Forest Enterprises (CFEs) as Social Enterprises: Empirical Evidence from Cameroon*) addresses the first research question by exploring the classification of 38 CFEs using an innovative combination of the EMES framework of Defourney and Nyssens (2012) and the

social sustainability continuum of Alter (2004). The framework classifies CFEs along Alter's continuum, ranging from non-profit organisations to social enterprises. The results show that only 11% of the sampled CFEs can be classified as social enterprises, 63% are non-profit organisations with income-generating activities, and 26% are traditional non-profit organisations, which score low on the economic/entrepreneurial dimensions. Possible reasons include a strong reliance on timber operating partners, being small CFEs with low density in forest resources, high transaction costs due to bad roads, and a lack of entrepreneurial experience. These factors make it difficult for CFEs to develop revenue-generating forest products and services.

Chapter 3 (*Performance of Community Forest Enterprises (CFEs) in Cameroon: pathways to viable business models*) describes a contextualised multi-dimensional framework for CFE evaluation to answer the second research question. This framework was applied empirically by evaluating the performance of nine CFEs in Cameroon based on their economic, social, and environmental dimensions. The results indicate that only one CFE is an effective performer with very good scores on all three dimensions. Three CFEs are low performers with poor scores on all three dimensions. The CFEs scoring in between are divided into two groups: three CFEs scoring average on all three dimensions and two CFEs with good performance on social and environmental dimensions and poor on the economic dimension. CFE performance is influenced by context-specific internal factors such as market knowledge, income generation capacity, collaboration with local government, and community engagement. External factors such as taxation, market prices, administrative delays, market access, and proximity to major cities also impact performance.

Chapter 4 (*Community Capacities for Social Enterprise Development: Empirical Evidence from Community Forest Enterprises (CFEs) in Cameroon*) focuses on answering the third research question. This chapter employs a systems approach to conceptualise community capacity on three levels: 1) individual, 2) organisational (community forest enterprises), and 3) social networks. It provides a holistic evaluation of community capacity from different perspectives and highlights vital domains required to improve CFEs' socio-economic and environmental aspects. This contextualised, systematic framework was applied to 31 CFEs in Cameroon. The results show that the skills and knowledge of individual community members are of utmost importance. Resource mobilisation capacity and a sense of community are required at an organisational level. At a network level, the capacity to create and maintain partnerships, social networks, and infrastructure

capacity in rural communities is needed. This study suggests that community capacity should be viewed as a system of three levels and interrelated domains, requiring a systems perspective. Capacity gaps are identified at all levels, and capacity development should involve multiple stakeholders. Enforcing individual capacities and enhancing networking and partnerships can enhance organisational and community capacity. The implications for Cameroon's CFEs are to prioritise developing individual capacities and leveraging these for organisational and networking capacities.

Chapter 5 (*Community Forest Enterprises (CFEs) in Cameroon: Tensions, Paradoxes and Governance Challenges*) responds to the fourth research question of this thesis. To explore tensions, paradoxes, and governance challenges faced by CFEs, a framework was developed and empirically applied to 31 CFEs in Cameroon. Performance paradoxes involve differences in perceptions of performance between CFEs and community members. Organising paradoxes arise from external recruitment and labour tensions. Belonging paradoxes arise from product selection and family factions. Learning paradoxes arise when CFEs grow, leading to tensions between social investments and financial sustainability. These paradoxes are exacerbated by challenges within CFEs, such as the non-democratic appointment of board members with adequate skills and experience, the need for more power of boards to control management, and difficulties in managing interdependencies between boards and CFE management. CFEs in Cameroon face challenges such as non-democratic board appointments, lack of control, and interdependencies. A revised conceptual framework is proposed to help practitioners identify and overcome these issues. It emphasises the importance of defining stakeholder roles, technical support, community sensitisation, and capacity-building partnerships. A clear communication strategy and accommodation and information strategies can help reduce information asymmetry and tensions.

Chapter 6 (S*ynthesis*) provides a synthesis of answers to the research questions, research contributions to science and society, implications for policy and practice, reflections on methodology, recommendations for further research, and personal reflections. Conceptual and empirical literature was developed to fill research gaps on the extent to which CFEs can be classified as social enterprises to evaluate CFE performance as social enterprises, community capacity of CFEs, tensions, paradoxes, and governance challenges faced by CFEs as social enterprises. The thesis concludes that the majority of CFEs operate as non-profit organisations

with income-generating activities, with the majority performing better on environmental and social dimensions vis-a-vis economic dimensions. Therefore, they cannot be classified as social enterprises. CFEs face community capacity gaps at individual, organisational, and network levels. The interactions with stakeholders create tensions and paradoxes exacerbated by governance challenges. CFEs also face external challenges (obstacles that CFEs cannot directly influence), such as lack of basic infrastructure, poor policy, and institutional coordination.

To develop CFEs into successful social enterprises, significant government engagement is needed to 1) improve rural infrastructure, which would permit CFEs to thrive as rural businesses, and 2) improve the entrepreneurial environment through tax incentives, facilitative administrative procedures, and easier market access. Investment is required to support CFEs in strengthening their capacities and governance.

By employing the social enterprise lens, this thesis enriches the CFE literature by borrowing from the social enterprise literature to explore the challenges CFEs face due to their hybrid nature. It also improves the social enterprise literature with contextualised findings from the forest sector and Cameroon. Also, the thesis provides conceptual frameworks and guidance for development practitioners to further explore and develop CFEs in different contexts.

Sommaire (French)

Au cours des dernières décennies, la foresterie communautaire (FC) s'est imposée comme une approche significative et influente de la gestion forestière mondiale. Dans le cadre plus large de la foresterie communautaire, les entreprises forestières communautaires (EFC) ont été encouragées et créées dans de nombreux pays. Les EFC sont définies de manière générale comme une forme de gestion communautaire des forêts dans laquelle des groupes locaux et des membres de la communauté poursuivent activement des activités économiques en forme d'une structure organisationnelle de production et de commercialisation de produits et de services forestiers. Les EFC sont encouragées en raison de leur potentiel d'amélioration du bien-être social (réduction des inégalités sociales, création d'emploi et investissement dans des projets communautaires tels que l'éducation, la santé et l'énergie propre), du développement économique (par la génération de revenus) et de la durabilité environnementale (par la promotion de la gestion locale des ressources forestières afin de réduire la perte de la biodiversité, la déforestation et l'expansion de l'agriculture dans la forêt). Comme les EFC poursuivent ces objectifs économiques, sociaux et environnementaux, elles présentent un caractère hybride et diffèrent des entreprises traditionnelles qui cherchent à maximiser leurs profits. Le caractère hybride des EFC pose un défi, car elles doivent faire face à des complexités pour atteindre des objectifs multiples. Ces défis se sont traduits par des résultats mitigés pour les EFC au cours des dernières décennies. Ces défis sont liés aux lacunes des capacités communautaires, à l'évaluation des performances, aux tensions, aux paradoxes et aux problèmes de gouvernance auxquels les EFC sont confrontées dans le cadre de leurs activités visant à atteindre leurs objectifs économiques, sociaux et économiques.

La littérature sur les EFC aborde un certain nombre de questions, parmi lesquelles la gestion durable des forêts et la participation. Toutefois, elle n'aborde pas suffisamment les questions liées au caractère hybride des EFC. C'est pourquoi certains chercheurs ont proposé d'étudier les EFC sous l'angle de l'entreprise sociale. L'optique de l'entreprise sociale offre un cadre permettant de caractériser les EFC en tant qu'entreprises axées sur la communauté, d'évaluer les performances et de déterminer les lacunes en matière de capacités communautaires. Les entreprises sociales peuvent être adaptées à différents pays, contextes et secteurs, tels que la foresterie, ce qui permet de mieux comprendre les défis et d'explorer des solutions durables. Cette contextualisation est cruciale pour générer des idées et relever les défis des EFC.

Toutefois, on manque des informations conceptuelles et empiriques sur la mesure à laquelle les EFC peuvent être classées comme des entreprises sociales, ainsi que sur l'évaluation des performances, les capacités communautaires, les tensions, les paradoxes et les défis auxquels les EFC sont confrontées.

Cette thèse cherche à faire évoluer l'étude des EFC en utilisant la littérature sur les entreprises sociales pour encadrer, articuler et mieux comprendre le fonctionnement des EFC, avec un regard axé particulièrement sur les EFC au Cameroun. Ce faisant, elle s'appuie sur un corpus substantiel de la littérature qui a largement exploré les dynamiques organsationnelles dans un spectre plus large des entreprises sociales, ce qui permet d'appliquer de nouvelles perspectives à cette recherche. Elle fournit également des informations empiriques essentielles pour les praticiens du développement des EFC, les décideurs politiques et les équipes de gestion des EFC afin d'améliorer l'environnement commercial des EFC. Les enseignements tirés de cette thèse sont également pertinents pour d'autres pays africains qui en sont au premier stade du développement des EFC.

Cette thèse répond aux questions de recherche suivantes

1. Dans quelle mesure les EFC au Cameroun peuvent-elles être classées comme des entreprises sociales?

2. Quel est le degré de réussite des EFC au Cameroun lorsqu'elles sont considérées comme des entreprises sociales?

3. Quelles sont les conditions à remplir pour que les EFC camerounaises fonctionnent comme des entreprises sociales performantes?

   a) Quelles sont les capacités communautaires requises pour que les EFC soient des entreprises sociales performantes?

   b) Quelles sont les conditions de gouvernance requises pour que les EFC soient des entreprises sociales performantes?

Nous avons combiné la littérature sur les entreprises sociales et les forêts communautaires pour contextualiser les cadres afin de répondre aux questions de recherche présentées dans les chapitres de cette thèse.

Le chapitre 1 (Introduction générale) présente le contexte de la thèse, la portée et les lacunes de la recherche, l'objectif et les questions de la recherche, le cadre conceptuel, la méthodologie de la recherche et la structure de la thèse.

Le chapitre 2 (Les entreprises forestières communautaires (EFC) en tant qu'entreprises sociales : une evidence empirique du Cameroun) répond à la première question de recherche en explorant la classification de 38 EFC à l'aide d'une combinaison innovante du cadre EMES de Defourney et Nyssens (2012) et du continuum de durabilité sociale d'Alter (2004). Ce cadre permet de classer les EFC selon le continuum d'Alter, qui va des organisations à but non lucratif aux entreprises sociales. Les résultats montrent que seuls 11 % des EFC de l'échantillon peuvent être classés comme entreprises sociales, 63 % sont des organisations à but non lucratif avec des activités génératrices de revenus et 26 % sont des organisations à but non lucratif traditionnelles, qui obtiennent un faible score sur la dimension économique/entrepreneuriale. Parmi les raisons possibles, on peut citer une forte dépendance à l'égard des partenaires d'exploitation du bois, le fait d'être de petites EFC avec une faible densité de ressources forestières, des coûts de transaction élevés en raison de routes en mauvais état et un manque d'expérience en matière d'entrepreneuriat. Ces facteurs font qu'il soit difficile pour les EFC de développer des produits et des services forestiers qui génèrent des revenus.

Le chapitre 3 (Performance des entreprises forestières communautaires (EFC) au Cameroun : voies vers des modèles d'entreprise viables) décrit un cadre multidimensionnel contextualisé pour l'évaluation des EFC afin de répondre à la deuxième question de recherche. Ce cadre a été appliqué empiriquement en évaluant la performance de neuf EFC au Cameroun sur la base de leurs dimensions économiques, sociales et environnementales. Les résultats indiquent qu'une seule EFC est performante et obtient de très bons résultats dans les trois dimensions. Trois EFC sont peu performantes et obtiennent des résultats médiocres dans les trois dimensions. Les EFC dont les résultats se situent entre les deux sont divisés en deux groupes : trois EFC dont les résultats sont moyens pour les trois dimensions et deux EFC dont les résultats sont bons pour les dimensions sociale et environnementale et médiocres pour la dimension économique. Les performances des EFC sont influencées par des facteurs internes spécifiques au contexte, tels que la connaissance du marché, la capacité à générer des revenus, la collaboration avec les autorités locales et l'engagement de la communauté. Des facteurs externes tels que la fiscalité, les prix du marché, les

retards administratifs, l'accès au marché et la proximité des grandes villes ont également un impact sur les performances.

Le chapitre 4 (Capacités communautaires pour le développement des entreprises sociales : Une Evidence empirique pour les Entreprises Forestières Communautaires (EFC) au Cameroun) se concentre sur la réponse à la troisième question de recherche. Ce chapitre utilise une approche systémique pour conceptualiser les capacités communautaires à trois niveaux : 1) individuel, 2) organsationnel (entreprises forestières communautaires) et 3) réseaux sociaux. Il fournit une évaluation holistique des capacités communautaires sous différents angles et met en évidence les domaines vitaux nécessaires à l'amélioration des aspects socio-économiques et environnementaux des EFC. Ce cadre contextualisé et systématique a été appliqué à 31 EFC au Cameroun. Les résultats montrent que les compétences et les connaissances des membres individuels de la communauté sont de la plus haute importance. La capacité de mobilisation des ressources et le sens de la communauté sont nécessaires au niveau organsationnel. Au niveau du réseau, la capacité de créer et d'entretenir des partenariats, des réseaux sociaux et des capacités d'infrastructure dans les communautés rurales est nécessaire. Cette étude suggère que la capacité communautaire devrait être considérée comme un système à trois niveaux et domaines interdépendants, nécessitant une perspective systémique. Les lacunes en matière de capacités sont identifiées à tous les niveaux, et le développement des capacités devrait impliquer de multiples parties prenantes. Le renforcement des capacités individuelles et l'amélioration des réseaux et des partenariats peuvent renforcer les capacités organsationnelles et communautaires. Les implications pour les EFC du Cameroun sont de donner la priorité au développement des capacités individuelles et de les mettre au service des capacités organsationnelles et de mise en réseau.

Le chapitre 5 (Les entreprises forestières communautaires (EFC) au Cameroun : Tensions, paradoxes et défis de gouvernance) répond à la quatrième question de recherche de cette thèse. Afin d'explorer les tensions, les paradoxes et les défis de gouvernance auxquels sont confrontées les EFC, un cadre a été développé et appliqué empiriquement aux 31 EFC au Cameroun. Les paradoxes de performance impliquent des différences de perception de la performance entre les EFC et les membres de la communauté. Les paradoxes liés à l' organisation découlent du recrutement externe et des tensions sur le marché du travail. Les paradoxes d'appartenance découlent de la sélection des produits et des factions familiales. Les paradoxes de l'apprentissage

surviennent lorsque les EFC se développent, ce qui entraîne des tensions entre les investissements sociaux et la viabilité financière. Ces paradoxes sont exacerbés par les difficultés rencontrées au sein des EFC, telles que la nomination non démocratique de membres du conseil d'administration dotés des compétences et de l'expérience adéquates, la nécessité pour les conseils d'administration d'avoir plus de pouvoir pour contrôler la gestion, et les difficultés à gérer les interdépendances entre les conseils d'administration et la direction des EFC. Les EFC du Cameroun sont confrontées à des défis tels que la nomination non démocratique des membres des conseils d'administration, le manque de contrôle et les interdépendances. Un cadre conceptuel révisé est proposé pour aider les praticiens à identifier et à surmonter ces problèmes. Il souligne l'importance de la définition des rôles des parties prenantes, du soutien technique, de la sensibilisation des communautés et des partenariats de renforcement des capacités. Une stratégie de communication claire et des stratégies d'hébergement et d'information peuvent contribuer à réduire l'asymétrie de l'information et les tensions.

Le chapitre 6 (Synthèse) présente une synthèse des réponses aux questions de recherche, des contributions de la recherche à la science et à la société, des implications au plan politique et pragmatique, des réflexions sur la méthodologie, des recommandations pour la poursuite de la recherche et des réflexions personnelles. Des documents conceptuels et empiriques ont été élaborés pour combler les lacunes de la recherche sur la mesure à laquelle les EFC peuvent être classées comme entreprises sociales, sur l'évaluation des performances des EFC en tant qu'entreprises sociales, sur la capacité communautaire des EFC, sur les tensions, les paradoxes et les défis de gouvernance auxquels sont confrontées les EFC en tant qu'entreprises sociales. La thèse conclut que la majorité des EFC opèrent en tant qu' organisations à but non lucratif avec des activités génératrices de revenu, et que la plupart d'entre elles sont plus performantes sur les dimensions environnementales et sociales que sur les dimensions économiques. Elles ne peuvent donc pas être classées comme entreprises sociales. Les EFC sont confrontées à des lacunes en matière de capacités communautaires aux niveaux individuel, organsationnel et du réseau. Les interactions avec les parties prenantes créent des tensions et des paradoxes exacerbés par les problèmes de gouvernance. Les EFC sont également confrontées à des défis externes (obstacles sur lesquels elles ne peuvent avoir d'influence directe), tels que le manque d'infrastructures de base, l'insuffisance des politiques et de la coordination institutionnelle.

Pour que les EFC deviennent des entreprises sociales prospères, un engagement important du gouvernement est nécessaire pour 1) améliorer l'infrastructure rurale, ce qui permettrait aux EFC de prospérer en tant qu'entreprises rurales, et 2) améliorer l'environnement entrepreneurial par le biais d'incitations fiscales, de procédures administratives facilitantes et d'un accès plus aisé au marché. Des investissements sont nécessaires pour aider les EFC à renforcer leurs capacités et leur gouvernance.

En utilisant l'optique de l'entreprise sociale, cette thèse enrichit la littérature sur les EFC en s'inspirant de la littérature sur les entreprises sociales pour explorer les défis auxquels les EFC sont confrontées en raison de leur nature hybride. Elle améliore également la littérature sur les entreprises sociales avec des résultats contextualisés du secteur forestier et du Cameroun. En outre, la thèse fournit des cadres conceptuels et des conseils aux praticiens du développement pour explorer et développer davantage les EFC dans différents contextes.

PhD samenvatting

In de afgelopen decennia is Gemeenschapsbosbeheer (GB) naar voren gekomen als een significante en invloedrijke benadering van wereldwijd bosbeheer. Binnen het bredere kader van GB zijn Gemeenschapsbosondernemingen (GBO's) in verscheidene landen gepromoot en opgericht. GBO's worden in het algemeen gedefinieerd als een vorm van gemeenschapsbosbeheer waarbij lokale groepen en gemeenschapsleden actief economische activiteiten nastreven binnen het raamwerk van een organisatiestructuur voor het produceren en commercialiseren van bosproducten en -diensten. GBO's worden bevorderd vanwege hun potentieel om maatschappelijk welzijn te verhogen (vermindering van maatschappelijke ongelijkheid, werkgelegenheid creëren, en investeren in gemeenschapsprojecten zoals onderwijs, gezondheid en schone energie), economische ontwikkeling (via inkomstengeneratie) en milieuduurzaamheid (door het bevorderen van lokaal bosbronnenbeheer om het verlies aan biodiversiteit, ontbossing en landbouwuitbreiding naar het bos te verminderen). Omdat GBO's deze economische, sociale en milieu doelstellingen nastreven, vertonen zij een hybride karakter en verschillen zij van traditionele op winstmaximalisatie gerichte bedrijven. Het hybride karakter van GBO's vormt een uitdaging, aangezien zij complexiteiten moeten navigeren om meerdere doelen te bereiken. Deze uitdagingen hebben in de afgelopen decennia geleid tot gemengde resultaten voor GBO's. Deze uitdagingen houden verband met capaciteitslacunes binnen de gemeenschap, prestatie-evaluatie, spanningen, paradoxen en bestuursuitdagingen waar GBO's in hun operaties mee te maken krijgen om hun economische, sociale en milieu doelstellingen te bereiken.

De literatuur over Gemeenschapsbosondernemingen (GBO's) behandelt een aantal kwesties, waaronder duurzaam bosbeheer en participatie. Echter, het adresseert onvoldoende de kwesties gerelateerd aan het hybride karakter van GBO's. Daarom hebben sommige wetenschappers voorgesteld om GBO's te onderzoeken vanuit een perspectief van sociale ondernemingen (SE). De lens van sociale ondernemingen biedt een kader voor het karakteriseren van GBO's als op de gemeenschap gerichte ondernemingen, prestatiebeoordelingen en het beoordelen van capaciteitslacunes binnen de gemeenschap. Sociale ondernemingen kunnen worden gecontextualiseerd naar verschillende landen, contexten en sectoren, zoals bosbouw, wat zorgt voor een beter begrip van uitdagingen en het verkennen van duurzame oplossingen. Deze

contextualisatie is cruciaal voor het genereren van inzichten en het aanpakken van uitdagingen in GBO's. Er is echter een gebrek aan conceptueel en empirisch bewijs over de mate waarin GBO's kunnen worden geclassificeerd als sociale ondernemingen, evenals prestatiebeoordeling, gemeenschapsvermogen, spanningen, paradoxen en uitdagingen waarmee GBO's worden geconfronteerd.

Deze thesis streeft ernaar de studie van GBO's te bevorderen door gebruik te maken van de literatuur over sociale ondernemingen om te kaderen, articuleren en een dieper begrip te krijgen van de werking van GBO's, met de focus op GBO's in Kameroen. Hierbij wordt gebruik gemaakt van een aanzienlijke hoeveelheid literatuur die uitgebreid de organisatiedynamiek binnen het bredere spectrum van sociale ondernemingen heeft onderzocht, waardoor nieuwe inzichten op dit onderzoek kunnen worden toegepast. Het biedt ook empirische inzichten die cruciaal zijn voor praktijkmensen in de ontwikkeling van GBO's, beleidsmakers en managementteams van GBO's om de zakelijke omgeving van GBO's te verbeteren. Inzichten uit deze thesis zijn ook relevant voor andere Afrikaanse landen in de beginfase van de ontwikkeling van GBO's.

Deze thesis beantwoordt de volgende onderzoeksvragen:

In hoeverre kunnen Gemeenschapsbosondernemingen (GBO's) in Kameroen worden geclassificeerd als sociale ondernemingen?

Hoe succesvol zijn GBO's in Kameroen wanneer ze worden bekeken als sociale ondernemingen?
Welke voorwaarden moeten worden vervuld opdat GBO's in Kameroen kunnen functioneren als succesvolle sociale ondernemingen?

a) Welke gemeenschapscapaciteit is vereist opdat GBO's succesvolle sociale ondernemingen kunnen zijn?
b) Welke bestuursvoorwaarden zijn vereist opdat GBO's succesvolle sociale ondernemingen kunnen zijn?

Ik heb de literatuur over sociale ondernemingen en gemeenschapsbossen gecombineerd om kaders te contextualiseren om de onderzoeksvragen te beantwoorden die worden gepresenteerd als hoofdstukken in deze thesis.

Hoofdstuk 1 (*Algemene inleiding*) biedt een achtergrond van de thesis, onderzoeksbereik en -lacunes, onderzoeksdoel en -vragen, conceptueel kader, onderzoeksmethodologie en de structuur van de thesis.

Hoofdstuk 2 (*Gemeenschapsbosondernemingen (GBO's*) als *Sociale Ondernemingen: Empirisch Bewijs uit Kameroe*n) behandelt de eerste onderzoeksvraag door de classificatie van 38 GBO's te verkennen met behulp van een innovatieve combinatie van het EMES-raamwerk van Defourney en Nyssens (2012) en het continuüm van sociale duurzaamheid van Alter (2004). Het raamwerk classificeert GBO's langs Alters continuüm, variërend van non-profitorganisaties tot sociale ondernemingen. De resultaten tonen aan dat slechts 11% van de onderzochte GBO's kan worden geclassificeerd als sociale ondernemingen, 63% zijn non-profitorganisaties met inkomstengenererende activiteiten en 26% zijn traditionele non-profitorganisaties, die laag scoren op de economische/ondernemende dimensie. Mogelijke redenen hiervoor zijn een sterke afhankelijkheid van houtkap partners, het zijn van kleine GBO's met een lage dichtheid aan bosbronnen, hoge transactiekosten door slechte wegen en een gebrek aan ondernemerservaring. Deze factoren maken het moeilijk voor GBO's om bosproducten en -diensten te ontwikkelen die inkomsten genereren.

Hoofdstuk 3 (*Prestatie van Gemeenschapsbosondernemingen (GBO's*) in Kameroen: wegen naar levensvatbare bedrijfsmodellen) beschrijft een gecontextualiseerd multidimensionaal kader voor de evaluatie van GBO's om de tweede onderzoeksvraag te beantwoorden. Dit kader is empirisch toegepast door de prestaties van negen GBO's in Kameroen te evalueren op basis van hun economische, sociale en milieudimensies. De resultaten geven aan dat slechts één GBO een effectieve performer is met zeer goede scores op alle drie deze dimensies. Drie GBO's zijn laagpresteerders met slechte scores op alle drie de dimensies. De GBO's die daartussen scoren, zijn verdeeld in twee groepen: drie GBO's met een gemiddelde score op alle drie de dimensies en twee GBO's met een goede prestatie op sociale en milieu dimensies en slecht op de economische

dimensie. De prestatie van GBO's wordt beïnvloed door contextspecifieke interne factoren zoals marktkennis, inkomstengeneratiecapaciteit, samenwerking met de lokale overheid en betrokkenheid van de gemeenschap. Externe factoren zoals belastingen, marktprijzen, administratieve vertragingen, markttoegang en nabijheid tot grote steden hebben ook invloed op de prestatie.

Hoofdstuk 4 (*Gemeenschapscapaciteiten voor de Ontwikkeling van Sociale Ondernemingen: Empirisch Bewijs van Gemeenschapsbosondernemingen (GBO's) in Kameroen*) focust zich op het beantwoorden van de derde onderzoeksvraag. Dit hoofdstuk gebruikt een systeemaanpak om gemeenschapscapaciteit te conceptualiseren op drie niveaus: 1) individueel, 2) organisatorisch (gemeenschapsbosondernemingen), en 3) sociale netwerken. Het biedt een holistische evaluatie van gemeenschapscapaciteit vanuit verschillende perspectieven en benadrukt essentiële domeinen die nodig zijn om de sociaal-economische en milieuaspecten van GBO's te verbeteren. Dit gecontextualiseerde, systematische kader werd toegepast op 31 GBO's in Kameroen. De resultaten tonen aan dat de vaardigheden en kennis van individuele gemeenschapsleden van het grootste belang zijn. Capaciteit voor middelenmobilisatie en een gevoel van gemeenschap zijn vereist op organisatorisch niveau. Op netwerkniveau is de capaciteit om partnerschappen en sociale netwerken te creëren en te onderhouden, evenals infrastructuurcapaciteit in plattelandsgemeenschappen, nodig. Deze studie suggereert dat gemeenschapscapaciteit moet worden gezien als een systeem van drie niveaus en onderling verbonden domeinen, waarbij een systeemperspectief nodig is. Capaciteitslacunes worden op alle niveaus geïdentificeerd, en capaciteitsontwikkeling zou meerdere belanghebbenden moeten betrekken. Het versterken van individuele capaciteiten en het verbeteren van netwerken en partnerschappen kan de organisatorische en gemeenschapscapaciteit verbeteren. De implicaties voor GBO's in Kameroen zijn om het ontwikkelen van individuele capaciteiten te prioriteren en deze te benutten voor organisatorische en netwerkcapaciteiten.

Hoofdstuk 5 (*Gemeenschapsbosondernemingen (GBO's) in Kameroen: Spanningen, Paradoxen en Bestuursuitdagingen*) beantwoordt de vierde onderzoeksvraag van deze thesis. Om de spanningen, paradoxen en bestuursuitdagingen waarmee GBO's worden geconfronteerd te verkennen, is een kader ontwikkeld en empirisch toegepast op 31 GBO's in Kameroen.

Prestatieparadoxen betreffen verschillen in percepties van prestaties tussen GBO's en gemeenschapsleden. Organisatieparadoxen ontstaan door externe werving en arbeidsspanningen. Toebehorenparadoxen ontstaan door productselectie en familiefracties. Leerparadoxen ontstaan wanneer GBO's groeien, wat leidt tot spanningen tussen sociale investeringen en financiële duurzaamheid. Deze paradoxen worden verergerd door uitdagingen binnen GBO's, zoals de niet-democratische benoeming van bestuursleden met adequate vaardigheden en ervaring, de noodzaak van meer macht voor besturen om het management te controleren, en moeilijkheden bij het beheren van onderlinge afhankelijkheden tussen besturen en GBO-management. GBO's in Kameroen worden geconfronteerd met uitdagingen zoals niet-democratische bestuursbenoemingen, gebrek aan controle, en onderlinge afhankelijkheden. Er wordt een herzien conceptueel kader voorgesteld om praktijkmensen te helpen deze problemen te identificeren en te overwinnen. Het benadrukt het belang van het definiëren van rollen van belanghebbenden, technische ondersteuning, gemeenschapssensibilisatie en capaciteitsopbouwende partnerschappen. Een duidelijke communicatiestrategie en accommodatie- en informatie strategieën kunnen helpen om informatie-asymmetrie en spanningen te verminderen.

Hoofdstuk 6 (*Synthese*) biedt een synthese van de antwoorden op de onderzoeksvragen, bijdragen van het onderzoek aan wetenschap en samenleving, implicaties voor beleid en praktijk, reflecties op de methodologie, aanbevelingen voor verder onderzoek en persoonlijke reflecties. Conceptuele en empirische literatuur werd ontwikkeld om onderzoekslacunes op te vullen met betrekking tot de mate waarin GBO's kunnen worden geclassificeerd als sociale ondernemingen, om de prestaties van GBO's als sociale ondernemingen te evalueren, gemeenschapscapaciteit van GBO's, spanningen, paradoxen en bestuursuitdagingen waarmee GBO's als sociale ondernemingen worden geconfronteerd. De thesis concludeert dat de meerderheid van de GBO's functioneert als non-profitorganisaties met inkomstengenererende activiteiten, waarbij de meeste beter presteren op milieugebonden en sociale dimensies dan op economische dimensies. Daarom kunnen ze niet worden geclassificeerd als sociale ondernemingen. GBO's kampen met capaciteitslacunes binnen de gemeenschap op individueel, organisatorisch en netwerkniveau. De interacties met belanghebbenden creëren spanningen en paradoxen die worden verergerd door bestuursuitdagingen. GBO's worden ook geconfronteerd met externe uitdagingen (obstakels waar

GBO's geen directe invloed op kunnen uitoefenen), zoals gebrek aan basisinfrastructuur, slecht beleid en institutionele coördinatie.

Om GBO's te ontwikkelen tot succesvolle sociale ondernemingen, is aanzienlijke betrokkenheid van de overheid nodig om 1) de landelijke infrastructuur te verbeteren, wat GBO's in staat zou stellen te floreren als plattelandsbedrijven, en 2) de ondernemersomgeving te verbeteren door middel van belastingvoordelen, faciliterende administratieve procedures en gemakkelijkere markttoegang. Investeringen zijn nodig om GBO's te ondersteunen bij het versterken van hun capaciteiten en bestuur.

Door de lens van sociale ondernemingen te gebruiken, verrijkt deze thesis de literatuur over GBO's door te lenen uit de literatuur over sociale ondernemingen om de uitdagingen te verkennen waarmee GBO's worden geconfronteerd vanwege hun hybride aard. Het verbetert ook de literatuur over sociale ondernemingen met gecontextualiseerde bevindingen uit de bosbouwsector en Kameroen. Bovendien biedt de thesis conceptuele kaders en richtlijnen voor ontwikkelingspraktijkmensen om verder te verkennen en GBO's te ontwikkelen in verschillende contexten.

Appendices

Table A1: Distance between final cluster centroids

Distances between cluster centroids			
Cluster	1= Social Enterprise	2= Traditional non-profit	3= Non-profit with income-generating activity
1= Social Enterprise	-	5.622	2.803
2= Traditional non-profit	5.622	-	3.229
3= Non-profit with income-generating activity	2.803	3.229	

Table A2: Distribution of community forest enterprises by clusters

Cluster	Number of CFEs in each cluster	%
1= Social Enterprise	4	11%
2= Traditional non-profit	10	26%
3= Non-profit with income-generating activity	24	63%
Total	**38**	**100%**

Table A3: Domains and indicators of community capacity

Domains and indicators	Comment
Resource mobilization	
CFE shows evidence of previous management activities for the past five years	This captures the ability of the community to mobilise natural resources from the community and trade for revenue generation. CFEs with proof of revenue generation from CF resources have higher resource mobilisation capacity
CF shows proof of business transactions and ongoing ones, sales records	
Sense of community	
CFE shows signs of holding meetings as specified in internal rules and regulations	This captures how the CFE engages with community members and how they engage in CFE activities, how individual views are captured in CFE activities
Leadership declare books are open to anyone all the time (transparency)	
Community engagement in decision making	
Shared vision	
CFE has well-written articles of associations, internal rules and organisation, specification of functions	Having a shared vision between the CFEs, stakeholders and community members with a clear setup to meet this vision is captured
CFE has an organisational chart/structure (different positions, e.g. president, Secretary, treasurer etc.)	
Leadership	
Leadership demonstrates some level of motivation to be part of the process and to lead the group	It captures the motivation, experience and reputation of the leadership team in meeting objectives
The leadership team has the right experience to meet targeted production and revenue objectives specified	
The reputation of the leadership team is ok, i.e. leadership team does not show any claims of corruption	
Participation	
CFE leaders have been elected by community members as specified in the internal rules and regulations of the CFE	Captures the Capacity of the CFEs to enhance the participation of different social groups in leadership, CFE activities and decision making
The leadership team is made up of men, women, minority groups youths	
CFE demonstrates decision-making is open and transparent	
Financial management	

Domains and indicators	Comment
CFE shows income and expenditure statements	These indicators capture the ability of the CFE to record and keep clear financial statements and ability to manage funds correctly.
CFE has no debts or outstanding loans, money owed to members or any other partner.	
CFE has a bank account, and the bank is a credible institution based on an assessment of different banking and micro-financial institutions	
CFE shows proof of bank statements and cash flow (this may also be payment receipts, deposits or withdrawal slips etc.)	
CFE shows proof of available cash resources, no matter how small	
Skills and knowledge	
Forest management	These indicators capture the proportion of trained individuals within the community across a number of fields relevant to CFE development.
Marketing	
Business planning and management	
Financial management	
Agriculture	
Health (number of health workers)	
Education (number of teachers)	
Partnerships and social networks	
Research and Educational organisations	These indicators capture the different partners CFEs are working with, the type of partnerships.
Donor agencies	
Non-Governmental Organisations (NGOs)	
Ministries	
Other Community Forests neighbouring the CF	
Community development groups	
Infrastructure	
Offices	These indicators look at the basic infrastructure within the community that the CFE can leverage to improve and develop.
Storage rooms	
Roads (km)	
Health facilities – Clinics	
Health facilities – Hospitals	
Schools	
Kindergarten	
Guesthouses	

Domains and indicators	Comment
Tents and camps	
Restaurants/ hotels	
Shops	
Natural resource availability	
Transect walk shows evidence of resource	These indicators capture the natural resources in the community forest. The choice of the resource to develop was based on the enterprise type the CFE is interested in.
Trend analysis reveals production trend from one year to another	
Trend analysis demonstrates resources	
Resource exploitation check shows women, youths, and minorities have large, moderate or limited access to the resources	
Resource check demonstrates that resources can be harvested with positive, neutral, or negative impacts on the environment	

Table A4: Summary scores of community capacity domains and indicators

Domain and indicators	Mean scale (+-SD)	indicators factor loading	scale % of the variance	Cronbach's alpha	KMO and Bartlett's test
Resource mobilisation	**2.51(1.34)**	0.852	72.52	0.695	0.6
CFE shows evidence of previous management activities for the past five years	2.64 (1.19)				
CFE shows proof of business transactions and ongoing ones, sales records	2.38 (1.4)				
Sense of community	**2.84(1.34)**	0.5-.942	73.58	0.752	0.74
CFE shows signs of holding meetings as specified in internal rules and regulations	3.64 (1.3)				
Leadership declare books are open to anyone all the time (transparency)	1.96 (.91)				
community engagement in decision-making	2.9 (1.8)				
Shared vision	4.29 (1.15)	0.84	70.56	0.689	0.6
CFE has a well-written article on associations, internal rules and organisation, specification of functions	4.22 (1.11)				
CFE has an organisational chart/structure (different positions, e.g. president, Secretary, treasurer etc.)	4.3 (1.19)				
Leadership	3.94 (1.29)	.64-.749	68.157	0.737	0.671
Leadership demonstrates some level of motivation to be part of the process and to lead the group	4.16 (1.2)				
Leadership team has the right experience to meet targeted production and revenue objectives specified	3.64 (1.4)				
The reputation of the leadership team is ok, i.e. leadership team does not show any claims of corruption	4.03 (1.25)				
Participation	4.07 (1.21)	.75-.88	60.467	0.623	0.65
CFE leaders have been elected by community members as specified in the internal rules and regulations of the CFE	4.16 (1.12)				

Domain and indicators	Mean scale (+-SD)	indicators factor loading	scale % of the variance	Cronbach's alpha	KMO and Bartlett's test
The leadership team is made up of men, women, minority groups youths	3.5 (1.4)				
CFE demonstrates decision-making is open and transparent	4.48 (1.02)				
Financial management	**3.19 (1.59)**	**.72-.90**	**76.73**	**0.742**	**0.727**
CFE shows income and expenditure statements	2.93 (1.5)				
CFE has no debts or outstanding loans, money owed to members or any other partner.	3.97 (1.44)				
CFE has a bank account, and the bank is a credible institution based on ICRAF assessment of different banking and micro-financial institutions	3.25 (1.69)				
CFE shows proof of bank statements and cash flow (this may also be payment receipts, deposits or withdrawal slips etc.)	2.67 (1.64)				
CFE shows proof of available cash resources, no matter how small	3.12 (1.70)				
Skills and knowledge	**1.58 (1.18)**	**.76-.82**	**80.425**	**0.642**	**0.686**
Forest management	1.61 (1.3)				
Marketing	1.29 (1)				
Business planning and management	1.15 (1.2)				
Financial management	1.06 (.35)				
Agriculture	2.45 (1.74)				
Health (number of health workers)	1.4 (1.2)				
Education (number of teachers)	1.77 (1.4)				
Partnerships and social networks	**1.33 (.55)**	**.65-.94**	**75.73**	**0.644**	**0.69**
Research and Educational organisations	1.4 (.62)				
Donor agencies	1.09 (.39)				
Non-Governmental Organizations (NGOs)	1.48 (.56)				
Ministries	1.67 (.79)				
Other Community Forests neighbouring the CF	1.16 (.45)				
Community development groups	1.16 (.52)				

Domain and indicators	Mean scale (+-SD)	indicators factor loading	scale % of the variance	Cronbach's alpha	KMO and Bartlett's test
Infrastructure	**1.38 (.722)**	**.686-.948**	**78.98**	**0.625**	**0.56**
Offices	1.41 (0.62)				
Storage rooms	1.09 (.39)				
Roads (km)	1.48 (.56)				
Health facilities – Clinics	1.67 (.76)				
Health facilities – Hospitals	1.16 (.45)				
Schools	1.16 (.52)				
Kindergarten	1.25 (.77)				
Guesthouses	1.22 (.08)				
Tents and camps	2.41 (1.5)				
Restaurants/ hotels	1.16 (.73)				
Shops	1.12 (.71)				
Natural resource availability	**4.08 (1.16)**	**.64-.90**	**63.42**	**0.816**	**0.792**
Transect walk shows evidence of resource	4.48 (1.0)				
Trend analysis reveals that production from one year to another is	4.22 (1.11)				
Trend analysis demonstrates resources is	3.90 (1.13)				
Resource exploitation check shows women, youths, and minorities have: large, moderate or limited access to the resource	4.41 (1.05)				
Resource check demonstrates that resources can be harvested with: positive, neutral, or negative impacts on the environment,	3.38 (1.4)				

Acknowledgment

In 2018, I embarked on a journey of discovery, research, and questioning. This journey has been a good marriage between my desire to support community businesses and my quest for scientific exploration of how to improve these businesses. This PhD project has been a tremendous ride over the years; I received a lot of support from many people who ensured that I had the strength to overcome multiple challenges.

I will start by saying a big thank you to my supervisors, Prof. Dr. H.A.C. Runhaar, Dr. M.A. Hoogstra-Klein, and Dr. V.J. Ingram, for their exceptional guidance, expertise, patience, and constant motivation. Their rich knowledge and feedback helped me tremendously develop my research skills over the years, instilling in me the power of critical thinking and the need to question things from different perspectives. This process has been very enriching, and I am very grateful. Special thanks to Poon Keen-Mun and Dr Liang Wenyuan for their constant support and readiness to help. Also grateful to the lovely FNP team and fellow PhD candidates for their constant willingness to help. Special thanks also go to Kat Rianne and Puatwoe Janice Tieguhong for your support.

I am also very grateful to my former work supervisor, Dr. Divine Foundjem-Tita at the World Agroforestry, for his constant motivation and push during my difficult moments; I am also grateful to Dr. Peter Akong Minang for his constant motivation, push, and support throughout the data collection process and writing. I also want to say a big thank you to Dr. Anne Degrande for her constant support throughout the process. I cannot forget my World Agroforestry colleagues, who were instrumental throughout the data collection process—special thanks to Njike Landry for his patience and constant willingness to drive me through horrible roads. I am also very grateful to the whole "Dryad team," Dr. Duguma Lalisa and Yemefack Gladys, for their guidance and great experience in the field with data collection and forest resource assessment. I am also grateful to Dr Paola Agostini, for her constant support and encouragement.

My family has been very supportive throughout this process. I want to say a big thank you to Dr. Chupezi Julius Tieguhong; you have been my motivation to believe since childhood, and your encouragement and motivation have been instrumental. I want to express my deepest gratitude to

my dear friends and family for their unwavering love, encouragement, and understanding throughout this challenging journey. Your love, support, and understanding are the driving force behind my achievements, and without you, I could not have achieved this milestone.

This thesis builds on a UK Aid Department for International Development (DFID) funded project, "DRYAD: Financing Sustainable Community Forest Enterprises in Cameroon" research and development project. The author thanks the participants and implementing organisations such as ERuDeF (Environment and Rural Development Foundation), Centre D'appui aux Femmes Et Aux Ruraux (CAFER), Cameroon Ecology (Cam-Eco), and Cooperative agroforestiere de la Trinationale (Cameroun) (CAFT) for their support during data collection. The authors acknowledge the support of the CGIAR program, Forests Trees, and Agroforestry (FTA) research program.

In addition, I say special thanks to Wageningen University for the financial support in printing this thesis.

About the author

Serge Mandiefe Piabuo was born in Mankon-Bamenda, North-West region of Cameroon. He completed his primary, secondary, and high school education in Bamenda. He moved to the capital of Cameroon, Yaounde, to study economics and management at the University of Yaoundé II. After his BSc in Banking and Finance, he decided to proceed with a Master in Applied Economics at the University of Yaoundé II, Soa, and another Master in Economic and Financial Engineering from the University of Rennes 1. This background in Economics, with a strong focus on statistics and econometrics, inspired Serge to venture into research. Research into small and medium-sized enterprises and rural businesses was of interest to him.

Through internships and field missions with the Technical Training Research Centre for Development (TTRECED), Serge gained an interest in exploring enterprise development within rural forest communities. The opportunity to work with the World Agroforestry in 2016 on the innovative "Dryad" project was a good marriage between the project's ambitions and his interests. It also gave him the opportunity to explore and feed his desire for scientific research further through this PhD. Over the five years with the World Agroforestry, Serge developed and learned a lot about how to develop viable rural forest businesses, finance nature-based enterprises, and develop climate-resilient landscapes.

His experience with the World Agroforestry has also been instrumental during his time with the World Bank since 2022. He used his experience from developing bankable nature-based enterprises in Cameroon and Benin to support landscape restoration operations and nature-based enterprises in Central Asia. It was also instrumental in contextualising adaptation efforts within landscapes and making them profitable for people, businesses, and government. Since 2024, Serge has been working to ensure that World Bank-financed projects are aligned with the Paris Agreement and supporting the integration of climate adaptation and mitigation into development projects. Serge is also keen on other sustainable development research topics, such as access to finance, markets, and industrialisation; he constantly collaborated with researchers from different institutions on these topics.

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The research described in this thesis was financially supported by the Centre for International Forestry Research and World Agroforestry (CIFOR-ICRAF)

Financial support from Wageningen University for printing this thesis is gratefully acknowledged.

Cover design by Serge.M. Piabuo

Printed by ProefschriftMaken on FSC-certified or recycled paper