

# **Evaluating the role of the co-management Governance Approach in forest resource management in Liberia: A case of East Nimba Nature Reserve**

*Master's Thesis Report*



**Part of East Nimba Nature Reserve. Photo source: Researcher**

Jema Zogbo Lackay



Master Thesis Report

Jema Zogbo Lackay  
Registration number: 1111981

Supervisor: Prof. Verina Ingram  
Examiner: Bas Verschuuren  
Chair group: Forest and Nature Conservation Policy (FNP)

Wageningen University and Research Centre  
Master of Forest and Nature Conservation

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## **Abstract**

Although Protected Areas (PAs) have an important role in conserving ecosystem services and mitigating climate change in the world, their establishment and expansion in certain regions, particularly in Africa, have been linked to social injustices, such as the illegal eviction of local communities. These injustices can lead to conflicts, which pose a threat to conservation objectives. Collaborative governance has emerged as a promising approach for resolving conflicts in natural resource management, drawing attention from social scientists, natural resource managers, and policymakers alike. Nonetheless, there is a shortage of research on conflict resolution processes in African protected areas as well as Liberia. This research aims to understand how the co-management governance approach enables the government, NGOs, and local people to manage and control the conflict in forest resources management and as well contribute to poverty reduction in the East Nimba Nature Reserve forest protected area of Liberia. The theoretical framework of co-management governance was used to evaluate and analyze conflicts in forest resources management in East Nimba Nature Reserve forest protected areas of Liberia. Semi-structured interviews, focus group discussions, and document analysis were used to gather data. The study results indicate that the failure of conflict resolution was due to the insufficient implementation of co-management governance. Although forest development departments are hesitant to cooperate and rely on other conflict management strategies like law enforcement and forest management education, local people heavily rely on the co-management process since they have fewer alternatives and expect it to be effective. Therefore, the study concludes that co-management governance is an effective strategy for conflict resolution, but its success depends on proper administration and implementation.

**Keywords:** Forest resources; community participation; Qualitative research; instructional management; co-management governance; protected areas; community conservation; conflict

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## **List of Abbreviation**

CMAP	Co-Management Governance Approach
ENNR	East Nimba Nature Reserve
EPA	Environmental Protection Authority
FDA	Forestry Development Authority
LFDA	Liberia Forestry Development Authority
FFI	Fauna Flora International
FPA	Forest Protected Area
PA	Protected Area
LFDA	Liberia Forestry Development Authority
USAID	United States Agency for International Development
AML	ArcelorMittal Liberia
CL	Conservation International
FFI	Fauna and Flora International
EPD	Environment Protection Department

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## **Chapter: 1. Introduction**

### **1.1 Forest Protection Area (FPA)**

The tropical rainforests have a diverse and distinct diversity of life that is particularly abundant (Gibson et al, 2011) Despite covering only 7% of the Earth's surface, they contain over 60% of all known species (Dirzo et al, 2003). However, these rainforests are under threat from various human-caused issues that have become increasingly severe in recent years (Bickford et al,2007). The rapid expansion of human populations and economic growth have led to two primary threats to wildlife: habitat destruction and unsustainable hunting (Roy et al, 2012). These disturbances have caused wildlife populations to decrease and the deterioration of many tropical forests ((Roy et al, 2012). In particular, African tropical forests have gained national and international attention in the past few decades, resulting in the establishment of protected areas to preserve flora and fauna while also benefiting local human communities (Schmidt–Soltau, K. 2003.). The International Union for Conservation of Nature and Natural Resources (IUCN) defines a protected Area (PA) designated area of land or sea that is specially set aside for the preservation and upkeep of biological diversity, natural resources, and cultural resources( UNEP-WCMC 2018). Protected areas are categorized based on their management objectives, with the most important being strict nature reserves and wilderness areas, followed by national parks, natural monuments, habitat/species management areas, protected landscape/seascapes, and managed resource-protected areas (Mansourian et al 2009).



Protected areas are recognized for their ability to enhance biodiversity conservation and mitigate climate change by sequestering carbon, primarily through reducing habitat loss and maintaining species populations, according to (Coetzee et al 2014; UNEP-WCMC 2018). This is largely due to their capacity to regulate activities such as deforestation more effectively than unprotected areas (UNEP-WCMC and IUCN, 2016). As universal restrictions are being exceeded, biological experts emphasize the importance of managing and expanding protected areas to combat climate change, as stated by (Melillo et al. 2016). For example, the United Nations Biodiversity Conference (COP 15) in Montreal in 2022 produced global agreements to restore nature by 2030, emphasizing the need to protect 30% of degraded ecosystems and 30% of the planet's terrestrial and marine ecosystems through effective management and conservation, as outlined in the Kunming Montreal Global Biodiversity Framework (GBP) adopted by member states (UNEP, 2022). According to UNEP (2023), expanding protected areas could help in achieving the goal of reducing emissions from deforestation and degradation (REDD), especially in developing nations where deforestation causes significant greenhouse gas emissions.

It is estimated that 20% of global carbon emissions result from land-use changes, particularly deforestation in the tropics. As such, conservationists have highlighted the benefits of protected areas in preventing anthropogenic biodiversity loss and avoiding over-exploitation of natural resources, even if it means restricting local people's access to these areas (Curran et al., 2009). In Liberia, West Africa, conflicts between humans and wildlife are prevalent due to 'crop raiding,' but other factors such as boundary disputes, land loss, and restricted access to forest resources and grazing areas also contribute to conflicts within protected areas (Kaswamila, 2009). In other African regions, particularly South Africa, a lack of engagement with local communities in decision-making about protected area management has been identified as a key factor in exacerbating conflicts and causing poor relationships and tensions between agencies and local people (Watts & Faasen, 2009; Thondhlana et al., 2015; Thondhlana & Cundill, 2017). The occurrence of conflicts can have negative consequences on the participatory management of resources and local livelihoods, making it difficult to implement both formal and informal institutions in managing resources and protected areas, which may lead to environmental degradation and economic decline (Castro & Nielsen, 2003). Local people may engage in actions such as arson, the destruction of park properties, poaching, illegal harvesting of natural resources, and even the murder of conservation employees, due to tensions with authorities (Hough, 1988; Thondhlana & Cundill, 2017). De Pourcq et al. (2015) describe the conflict as a situation where one party perceives impairment due to the action or behavior of another parties resulting from their different perspectives, emotions, and interests.

## **1.2 Approaches to Manage and resolve conflicts in FPA**

In general, approaches to managing conflicts in Forest Protected Areas often refer to the process of identifying and addressing conflicts before they escalate and cause harm, whereas conflict solution refers to the process of finding a solution to a conflict after it has occurred (Vodouhe et al. 2010; Redpath et al. 2013; Wells and McShane 2004). Castro & Nielsen (2003) state that managing conflicts within FPA involves handling disagreements between opposing actors, a complex and challenging task given the history and intricacies involved. Therefore, managing conflicts through long and short-term plans that address the root causes is more practical for forest management, such as PAs. The parties' willingness to participate in the resolution process is a critical aspect of conflict management or resolution (Redpath et al., 2013). The resolution or management of natural resource conflicts can

be approached in various ways, which depend on the nature and purpose of the conflict management. Additionally, the specific conflict resolution and management approach chosen may rely on factors such as available expertise, support from stakeholders, financial resources, and the relationship between the conflicting parties. Furthermore, the choice of conflict resolution and management technique may also hinge on whether the conflict is internal or external (Castro & Nielsen, 200).

An internal conflict arises when there is a disagreement between local community members, while an external conflict occurs when the community fights against external entities such as government institutions for forest resources. Typically, when conflict is internal, informal, or local approaches are used to resolve it unless the issue is too complex to be settled at that level, in which case the community will turn to higher government institutions for assistance (Wells and McShane 2004). According to a 2018 study by Soliku and Schraml, the conflict resolution approach in protected areas can be categorized as legitimacy-enhancing strategies, which aim to increase co-management or collaboration among stakeholders through increased participation. These strategies may include co-management, media action, and negotiations. On the other hand, conflict management approaches each includes education and awareness campaigns for conservation, the integration of traditional ecological knowledge, law enforcement, fencing, and the implementation of economic programs to improve the local community's livelihoods. Castro and Nielsen (2003) also identified additional conflict management and resolution approaches such as “avoidance, coercion, Arbitration, and adjudication”.

To avoid resolving a conflict publicly, conflicting participants may opt to manage the situation through avoidance, which can involve delaying the discussion of the issue. One way to manage conflicts through avoidance is to delay discussing the issue. On the other hand, force involves a group of individuals who feel that their rights or needs are being denied, and they resort to making threats or using force, such as violence or protests. Intimidation, on the other hand, involves the use of threats or force by a group that feels that their rights or needs are being denied. However, this approach tends to prolong the conflict rather than resolve it. In contrast, negotiation is a peaceful and voluntary process in which opposing parties work together to make collective decisions through consensus. While negotiation is generally effective, it can be difficult to reach a consensus when parties have significant differences, according to Redpath et al. (2013). Negotiation is an unpaid process that involves the use of a third party (mediators) to facilitate negotiation between conflicting parties, to reach mutually acceptable agreements and resolve the conflict (Castro & Nielsen, 2003; Moore, 2014). Mediators play a crucial role in helping opposing parties transform their attitudes and restore peaceful relationships (Moore, 2014). Arbitration, on the other hand, involves the submission of conflict to a mutually acceptable third party who makes a decision on conflicting parties (Castro & Nielsen, 2003). The decision made by the arbitrator can be either binding or non-binding, depending on the interests of the conflicting parties. It is important to note that compliance with the resolution provided by the arbitrator is voluntary and non-enforceable (Moore, 2014). Adjudication is a type of conflict resolution approach where a judge makes a legal decision based on arguments presented by lawyers representing the conflicting parties (Castro & Nielsen, 2003; Moore, 2014). The decisions made through adjudication are binding and enforceable (Moore, 2014). When natural resource laws include clear instructions or clauses regarding conflict resolution, people are more likely to choose a legal approach to resolving conflicts. It is commonly observed that parties tend to turn to legal approaches when other methods, such as negotiation, have failed (Castro & Nielsen, 2003).

### **1.3 Co-management governance in reducing conflicts in FPA**

Over the past three decades, there has been a shift in natural resource management policies from a purely preservationist approach to a co-management approach. Co-management governance involves collective decision-making by multiple stakeholders and is an effective method for resolving problems (Emerson et al., 2012; Ansell & Gash, 2008; Nantongo 2019). According to Emerson (2012) and Berkes (2010), co-management governance is characterized by shared power and responsibility between the government and the local communities. In another world, it means sharing of responsibilities, rights, and roles between primary stakeholders in the conflict resolution process in Forest Protected Areas (FPA). The main objective of co-management governance is to achieve desired goals through a co-management process, rather than individual actions (Emerson et al., 2012). As Thomson and Perry (2006) explain, it requires stakeholders to put their differences aside and work together to find mutually beneficial solutions.

Therefore, co-management governance can be defined as a type of governance approach in which both private and public actors collaborate to create regulations and rules for the common good. Ansell and Gash (2008) described it as a joint effort between stakeholders to address common issues. Emerson (2012) identified three critical concepts that play a vital role in making co-management governance successful, including principled engagement, institution design, and sharing conservation responsibility. The principled engagement essential aspects such as discovery and determination, which would determine the success or failure of the co-management approach. Effective principled engagement encourages collaboration and partnership among conflicting stakeholders, while inadequate principled engagement can result in unsuccessful co-management processes (Emerson et al., 2012).

As Emerson (2012) explains that institutional design involves the development of rules, participation, transparency guidelines, and other agreements that define the co-management process. It is crucial to establish inclusive and transparent ground rules for effective co-management governance. Another aspect of the co-management approach is the sharing of rights, responsibilities, and decision-making power among stakeholders, which is usually seen as the legal and participatory empowerment of local communities (Bowler et al, 2012; Schmidt–Soltau 2003). In the context of adaptation, co-management stresses the significance of joint or shared rights, responsibilities, and decision-making power (Dung et al 2019). The key elements of Shared conservation responsibility include trust, resources, leadership, and knowledge.

In conserving forest resources, co-management, co-management requires promoting and supporting the sharing of decision-making power and responsibilities between local communities and state authorities, as advocated by De Pourcq et al. (2015). The success of the co-management process and its ability to improve governance depends on the acceptability of the underlying principles and elements. For instance, in Liberia, the Join Community Forest Management (JCFM) or community-based system is implemented to involve the local community in forest management. In JCFM, the government co-manages forests with local communities by signing Joint Community Management Agreements (JCMA). In contrast to JCFM, where the local community has limited control over the forests, unlike the local community has been granted full authority to manage and own the forests, then the co-management approach will succeed, as supported ( Blomley and Ramadhani 2006 and Blomley and Iddi 2009). Studies have demonstrated that involving the local people in the co-management of natural resources can minimize conflicts, particularly when effective participation is implemented at the grassroots level, as highlighted (Castro and Nielsen 2003; Biddle 2017; Fisher et al. 2020).

Nonetheless, previous studies identified that co-management in resource management can be hindered by power dynamics particularly when disadvantaged groups lack power. These power dynamics sustain social divisions and inequalities, resulting in reduced trust between the parties involved (Castro & Nielsen, 2003). In addition, an ineffective co-management process can result from a lack of stakeholder capacity and superficial engagement, which are barriers that have (Ruhanen, 2013). Implementing a co-management governance approach or other governance approach is time-consuming and requires significant human and financial resources (Cundill & Fabricius, 2009), which can also be undermined by the influence of powerful stakeholders, particularly in politics, that hinder the participation of less powerful stakeholders (Cundill & Fabricius, 2009; Fisher et al. 2020). Despite these challenges, literature studies have shown that co-management governance approaches can also help reduce conflict in forest resources management. For instance, social learning has been identified as a mechanism that promotes not only learning but also collaboration.

Social learning has been recognized for enabling the establishment of shared rights, responsibilities, and decision-making, which, in turn, has been associated with resolving power struggles, mitigating political influence, and reducing tendencies to revert to top-down decision-making methods (Lin & Lai 2013; De Pourcq et al 2015). To ensure successful conflict resolution processes in forest resource management, policymakers, and resource managers must ensure that co-management is implemented in practice and not just on paper, according to De Pourcq et al. (2015). Co-management is critical in resolving conflicts and achieving shared outcomes that might be difficult to achieve individually, as highlighted by Emerson et al. (2012). As explained by Bryson (2006), co-management is usually initiated when stakeholders realize that they cannot solve problems independently, which is often due to the failure of the state or sector. The interdependence among stakeholders in dealing with existing problems, such as environmental issues, is a key driver for co-management (Thomson and Perry 2006). Besides, the belief that co-management is the best strategy for addressing existing challenges is another factor driving the extensive use of co-management (Plummer et al, 2007.)

In Liberia, conservationists have attempted various conflict resolution strategies, including forest resource education programs in protected areas (PAs). However, the forest resource education programs in Protected Areas (PAs) have been deemed insufficient, as they tend to focus solely on educating locals about the importance of ecosystem services rather than addressing the root issues such as distrust between locals and conservation personnel. Co-management approaches involving stakeholder engagement have proven to be more effective in resolving natural resource conflicts, as demonstrated by successful collaborations between the government, private stakeholders, and local communities in western Liberia PAs. According to Kaswamila (2009), active engagement of local communities in conservation activities has also been found to have a significant impact on conflict resolution in northern Liberia.

Despite the benefits of the Co-management approach in resolving conflicts in natural resources, several scholars have criticized this co-management approach. For instance, Carlsson & Berkes (2005), Castro & Nielsen (2001), Cundill et al. (2013), and De Pourcq et al. (2015), criticized the co-management approach complex system that may hide state agendas to empower them behind the scenes. The government's primary goal has often been to extend PAs to meet global conservation obligations, which makes it difficult to meet the demands of local people while trying to implement national and international conservation goals (Cundill et al., 2013). Additionally, the co-management process may create new conflicts or exacerbate existing ones because of the natural and social

systems' dynamics, which cause environmental and policy changes, and not all stakeholders will be satisfied with these changes (Castro & Nielsen, 2003)

## **1.4 Problem statement**

Although the co-management approach in resolving conflicts in forest-protected areas has faced criticisms, the partnership between forest-dependent communities, NGOs, and the government has gained attention from policymakers, intergovernmental organizations, global social movements, scientists, and forest resource conservationists. Despite weaknesses observed in implementing co-management in resolving conflicts on forest resources in Bangladesh's Sundarban mangrove forest management, it was suggested that effective implementation of the co-management approach would help manage conflicts in those areas (De Vente et al, 2016; Sultana, 2011; Begum et al, 2021). Therefore, it is essential to comprehend how the co-management governance approach enables the government, NGOs, and local people to resolve conflicts in PA management and control and evaluate its practicality on the ground. This is particularly relevant in African countries like Liberia, where land conflicts cause injustices between the government and local people (Begum et al, 2021; Howell, 2013; Manvell, 2015). Understanding the role of stakeholders in the co-management process of the ENNR forest protected area is crucial as this forest is managed by various authorities at different levels. In addition, it is essential to understand the role of each organization in the co-management system to ensure the successful implementation of co-management practices. Unfortunately, there is a limited understanding of the involvement of local people in forest co-management under the government and NGO-led projects implemented since 2010 in the ENNR forest of Liberia. Moreover, research focusing on the outcomes of using the co-management approach to resolve conflicts in Liberia is limited, and this could significantly impact the co-management outcomes for the sustainable management of the forest and those living near the protected area. Several studies have highlighted the extent of forest degradation and identified the factors responsible, but they have been insufficient in curbing the problem of global forest loss. Some studies have also analyzed how the benefits and costs of PA establishment are distributed, but none have explicitly linked this to the governance processes of the co-management system causing the impact. There is a lack of studies that focus especially on conflict resolution in forest reserves, with most research covering the conflict as a part of broader issues like natural resource management (Meshack et al. 2006). The existing studies primarily address conflict issues at the village government level, which doesn't have the legal authority to resolve conflicts related to forest reserves owned by the central government (Kajembe et al. 2006). This highlights the need for more research on the evaluation of conflict resolution approaches, particularly in forest-protected areas. Therefore, it is essential to examine the co-management approach in resolving the conflict in forest reserves

## **1.5 Research Objective and Research Questions**

The purpose of this research is to examine the conflict resolution process in PAs, specifically by exploring the use of co-management governance in resolving forest resource conflicts in the East Nimba forest reserve (ENNR) in Liberia. The objective is to gain an understanding of how the co-management governance approach allows the government, NGOs, and local community members to effectively manage and control conflicts related to forest resource management and also contribute towards reducing poverty in the ENNR FPA in Liberia. As the researcher plans to work with Liberia Forestry Development Authority (LFDA) or Environment Protection Agency after completing their

master's program, the findings of this research are highly relevant to society to accomplish this goal of this study, the following research question was developed:

### **1.5.1 Main research question**

*How does the co-management governance approach allow the government, NGOs, and local community members to effectively manage and control conflicts related to forest resource management and also contribute towards reducing poverty in the ENNR FPA in Liberia*

This research question will give insights into how these complex social dynamics enable or obstruct co-management action between stakeholders in the ENNR in Liberia. The first aspect, 'principled engagement', relates to how the different stakeholders can work together from their institutional boundaries to achieve one goal. The second aspect, 'institutional design', refers to the selection of rules for collective decision-making between stakeholders of a co-management network in the ENNR. Thirdly, 'shared conservation responsibility' examines how the new institutional arrangements and the sharing of resources build the foundation for implementing co-management action (Emerson et al., 2012). Therefore, to successfully answer the main research question, three sub-research questions will be formulated, namely:

### **1.5.2 Sub-research questions**

- *How is 'principled engagement' understood by all stakeholders in the ENNR, especially with an eye to the 'discovery' and 'determination' aspects?*
- *How do governmental institutions function in between the stakeholders in ENNR, especially with an eye to aspects of 'process transparency' and 'participatory inclusiveness'?*
- *To what extent has 'shared conservation responsibility' been created between stakeholders in the ENNR, about 'true resources', 'leadership', and 'knowledge'?*

## **1.6 Thesis outline**

The thesis comprises six chapters. The first chapter presents an introduction to the topic and outlines the problem statement, research objective, and questions. Chapter two provides an overview of the theoretical framework that was used throughout the study and the entire thesis. The third chapter focuses on the methodology, outlining the case study approach, data collection process, and data analysis. Chapter four concentrates on interpreting the results obtained from the study. Chapter Five discusses the opinions and views of stakeholders regarding the three elements of co-management governance in the ENNR of Liberia. It also assesses the relevance of the co-management framework in practice and suggests recommendations to address limitations. Finally, chapter six concludes the thesis by answering the sub-research question and highlighting areas for future research.

# Chapter 2: Theoretical Framework

## 2.1 Co-management approach framework

In sections 1.2, and 1.3 the co-management governance framework was described, and the theoretical framework of this research was based on a co-management governance model by Emerson (2012). In this model, the co-management governance was defined as “a governing an arrangement where one or more public agencies directly engage non-state stakeholders in the collective decision-making process that is formal, consensus-oriented, deliberative and that aims to make or implement public policy or manage public programs or assets” (Emerson et al, 2012). As Berkes (2010) also defines co-management as a type of rights regime or management system. Based on both explanations Emerson (2012) additionally clarifies that the ‘governance’ process regulations and policies need to support the public interest. Governance is also related to collective decision-making involving public and private actors (NGOs). The public agency is meant for public institutions, including executive branch agencies at a local or central level. Stakeholders or actors are referred to as both state and non-state stakeholders, where non-state stakeholders may include the participation of individual citizens or an organized group (Ansell & Gash, 2008).

Emerson (2012) emphasized that co-management governance is structured and reciprocal communication, allowing stakeholders to engage in dialogue and shape decisions. While they prioritize formal communication, there is a case for including informal communication among opposing parties to some degree within this framework. Begum’s (2021) findings in South Asia (Bangladesh) demonstrate that informal means of communication and institutional are crucial in facilitating co-management governance, particularly in managing conflicts within local community groups. While public agencies process that final say in decision-making. Emerson (2012) and Ansell and Gash (2008), mention that the main objective of co-management governance is to reach a consensus among stakeholders regarding public police. An alternative viewpoint could suggest that the main objective of co-management ought to focus on attaining agreement indecision-making, specifically as emphasized by (Campbell et al. 2013), rather than just reaching a certain level of accomplishment. Emerson (2012) states that the explanation mentioned earlier highlights the distinguishable characteristics of co-management governance from other forms of collaboration, such as adversarial and management. He contends that, in prevail, co-management governance adopts a problem-solving approach that strives for a mutually beneficial outcome. Emerson (2012) distinguishes co-management governance from managerialism by stating that, even though managerialism may seek governance involves stakeholders in the decision-making process itself instead of simply consulting them

## 2.2. Theoretical framework for analysis

Based on the theoretical framework of this study, the analysis, of the relevance of co-management governance in resolving land issues at ENNR is based on selected elements Emerson's (2012) co-management governance approach. Given that it can be understood that only some important elements that fit with this research's objectives and research questions have been adapted and applied in this study. Therefore, Figure 1 below emphasizes a visual image of the relevant elements in this research, which are principle engagement, institutional design, shared conservation responsibility, co-management process. When combined, these elements match well to make effective and successful co-management governance when efficiently accomplished. These elements are broken down into smaller components that influence the conditions for co-management governance. In this approach, the co-management process elements are regarded as the central element of the approach in which the other three elements namely principled engagement, institution design, and shared conservation responsibility, contribute to a co-management process. In that regard, the principle engagement might create trust and cooperation between the different stakeholders, which are essential for successful co-management. The institution design lays the ground rules for the co-management process. The co-management process itself is non-linear which is represented as a cycle that provides important aspects for co-management with important aspects to consider. These elements will be further discussed in the following sections. It is worth noting that all those elements were used as an essential basis for developing the semi-structured interview questions, topics for focus group discussions, and codes for data analysis.

Co-management in governance approach (Adapted from Emerson et al, 2012)

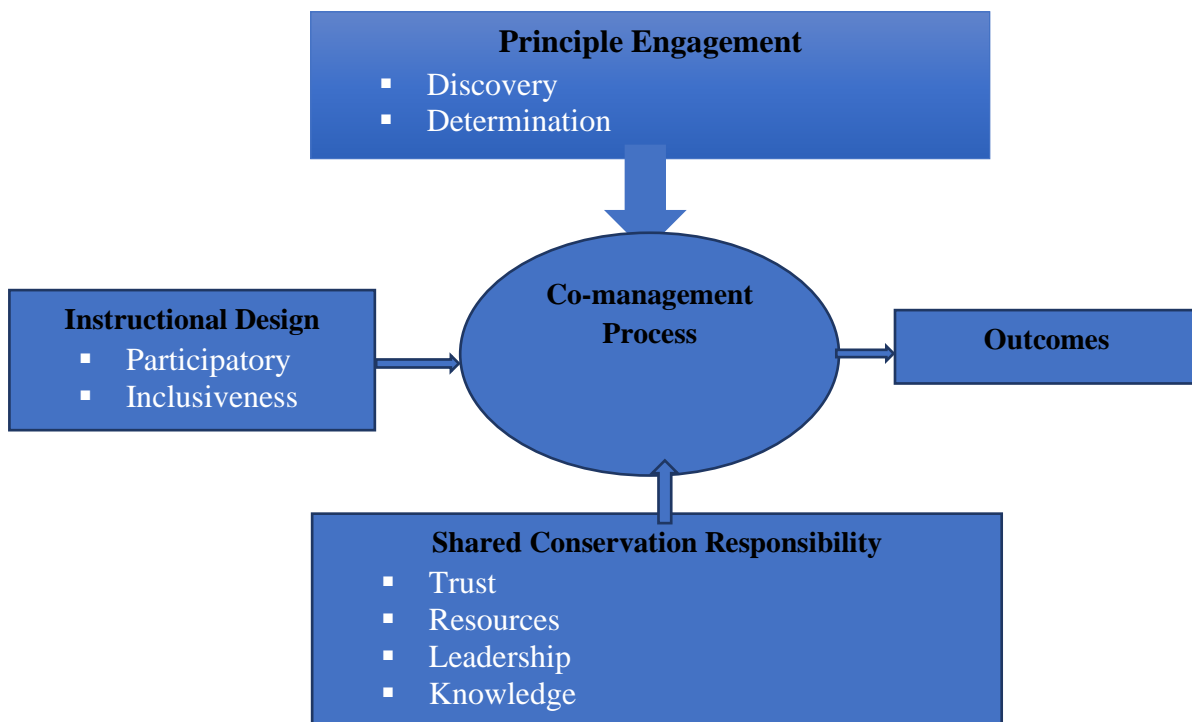


Figure 2: The theoretical framework for analyzing the study.



## **2.4 Principled engagement**

Principled engagement refers to the very initial situation of the co-management process. Successful principled engagement will build trust and cooperation among actors in forest resources management. While unsuccessful principled engagement might lead to poor Co-management outcomes (Emerson et al 2012). Based on Emerson (2012), principled engagement is further divided into two sub-elements, which include discovery and determination. These sub-elements are discussed below.

### **2.4.1 Discovery**

The term "discovery" refers to the identification and understanding of individual and collective values, interests, and concerns, which are essential in co-management governance processes (Emerson et al., 2012). Because different forest user groups may have unique worldviews, they may frame the goals of the forest-protected area. Bringing with them distinct professional and organizational languages, cultures, and values, can raise the likelihood of misunderstandings and potential conflicts (Christie et al., 2007; McCay and Jones, 2011). Governments, scientists, NGOs, and resource users have varying worldviews and social constructions of the forest resource, which must be considered when developing and implementing the East Nimba Nature Reserve (ENNR) (Christie and White, 2007). Discovering these diverse worldviews is the foundation for the co-management process, as shared interests and complementary interests can both serve as the basis for a wise agreement that meets the legitimate interests of each party, resolves conflict fairly, is long-lasting, and considers community interests (Fisher et al., 2011). As a result, identifying shared interests is critical to achieving a wise agreement among co-management partners, and while discovery typically focuses on revealing shared interests at the outset of co-management, it may also concentrate on analytical investigation and joint fact-finding at later stages of the co-management process (Emerson et al., 2012).

### **2.4.2 Determination**

Determination means the process of making enumerable joint decisions, which includes both procedural decisions (setting agendas, assigning tasks) and substantive determinations such as reaching agreements on final recommendations (Emerson et al., 2012). Procedural decisions are critical as they directly impact the formation and implementation of the co-management process (Huxham et al., 2000). While substantive determinations are typically considered as the outcomes of co-management governance. Many of these determinations are made at different times during the ongoing co-management process. As such, they are included as a repeating element in the social dynamics of the theoretical framework, rather than just being seen as a final collective action (Emerson et al., 2012)

## **2.5 Institution design**

The institutional design refers to a combination of formal and informal rules, which include participation, transparency, and bylaws that are essential to managing the co-management process (Emerson et al., 2012). It also involves common ground agreements to make decisions during the co-management process, as well as the identification and description of stakeholders (Bryson et al., 2006). Additionally, the rules should specify other important aspects such as the process of sharing information among stakeholders, regulations, procedures, agreements, and the allocation of costs and benefits (Thomson & Perry, 2006). Therefore, leaders in the co-management process need to ensure that all affected and willing members are involved in the engagement, including those representing themselves or their clients (Emerson et al. 2012). While it is crucial to have a diverse range of members for making sound decisions that consider multiple interests, it should be noted that such diversity can also lead to conflicts that may impede the intended outcomes (Emerson et al., 2012). The co-management process requires the inclusion of all stakeholders, including key or problematic ones, to build trust and legitimacy. Failure to value stakeholders' concerns can lead to co-management failure due to a lack of clear ground rules (Ansell & Gash, 2008). Success in establishing collective agreement on rules depends on stakeholders' willingness and commitment to comply with those rules. To make the rules successful, Thomson and Perry (2006) emphasize that stakeholders should agree to sanction non-compliance with the rules. Transparency, respect for others' opinions, and power balance are crucial for successful collaboration when establishing initial rules

### **2.5.1 Participatory inclusiveness**

Participatory Inclusiveness refers to opportunities available for stakeholders to participate in and influence decision-making processes. According to Kolstad & Soreide (2009), a co-management governance process could produce successful outcomes when all stakeholders have a stake in governance processes and engage with them on equal power sharing. In addition, the co-management process relies heavily on volunteer participation from stakeholders, and to motivate them to participate, incentives play a crucial role as well. Emerson (2012) also acknowledge that stakeholder can be motivated to participate based on perceived benefits, such as financial incentives or other forms of income and power in that management system (Emerson et al. 2012). However, there is still a need for more scientific research and policy guidance on the motivational drivers of stakeholder participation (Emerson et al. 2012) (Ansell & Gash, 2008) emphasized that power imbalances can affect the involvement of certain stakeholders, particularly residents in c-management (Ansell & Gash, 2008). Therefore, in the case of the study, stakeholders' participation will increase if stakeholders realize the authority of the involved meeting in which they expect positive outcomes from the co-management process (Ansell & Gash, 2008). Corruption can also limit the participation of less powerful stakeholder groups in the co-management process (Kolstad & Søreide,2009). To ensure an effective co-management process, the Leander at ENNR must be inclusive, flexible, and adaptive, with a focus on increasing the involvement of all stakeholders in the co-management process.

## **2.5.2 Transparency**

Since the co-management process involved a diverse institution, it is mostly voluntary, transparency is another critical aspect the stakeholders considered as important. Emerson et al. (2012) described transparency as an interest of stakeholders to commit to co-management. Ansell and Gash (2008) found that the decision-making process is visible, communicating the rationale behind decisions clearly, and making relevant information about the governance and performance of an organization readily available and positively impacting the co-management governance process. However, it is noted that corruption and lack of communication may affect the transparency process and this can limit stakeholders' motivation to participate in the co-management process. Stakeholders will participate if they understand the presence of active transparency engagement in which they expect positive outcomes from the Co-management process (Ansell & Gash, 2008). Therefore, in the case of the ENNR, it is important to be transparent about who made the decision, how it was made, and why it was made. For instance, was the decision made by an individual or a group, according to a voting procedure or expert opinion? To ensure accessibility, stakeholders may need information to be presented in a particular way. For example, English-speaking stakeholders may need materials to be available in languages other than English, while some Forestry development departments and NGOs may prefer to listen to a field day instead of reading a publication or accessing the Internet. Similarly, local community groups may prefer to receive information verbally rather than in writing (Davidson and Stratford 2000).

## **2.6 Shared conservation responsibility**

The concept of shared conservation responsibility involves empowering local communities through legal and participatory methods (Berkes, 2007; Cundill & Fabricius, 2009). It also involves joint decision-making power, rights, and responsibilities (Doubleday, 2008). Emerson et al. (2012) define "shared conservation responsibility" as the ability of various stakeholders to control and share the responsibility of managing forest resources within a co-management process. Fabricius and Currie (2015), found that co-management processes can only be successful when there is equal power and shared rights between local communities and the government in forest resource management. Buchy and Hoverman (2000) also found that the decentralization of responsibility and rights had a positive impact on joint forest management in India. Carlsson and Berkes (2005) also so emphasize the importance of defining and negotiating the capacity of shared rights and responsibilities. In the case of ENNR, leaders in the conflict resolution process need to decentralize equal power and responsibility, the increase shared rights to have an overall improvement on the management resources. Emerson (2012) further divides shared conservation responsibility into four sub-variables: trust, resource, leadership, and knowledge, which are discussed in more detail below.

### **2.6.1 Trust**

According to various authors (Ansell and Gash, 2008; Margerum, 2001; Thomson and Perry, 2006), trust plays a crucial role in co-management governance. Thomson and Perry (2006) define trust as the “common belief among a group of individuals that another group will make good-faith efforts to behave by any commitments both explicit and implicit, will be honest in whatever negotiations preceded such commitments, and will not take excessive advantage of another even when the opportunity is available” However, in reality, co-management often begins with distrust rather than trust among stakeholders. This is because in most cases, stakeholders cannot choose the people to work with (Margerum, 2001). Additionally, stakeholders in co-management are alert that there may be conflicts between self-interest, or pursuing individual goals, and collective interests, pursuing co-management goals and as well as the need to be accountable to other partners. According to Thomson and Perry (2006), when the objectives of individual stakeholders clash with those of co-management, the individual goals tend to take priority over co-management objectives. Building trust is therefore essential in the early stages of co-management, although it can be time-consuming and challenging to achieve (Thomson and Perry, 2006). Trust develops over time as partners work together and demonstrate that they are dependable and reasonable. If trust is established, it can help stakeholders to understand each other's interests, values, and constraints and work collaboratively towards co-management objectives at ENNR (Emerson et al., 2012).

### **2.6.2 Resources**

Margerum (2001) states that resources play a critical role in determining the level of institutional involvement in co-management governance approaches. Emerson et al. (2012) elaborate on this, stating that resources can take the form of funding, time, technical and logistical support, administrative and organizational assistance, necessary expertise, and skills for analysis or implementation, among others. Through ‘collaboration these resources can be shared and redistributed to reach the common objectives of stakeholders’. Effective marshaling and configuration of administrative resources are seen as crucial for a successful co-management process. However, resource disparities can exist among stakeholder groups, especially in cross-cultural settings where cultural, linguistic, and customary differences can pose barriers to the co-management process. Power imbalances resulting from unequal access to resources can affect stakeholders' willingness to participate in co-management governance. Ansell and Gash (2008) contend that power imbalances are especially problematic when important stakeholders lack the organizational infrastructure to be represented in the co-management governance process. To ensure that stakeholders view the co-management process as fair and legitimate, these imbalances must be adequately addressed.

### **2.6.3 Leadership**

According to Ansell and Gash (2008), leadership plays a critical role in co-management governance by bringing stakeholders together and guiding them through challenging situations. Effective leadership plays a crucial role in facilitating communication, building trust, and establishing clear ground rules. and for involving and mobilizing stakeholders to move the co-management process forward. Moreover, “leadership is important for embracing, empowering, and involving stakeholders and then mobilizing them to move collaboration forward” (Ansell and Gash, 2008,). Emerson et al.

(2012) suggest that different leadership roles are played in co-management governance arrangements, such as a facilitator, representative of institutions or organizations, science translator, sponsor, or public advocate. Some roles are critical at the start of co-management, while others are more important during implementation or in times of discussion and disagreement. Facilitative leadership is especially crucial for initiating actors to the decision table and motivating stakeholders to engage in the co-management process. In that regard, when incentives for participation are weak, a strong leader who commands respect and trust can increase the likelihood of a successful co-management process. However, If stakeholders have conflicting perceptions of who should take the initiative or responsibility can hinder the successful implementation of that co-management process (Kooiman et al., 2008).

## **2.6.4 Knowledge**

Emerson et al. (2012) stated that in co-management, knowledge is a crucial element. The process of co-management involves creating shared knowledge and combining, separating, and aggregating scientific data. Existing knowledge must be improved and supplemented with new knowledge, and disputed knowledge must be thoroughly examined. The authors argue that knowledge is not just information or data, but a combination of information, understanding, and capability that guides action. In this theoretical framework study, the term 'knowledge' refers to the social capital of shared knowledge that has been evaluated, processed, and integrated with the values and judgments of all participants (Emerson et al., 2012 ). Effective co-management governance requires the development of new knowledge and institutional capacity. Because in contemporary society, institutions are increasingly interconnected and knowledge is becoming more specialized. The rising complexity of institutional arrangements and specialized knowledge necessitates an increasing number of co-management efforts, as individual actors are incapable of resolving problems independently (Ansell and Gash, 2008).

# **Chapter 3: Methodology**

Chapter 1.3 provides an overview of the ENNR FPA. This section will focus on the description of the study area and target population, the data collection method (the primary source of data), the sampling method, and the data retrieved and collection method.

## **3.1 Study Area and target population**

The East Nimba Nature Reserve (ENNR) forest protected area is situated in the northern part of Liberia, specifically in the Yamani and Sanniquellie-Mahn district (refer to figure 2). According to Liberia Forest Act No. 2002-359 of 24 July 2002, ENNR is a strictly protected forest and is the second largest forest resource management in the country (ENNR Act of 2014; Government 30/03/2017). ArcelorMittal Liberia (2013) and Howell (2013) reported that 84% of household income, especially for the resource-poor individuals residing near the forest, comes from forest resources of the ENNR, including timber and non-timber forest products (NTFPs), as well as other ecosystem goods and services. In addition to being a source of livelihood for local communities, the ENNR forest contains woodlots, agricultural fields, multiple rivers including the Cavalla and St. John rivers, watershed management, and small businesses (Roy, 2016). Despite the cultural, ecological, and

social benefits of the national reserves in the country, Section 5.3 of the Liberia Forest Act No. 2002-359 prohibits human activities in the forest reserves without prior permission of the forest manager (World Bank Group 2020; Howell, 2013). ENNR is owned by the Liberian government and managed through the Liberia Forestry Development Authority (LFDA) under the power of the Ministry of Environment Protection Agency (MEPA). As per the management arrangement, the District Forest conservators are in charge of overseeing all national forests at the district level, which includes managing ENNR directly under their supervision (ArcelorMittal Liberia in 2013; World Bank Group 2020).

It is crucial to note that the DFO is not working with LFD and rather operates as an employee of the local government authority. They work under the direction of the Yamani and Sanniquellie-Mahn district Council Directors (ArcelorMittal Liberia in 2013; World Bank Group 2020). Conversely, the District Forest Officer (DFO) does not work for LFD, but instead, they are employed by the local government authority and fall under the jurisdiction of the Yamani and Sanniquellie-Mahn District Council Director. Their duties involve supervising the day-to-day operations of the forests owned by the local government. Despite the DFO not having the responsibility for managing the national forests, they do work together with the DFC to manage ENNR. The DFO's involvement in managing ENNR can encompass various tasks, such as providing conservation knowledge and participating voluntarily in other ENNR conservation initiatives. Although the ENNR is owned by the Liberia government, the neighboring communities participate and play a role in conserving it via Joint Forest Management Agreements (JFMA). Based on the legal framework, the Liberia government has established a reinforced institutional framework that encourages the participation of local communities in forest conservation (Government 30/03/2017). This implies that the neighboring community to ENNR collaborates in managing a reserve through Towns Conservation Committees (TCCs). They have been jointly managing ENNR since the introduction of Participatory Forest Conservation (PFC) in the nation in 2003 (as mentioned in ArcelorMittal Liberia in 2013). As part of PFC, the local community is authorized to engage in eco-friendly endeavors such as patrolling (ArcelorMittal Liberia in 2013; Howell 2013).

In 1944, the ENNR was established and with an area of 17,540 hectares through Government Notice 30/03/2017, during colonialism, when Liberia was under British colony by the 'Tanganyika'. The ENNR reserve is located in catchment areas that are crucial for providing water to various sectors such as agriculture, industry, and hydroelectricity, as well as to the local communities. Before the colonial era, the reserve was managed by the local people through both formal and informal institutions led by local chiefs. During British colonial rule in the 1940s and 1950s, when ENNR was developing, it was conserved by the Forest Department in the Ministry of Environment Protection department. Before colonialism, the management of the reserve was under the responsibility of local individuals through formal and informal systems, which were headed by local chiefs. The British colonial administration took over in 1944, during that time ENNR was under the control of the Forest Department and the Ministry of Environment Protection Agency or department. Following Tanganyika's attainment of independence in 1961, the Forest Department underwent restructuring, and it became the Forestry Division under the Ministry of Forest, Environment, and Land. The newly formed Forestry Division took over the management of national forests, which included ENNR.

From 1985 to 1990, ENNR was under the management of the Patrolling and Forestry Division, which replaced the Forestry Division. The Forestry and Patrolling Division remained in charge of ENNR until 2010 when they assigned the responsibility of managing national forests to the Co-management

committee (CMC). This implies that CMC was created and took over the management of ENNR in 2013. In 2013, a CMC agreement was signed between the Forestry Development Authority and three neighboring communities of the reserve Zolowee, Zorpata, and Geipa. The primary reason for establishing CMC was to enhance the management of ENNR in the region due to the growing concerns of deforestation and forest degradation (according to ArcelorMittal Liberia in 2013).

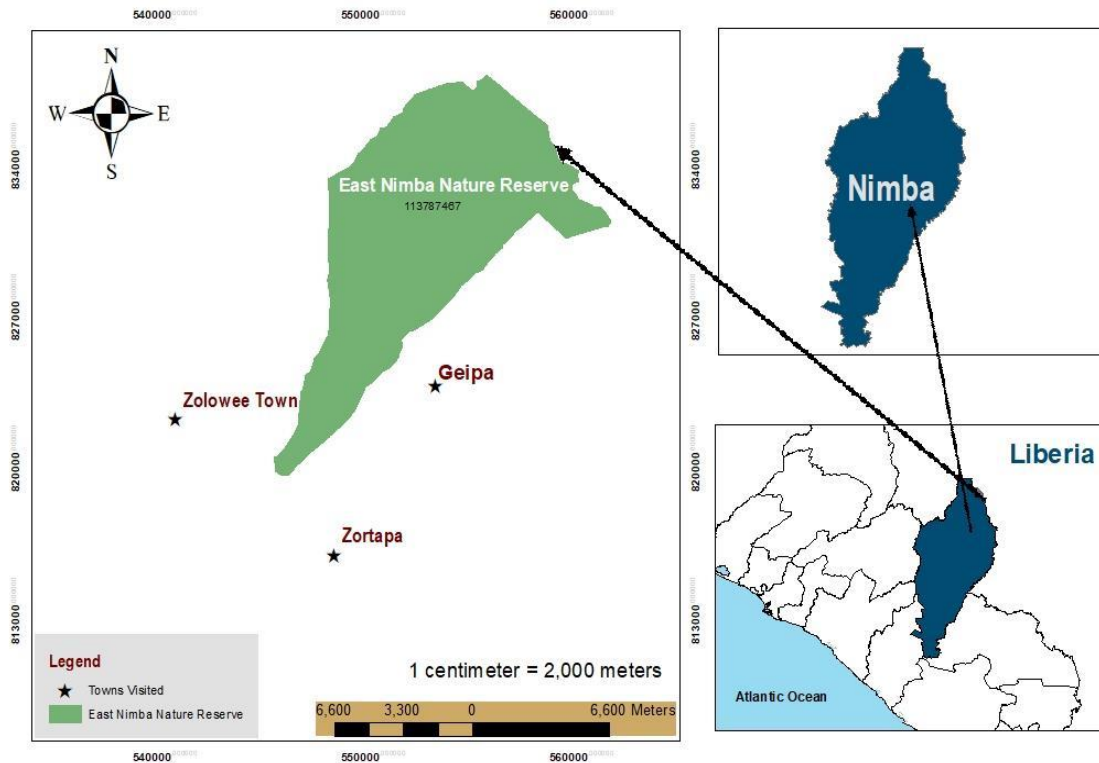
The reserve is located adjacent to three villages in Yamani and Sanniquellie-Mahn districts (see Figure 2). These villages are situated close to each other and the Yamani and Sanniquellie-Mahn districts, with distances between them ranging from 5 to 10 kilometers. The proximity of the villages is beneficial for this study because it allows the local community to share similar cultural backgrounds and traditions regarding land use activities such as agriculture. This is important for conducting Focus Group Discussions (FGDs) as recommended by FAO (1999).

As the nearest villages to ENNR, the target population of this research comprised local people and leaders from all three villages adjacent to the forest reserve. Additionally, the research involved government officials at a local level (district, regional and zonal officials) and government officials at the national level (Ministry of Environment Protection Agency and International NGOs (Conservation International (CI), Fauna & Flora of Liberia (FFL), USAID, ArcelorMittal Liberia, and others NGOs.) as well as Liberia Forest Department (LFD). The government officials and NGOs that participated in this research have been directly or indirectly managing ENNR. Also, they were involved in managing and resolving the conflict in the study area. Moreover, the selection of stakeholders for this study relied on their level of influence and interests regarding the conflict in East Nimba nature reserve (ENNR) (ArcelorMittal Liberia in 2013).

### **3.1.2. The current conflicts at the ENNR FPA**

According to Howell's (2011) and ArcelorMittal Liberia's (AML) (2013) reports, the conflict over land in the ENNR started primarily from 2003-2013 when residents requested access to around 40% of the 17,540 hectares of ENNR for agricultural and grazing activities due to reasons such as high population growth. The residents who demanded access to forest land belonged to the three adjacent villages to ENNR (as shown in Figure 2). In response, the LFDA, responsible for managing the ENNR, has denied access to the reserve to the locals since it is legally protected for ecosystem conservation. From the look of things, locals claim that they have been using the land for many years and have inherited it from their ancestors. Moreover, the local people were shocked when LFD denies them access, arguing that the reserve is legally protected for ecosystem conservation. This conflicting situation has escalated the occurrence of conflicts at ENNR (AML 2013). Due to the rise in local people's encroachment on the forest reserve for farming purposes, a conflict emerged, leading to the formation of a co-management committee consisting of local people, ruling political party leaders (CDC), LFD, and other non-government organizational officials to address the issue. This committee has been working towards resolving the conflict since 2013, with the cooperation of LFD conservation officials, other non-government organizational officials, local people, and their leaders around ENNR, for the past ten years, according to reports by AML 2013 and the ENNR Management Plan 2014.

# Towns Visited



*Figure 2: The map showing East Nimba Nature Reserve (ENNR), North-Eastern county between Yamian and Sanniquellie-Mahn Region, Liberia. Source: Researcher*

## 3.2 Data collection

### 3.2.1. Data source

The fieldwork took place in the ENNR of Liberia and the data collection for this study was conducted between November to January 2023. The primary data sources for this research such as semi-structured interviews with government officials from the Ministry of Environment Protection Agency (MEPA), Liberia Forestry Development Authority (LFDA), NOGs (CI, FFI, AML, BI, USALD, and STEWAR) in Yamian and Sanniquellie, District Yamian and Sanniquellie-, JCFMB in Yamian and Sanniquellie region and town TCF in Yamian and Sanniquellie region. Additional sources of data for the study included focus group discussions with local people from the three villages adjacent to ENNR FPA (as shown in Figure 1). In addition to the interviews, I conducted document analysis to gather information from LFDA reports, forest legislation acts, and other relevant documents on the conflict, including its approach, process, and outcomes at ENNR. Further information on each data source is provided in section 3.2.3.



## **3.2.2 Sampling method**

### **Sampling frame and sampling method**

I employed purposive sampling to select one representative from each relevant government department and NGO involved in resolving the conflict at East Nimba Nature Reserve (ENNR) (Table 2 provides details on the number of participants). For the village level, I asked the sampling frame from the village governments (town chief) to obtain a list of residents living in each village. However, depending on the village leaders for the selection of respondents could potentially introduce bias, which is a limitation of this study. Once I obtained the list of potential participants, I employed a purposive sampling approach to select individuals involved in the ENNR conflict to gather data for this study. Working with the village leaders, I chose participants based on their level of influence and interest in the ENNR conflict. More details on the data collection methods used can be found in section 3.2.3.

### **3.2.3 Retrieved data and collection methods**

Punch (2013) asserts that qualitative research provides diverse qualitative data that are valuable for exploring complex issues. In this study, I utilized the semi-structured interview method, specifically individual interviews and focus group discussions, to gather qualitative data and gain a better understanding of the conflict resolution or co-management approach process at ENNR. To gather the opinions of national, NGOs, and local government officials regarding the concepts described in the study's conceptual framework for resolving conflicts at ENNR, I conducted a semi-structured interview. According to Benard (2018), Focus Group Discussions (FGDs) are an effective tool for obtaining details information on people's feelings and opinions about a particular subject. In this study, FGDs were employed to gather data on the local community's views on co-management governance for resolving the conflict at ENNR. suggests that FGDs are best conducted with smaller groups of 7-8 participants. However, in this research, the number of participants in each FGD in the villages ranged from 8 to 10, depending on their availability and interest in participating (see Table 3). The FGDs were mostly attended by men, with fewer women participating. The predominance of men and the inability of some interested local people to participate due to scheduling conflicts and this factor could be seen as limitations of this study. The focus group discussions (FGDs) involved participation from local leaders such as town chiefs, traditional chiefs, a charlady, youth chairpersons, and other members who are not involved in the co-management process from each village. Although the original plan was to conduct separate interviews with the village leaders, some leaders suggested having the FGDs together. While the FGD participants agreed to the leaders' inclusion, this may have restricted some participants' openness during the discussions. Therefore, including the leaders in the FGDs is another limitation of this research.

Two focus group discussions (FGDs) were conducted at the Yamani Commissioner's office, with 9 to 10 participants in each FGD. In cases where conflicting opinions arose, as the moderator, I guided the participants to engage in in-depth discussions to reach a consensus. Fortunately, all group discussions

resulted in consent. The FGDs lasted between 43 to 92 minutes, with an average duration of approximately 75 minutes. All interviews were conducted in local Liberian English with all participants, including local people and NGOs. All interviews, including those with local people and NGOs, were conducted in the local English dialect of Liberia. Building good rapport with respondents, particularly the locals, was facilitated by effective communication in English. This enabled me to establish trust and foster a sense of community, facilitating good interaction during the FGDs. I recorded 18 out of 20 interviews, with the two remaining participants declining consent for recording. In these cases, written summaries of the interviews were taken. After seeking consent from the participants, I proceeded to record the interviews. It was agreed that all respondents would remain anonymous, which means their identification would not be disclosed. Before visiting the local people, I applied for permission from the LFDA office and the Yamain and Sanniquellie-Mahn district council office to interview the locals.

Tables 1 and 3 present a summary of the data sources, the methods used to retrieve data from each source, and the data collection methods. The LFDA, which falls under the Ministry of Environment Protection Department, owns, and manages ENNR, to gain a comprehensive understanding of conflict resolution at the national level, I conducted interviews with one representative at the office of the Director of Forestry and Patrolling Department. To obtain some insights into the conflict resolution process at ENNR, I interviewed a representative from the LFDA Conservation Administration who is stationed at the Monrovia headquarters in Liberia. Based on initial information obtained from LFDA in Yamain and Sanniquellie- Mahn districts, it was revealed that the Regional Administrator office in the Yamain district played a role in addressing the conflicts in the reserve. As a result, I conducted one focus group discussion (FGD) with officials from the regional office to gather their views on conflict resolution at ENNR. After conducting FGDs with the LFDA officer in the Yamain district, I learned that conservational international, AML, and FFL were involved in resolving the conflict at ENNR, so I interviewed one representative from each organization. The District Conservation officer is responsible for overseeing all aspects of LFDA within the jurisdiction where Yamain and Sanniquellie- Mahn district is situated. Typically, the District Forest Conservator seeks approval from the District Conservation Officer for their daily duties. To gather more understanding of conflict resolution through co-management governance at ENNR, I interviewed three representatives of the District Conservation officer. As previously noted, ENNR is located within the Yamain and Sanniquellie-Mahn districts. As per the LFDA administrative structure, the District Forest Conservator is tasked with overseeing all LFDA affairs at the district level. Hence, I conducted three interviews with the District Forest Conservator to obtain their viewpoints on all matters related to the co-management process of resolving the conflict at ENNR.

The District Conservation Leaders are members of the co-management committee and their duties do not include managing government forests. They are primarily responsible for supporting LFDA in implementing alternative livelihood initiatives and promoting forest sustainability, wildlife awareness, and environmental laws among the local people. Nevertheless, their duties are closely linked to LFDA at the district level. To obtain additional insights into the use of co-management governance in resolving conflicts at ENNR, I conducted interviews with five individuals from the District Conservation Leaders (Joint community forest management body (JFMB)). In conclusion, I employed the method of document analysis to gather further understanding and data for my study. To this end, I reviewed various materials such as Liberian forest legislation and laws, LFDA reports, ENNR management plan, and previous research papers to get more insights and additional data for my research, I applied document analysis

### 3.2.4 Sample size

This study comprised a total of 20 interviews with 56 participants, which included 20 individual semi-structured interviews and 4 focus group discussions. The FGDs involved 36 participants across 4 towns, with two held at the ENNR head office in the Yamain region and one at the Sanniquellie-Mahn region office. Additional details on this are provided in Tables 1 and 2. The four government officials in the Yamain and Sanniquellie-Mahn region offices assisted me in conducting the FGDs. In Section 5.2, I will outline the study's limitations.

**Table 1. List of research respondents and number of interviews for each category**

S/N	Respondents	Institutions or organization	Number of Respondents	Number of interviews
1	Director of Forestry	Ministry of Environment Protection Agency	1	1
2	A representative of the Conservation Administrator	Liberia Forestry Development Authority (LFDA National level)	1	1
3	Representatives of the Regional Administrator	Yamain and Sanniquellie- Mahn region office	8	1 FDG
	A representative of the ENNR District Office	One from Each NGOs in Yamian Sanniquellie- Mahn District office (AML, CI, and FFI)	3	3 SSI
9	District Conservation officer	LFDA- Yamian and Sanniquellie- Mahn District	3	1SSI
	District Forest	LFDA- Yamian and	3	4SSI

	Conservator	Sanniquellie- Mahn District		
10	Representatives of the District Conservation Leaders (JFMB)	Yamian and Sanniquellie- Mahn District committee	8	1SSI
	12 Local peoples	1FGD in each Town	28	4FGD
Total			56	17

**Table 2. Register respondents from the local community (local people) in the different Towns**

Town name	Number of respondents
Zortopa	9 and 10
Zolowee	8
Geipa	9
Total	36

**Table 3. Primary data sources, retrieve data from each data source, and data collection method**

Types of type of data source	Data retrieved from each source	Number of Subs-research question	Data collection method
Supervisor for monitoring and research	<b>Viewpoints on the Principled Engagement of co-management governance (Co-management governance to resolve the forest issue at ENNR FPA).</b> <b>Viewpoints on the</b>	RQ, 1, 2,	One person interview

	<p><b>Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR FPA.</p>		
Regional Representative of the ENNR Protected Area head office	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p>Viewpoints on the <b>Shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>	RQ- 1,2,3	One person interview

A representative of the district Forest	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p>	RQ-1,2	One person interview
Representative of the	<b>Viewpoints on the</b>	RQ-1,2,3	

Office of conservation research priorities	<p><b>Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution Design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p><b>Viewpoints on the Shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>		
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Representative Of the office improving biodiversity stakeholder group	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>	RQ-1,3	One person interview
Representative of the ENNR management capacity building project proposal	<b>Viewpoints on the Engagement in co-management governance</b>	RQ-1,2,3	One person interview

	<p>(Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p><b>Viewpoints on the shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>		
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ENNR District Officer	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p><b>Viewpoints on the shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>	RQ-1,2,3	One person interview
ENNR District Forest Manager	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p><b>Viewpoints on the Institution design of co-</b></p>	RQ-1,2,3	SSI more than one person

	<p><b>management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p><b>Viewpoints on the shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>		
12 Local peoples	<p><b>Viewpoints on the Principled Engagement of co-management governance</b> (Co-management to resolve the forest issue at ENNR.</p> <p>Viewpoints on the <b>Institution design of co-management governance</b> (co-management governance resolves forest issues at ENNR.</p> <p><b>Viewpoints on the shared conservation responsibility</b> (To resolve the forest issues at ENNR.</p>	RQ-1,2,3,	FGD

### 3.3 Data analysis

The information obtained from both semi-structured interviews and focus group discussions was transcribed, translated, and analyzed using content analysis with Nvivo software. The Nvivo software allows for conducting a coding process involving using both deductive and inductive coding methods. Deductive and inductive coding was used to analyze the data based on the conceptual framework used in this research. This involved formulating new codes based on the raw data provided by the respondents. Hsieh and Shannon, (2005) and Auerbach and Silverstein (2003) define data coding as the process of breaking down raw data into functional themes that are relevant to the research question. The empirical findings were organized using the visualization method, which involved linking them to the concepts of the study framework. This was achieved by identifying the data categories that belong to specific themes and highlighting them with different colors. Each color represented a specific code, which indicates the degree to which the elements are present in a theoretical framework and were transformed into functional themes based on the research questions and or theoretical framework.



Conflicting opinions expressed by respondents during focus group discussions were addressed as explained in paragraph 2 of section 3.2.3. However, conflicting perspectives between different sources of data for semi-structured interviews were treated independently, and each data was coded into its specific theme. The data collected from different sources were then combined and coded into relevant themes by identifying the relationships between the concepts between the data sets. To make it easier to identify each recorded interview, they were assigned numbers from 1 to 18 in the order in which they were conducted. The number is represented in Table 5 with the symbol (#). For example, the first interview conducted with the Ministry of Environment Protection Agency is identified as interview #1, while the second interview conducted with the Liberia Forestry Development Authority (LFDA) is identified as interview #2, and so on (see Table 5 below)

**Table 4. Number of interviews recorded and the way the recording was structured**

S/N	participants	Recorded interviewee number
1	Ministry of Environment Protection Agency	1
2	Liberia Forestry Development Authority (LFDA)	2
3	Representative of Conservation International (CM)	3
4	Representative of Arcelor Mittal Liberia(AML)	4
5	Representative of Fauna and Flora International (FFI)	5
6	LFDA official three District Conservation officer	6
7	LFDA official three District Forest Conservator in Yamein and Sanniquellie- Mahn District	7

8	JFMB office Eight Representatives of the District Conservation Leaders (JFMB)	8
	Total	18

## Chapter 4: Results and Discussion

This section delves into the results of the research, organized according to the sub-research questions. First, the process for resolving the conflict at the ENNR is explained before presenting the findings based on the sub-research questions. The second section of the results focuses on addressing a sub-research question that pertains to the Principled Engagement for co-management at the East Nimba Nature Reserve (ENNR). The Principled Engagement's main core element includes identifying individual and common interests, concerns, and values in the co-management that have been explored. The third section addresses how the institutional design of the co-management process was used at ENNR. In the institutional design, core aspects such as participation, transparency, distribution of power, resources, ground rules, and other laws in the co-management have been explored. While the fourth section describes how the sharing of conservation responsibilities of the co-management process was applied. The shared conservation responsibilities, core aspects such as trust, resources, leadership, and knowledge. The fifth section covers potential strategies that could be implemented to resolve the conflict at ENNR.

### 4.0. The Co-management process resolving conflicts ENNR.

As outlined in the methodology section, the East Nimba Nature Reserve (ENNR) was established in 2003 by an Act of the National Legislature. However, at the time of the Act's passage, Liberia was in a period of political transition and the aftermath of the long civil war was still evident. In 2003 the ENNR was managed by the Forestry Development Authority and Eco-guide or Patrolling Department from 2003 to 2010. During this time, the conservation administrators partnered with the District Forest Officer in Yamian and Sanniquellie-Mahn to raise awareness about conservation among the residents of the Zorotopa, Geipa, and Zolowee villages. However, they encountered challenges in raising awareness and negotiating an agreement with the local people (residents) regarding the management of the ENNR. The local people argued that they had inherited the land from their ancestors in the late 1940s or early 1950s, and could not leave. leading to ongoing conflicts with the Liberia Forestry Development Authority (LFDA) from 2003 to 2010. They persisted in hunting, farming, and utilizing the reserve as they deemed necessary for their sustenance, thus embracing an approach of unrestricted use of the reserve's flora and fauna. This created conflicts between the Forestry Development Authority (FDA) and local people due to disputes over forest land and illegal activities such as encroachment, poaching, and chainsaw operations.

Meanwhile, the LFDA maintained that the locals had encroached on their forest land, with which the locals disagreed. The interviews revealed that the locals were unhappy with the engagements between

them and the LFDA. This disagreement led to the locals engaging with their representatives from Yamian and Sanniquellie-Mahn in 2008, where they presented their claims of being evicted by the LFDA. In 2008, the district representatives visited the villages to hear the opinions of the locals regarding the conflict. The informants did not reveal the response of the Forest Development Officer following his visit. As the Forest Development officials continued to raise conservation awareness by insisting that the locals vacate the encroached land. Between 2008 and 2009, the local community repeatedly raised the issue with the District Representative. As a result, the District Representative decided to organize a meeting with the locals to discuss the matter. According to the locals' report, the District Representative instructed them to go back to their village after the meeting and pledged to discuss the matter with the District Forest official at Yamian and Sanniquellie-Mahn. The District Representative also promised to give them feedback on the matter. However, the locals claimed that they did not receive any concrete feedback on the matter. In 2010, conservation organizations from the Western and Southern regions aimed to engage with local communities in nature conservation and the management of their forest land. As a result, they decided to collaborate with the government and the local communities to ensure effective and comprehensive management of the land and forest resource in the ENNR.

The initial phase of the collaborative effort was to establish the Co-management Committee (CMC) in 2010. The idea of ENNR Co-management was conceived through discussions between the LFDA and the executive officers of the Joint Community Forest Management Body (JCFMB) - the President, Vice President, and Secretary - representing Zortopa, Geipa, and Zolowee. In the mid-2010s, the Western group and Liberia Forestry Development Authority (LFDA) decided to introduce a policy that aimed at regulating hunting, farming, and the use of forest resources within the ENNR area for local people who were not associated with any of the aforementioned organizations or groups. This means that the locals lacked customary rights to their land and access to forest resources. This resulted in the proposal of employing local people as park Eco- guards in the ENNR region. During the same period, Western-Southern conservation organizations formed a committee comprising six members from the surrounding communities (Zortopa, Geipa, and Zolowee) and six members from the LFDA, to create a co-management approach, for which the committee signed a Co-Management Agreement. This committee was referred to as the CMC and was granted the authority to manage the ENNR for the next five years. However, according to the interview, the LFDA is not willing to share equal decision-making powers with the local communities in the co-management process. which has resulted in conflicting situations at ENNR.

The local communities were dissatisfied with the ongoing engagement because the LFDA officials were insisting on having decision-making power and implementing a ban on forest land. This led to the community engaging with the Yamian and Sanniquellie-Mahn Regional Representatives in 2014 to present their claims of being marginalized and having limited decision-making power. The Regional Representative held a meeting with the local community and LFDA in 2016 to address the conflict. To resolve the conflict, the LFDA agree to renew the management structure with the local community in the same year. Despite continuous efforts from 2016 to 2021, renewing the co-management agreement has been unsuccessful. This is due to the government's focus on owning the ENNR, which has prevented the agreement from being renewed.

In 2022, representatives from Western collaborated to assist in renewing the management agreement. To renew the management agreement, a meeting was organized on October 28, 2022, in Zortopa village, which is home to the ENNR headquarters. Those present at the meeting comprised

representatives from a range of organizations, including the FDA, ENNR CMC, local government, Community Forest Management Bodies (JCFMB), other international NGOs, and private sector actors. As a result, residents from three other villages attended the meeting at Zortopa village at ENNR headquarters. During the meeting, the Regional Representative and other international NGOs had the opportunity to hear the complaints and issues raised by all the locals on a larger scale. After hearing these concerns, the Regional Representative decided to form a committee to conduct a more thorough investigation into the matter. The committee consisted of several officials, including the District's Land Officer, a Regional Conservation Officer, an LFDA Official, a District Forest Officer, one JCFMB representative, and the Planning Officer, who served as the committee's chairperson. The committee spent three weekdays (21 days weeks) visiting villages and exploring the underlying causes of the conflict. The committee organizes meeting in Zortopa to present results to the public, which could be used for resolving the issue. The co-management project for ENNR restarted in 2022 with a meeting held on October 14th, and the first twenty (20) local Eco-guides or park rangers started working in the same month. The project was funded through the "day-to-day management" program of the Western Conservation Forest Management initiative.

The ENNR is managed jointly under a co-management committee comprised of The committee is composed of six representatives from the FDA and six representatives from the JCFMB of the Zolowee, Zortopa, and Geipa Zor communities. In 2022, the FDA and the Joint Community Forest Management Body (JCFMB) of the Zolowee, Zortopa, and Geipa communities signed a Co-Management Agreement (CMA) to jointly manage the reserve and protect its biodiversity. In the co-management process, the Liberia Forest Department is responsible for monitoring and evaluating co-management activities in the ENNR. However, the LFDA and various sub-divisions (regional office, station office, and forest patrol post) work under the Ministry of Environment Protection Department and local level work under the LFDA. In addition, residents of ENNR are prohibited from entering the forest, while several sub-divisions of the Forest Department and their associated staff are permitted to enter the ENNR.

Western Conservation's NGOs are responsible builds local people's capacity for efficient co-management at ENNR. They aimed to achieve tangible outcomes from the co-management arrangement by having on-the-ground staff who are paid and accepted. This would be more than just a set of theoretical strategies and decisions made in boardrooms. This approach would also make co-management more tangible to the local community, providing young people with opportunities to aspire to and hold desirable jobs that translate customary responsibilities into action. The Western Conservation NGOs intended to develop their capacity through training and operational experience, gradually assuming more responsibility until they could eventually form a separate unit to provide benefit services to the local community ENNR. The co-management committee was established on the principles of autonomy, credibility, enforcement, appropriateness, and accountability from the outset

The CMC is responsible for supporting local people involved in small businesses and offering them alternative livelihood activities that can supplement their income from collecting forest products. One example of this is providing fish and poultry farming. Additionally, the CMC is involved in raising awareness among local stakeholders about forest laws, such as the prohibition on farming and hunting at ENNR. They also monitor and evaluate project activities adopted for ENNR. In the event of illegal

activities by local people, the CMC is responsible for reporting it to the Forest Department through the elected president, vice-president, and secretary of the committee and action will take again that local person. However, it was not clear mention what action can be taken again that local person.

The Co-management Committee (CMC) maintains an up-to-date list of households or individuals in JCFMB of the Zolowee, Zortopa, and Geipa and carries out regular patrolling activities at ENNR. The Co-management committee Committee (CMC) has the authority to create one or more Community Protection Groups (CPGs), comprising the required number of members selected from JCFMB members in each range. The Co-management Committee holds meetings at least once every six months. The representatives (such as the president and secretary) of the committee at the lower level (JCFMB) meet with representatives at the higher level (LFDA) and LFDA and collaboration with the Ministry of Environment Protection Department (MEPD) make final decisions regarding the national forest affairs in the ENNR. However, the (MEPD) and LFDA hold greater decision-making power within the Co-management Committee. While, although local people are involved in committees, they have limited decision-making power, and the current management framework has restricted locals' ability to benefit from the conservation efforts in the ENNR forest. The LFDA's collaboration with the JCFMB is limited to implementing conservation education programs in the local community. As a result, the conflict remained unresolved, and locals continued to voice their grievances.

Due to the ban on local people from accessing the forest land and limited decision-making power, the locals decided to hold a meeting with leaders in the Yamani and Sanniquellie-Mahn district in November 2022 to discuss alternative livelihood sources. The meeting involved LFDA officials, District Conservation Leaders, and international organizations such as CI, FFL, and AML, and it was held at the district office in Yamani City. During the meeting, the local leaders raised concerns about the current issues, and conservation officials responded by addressing the issues. The LFDA officials promised to provide alternative livelihood sources to the locals who were not allowed to farm or access the ENNR again. However, it was not clear what actions the LFDA would take following the concerns raised about providing alternative livelihood sources. The imposition of restrictions on local harvesters' access to forest resources by Forest Department staff has worsened the conflict between local people and the Forest Department and has not addressed the loss of biodiversity in the area. The main elements of the ENNR partnerships are summarized in Fig. 2

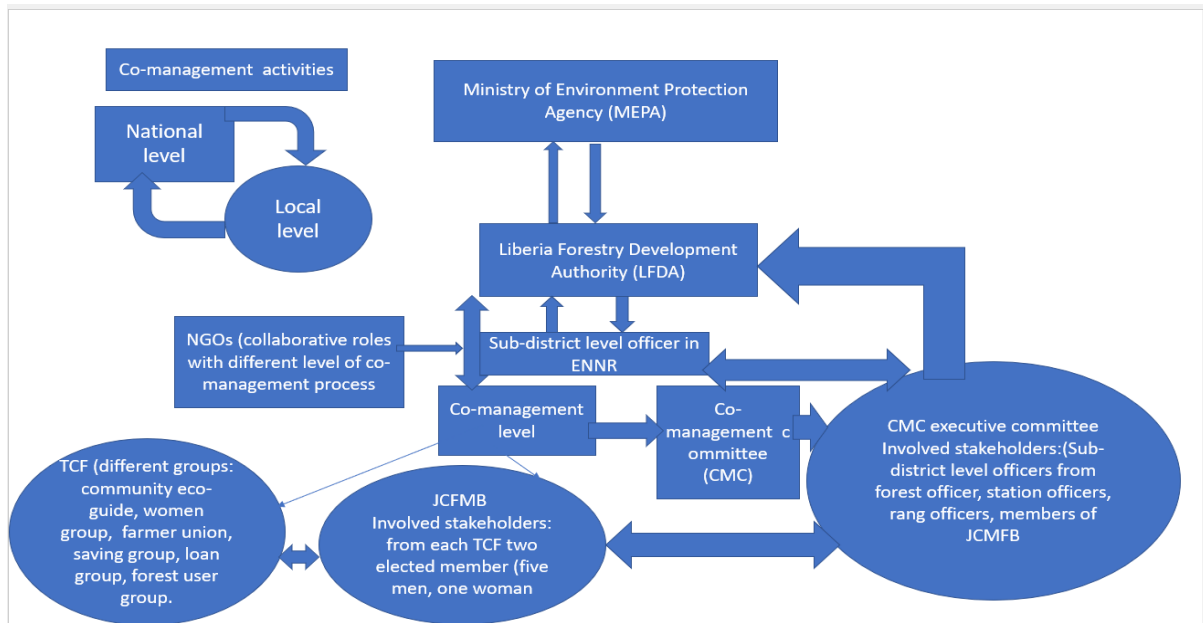


Figure 2: Co-management institutional approach of the ENNR forest protected area (from the study site). The circles reveal the institutions at the local level and the rectangles show the regional and national levels.

#### 4.1.1 Principled Engagement

Despite utilizing a co-management approach involving government officials, international NGO officials, and local communities, the conflict at ENNR remained unresolved. Several factors contributed to the failure of the conflict resolution process such as inadequate implementation of the co-management process, insufficient engagement and governance in collaboration, and poor decision-making power in the co-management process. The engagement was mostly conducted among Forest conservation officials at (district and regional levels) and JCFMB representatives (such as local chiefs, village leaders, district supervisory officers, and social workers) to address various issues. However, the Forest conservation officials at (district and regional levels) do not have the authority to make final decisions when come to forest resource conflicts between the LFDA and local communities. The responsibility to make such decisions lies with the Conservation Representative for LFDA in the ENNR Headquarters. The final decision-making power lies with the Conservation Representative for LFDA in the Headquarters. In an interview with an informant at the Ministry of Environment Protection Department (MEPD), it was explained that the Ministry delegates most of the decision-making and responsibilities for managing national forest reserves to the LFDA, but the local people or any other stakeholders can appeal to the Ministry if they are not satisfied with the decisions made by the LFDA. Although the informant was not aware of any conflicts at ENNR during the interview. The informant from the MEPD's lack of awareness about the ENNR issue might be due to a communication gap between the LFDA and the MEPD. The informant from the LFDA headquarters stated that they could make many decisions regarding national forest reserves. At the discussion, there were some decisions that they could not make and would need to communicate with the Minister at the MEPD. However, it was not clear which decisions fell under the authority of the MEPA and which ones required the attention of the Minister. As per the Liberia forest legislation, the Minister

has the ultimate power to make final decisions regarding national forest activities in the country. One of the local people interviewed stressed that they recommend involving the Minister for MEPD in the co-management process at ENNR because they have already engaged leaders at district and regional levels, but it seems that those at the highest level are afraid to make decisions. This was said in response to the fact that the Liberia forest legislation gives the Minister the ultimate power to make final decisions regarding national forest affairs, and it was unclear what decisions needed the attention of the Minister.

#### **4.1.2 Discovery**

The conflict between the locals and LFDA in resolving the issues at ENNR has arisen due to differences in their worldviews, leading to misunderstandings and strained relationships. Local people view the issue at ENNR from a completely different perspective than LFDA. During my interviews, I observed that the local people from all three villages stated that they inherited their ancestors' lands within ENNR and have been using the land since their youth. Some were even born on that land, where their ancestors were buried. The oldest interviewee from the local community was born in 1957. According to the locals interviewed, they were compelled to relocate to different areas during the implementation of the villagization policy in the 1990s. This policy was enforced between 1985 to 1990 during Liberia's economy, which was guided by industrialized policies emphasizing nationalism, state ownership of assets, and price control.

However, in 1944, they were forced to leave the land and settle in new areas during the implementation of the Liberia industrialization policy. Between 1985 and 1990, Liberia's economy was governed by independence-support policies that emphasized nationalism, state ownership of assets, price control, and industrialization (AML 2013). The implementation of the industrialization policy caused local people to move from their former settlements to newly established villages to facilitate the provision of social needs. As a result, the local people were compelled to abandon the land they previously used for farming (World Bank. 2021; AML 2013 ). Therefore, The local community associated the ENNR issue with Liberia's industrialization policy, stating that they have been deprived of their ancestral land.

“Town chiefs from the community explained that their ancestors had inherited the land, and they were born and raised there. However, due to the industrialization policy, they were forced to move to other areas in 1985. They were surprised to find out later that the land they had been living on was designated as a reserve, and for which they were depending on it for their livelihoods. He expressed that where can we g.... most of us are now old and have children, and with the lack of employment opportunities and economic difficulties in the county, where will our children get a piece of land to live on” (Interview #15)

Based on interviews with the local people, it appears that they have been farming on the land within ENNR for several years without any issues from the Forest managers. However, in 2003, the LFDA representative at the region and zone began to prohibit local people from using the land, claiming that they were encroaching on the forest reserve. The Director of Forestry and a representative from the Environment Protection Department (EPD) stated during an interview that in the past, there were

insufficient resources to manage forest resources, which led to high rates of deforestation. To address this, the government established the Liberia forest park rangers to improve the management of national forest resources. The previous ineffective management of ENNR may have contributed to the locals' encroachment on the forest land for farming purposes. Furthermore, the interview that the local community held a completely different perspective, stating that their ancestors or themselves were not involved in creating the forest reserve. Additionally, they claimed that their exploration of the conservation experts regarding the matter had not been effectively addressed. As one of the interviewees expressed:

*“I was born in 1970 and this same region now appears to be a reserved area. Now [...] everyone was farming in this area. But by 2003, I remember a member of the Liberia Forest Department came, and we meet at the town chief area It is when they started talking about a reserve. It is that time when they said that the area is a reserved land and is no longer allowed to be farmed. [...] I remember I asked when that area was set as a reserved and where can we farm. Why have we lived in that area for a long time and not heard of the report? [...] Why have we been farming in that area until today, and you have not shared that information with us? And why didn't you engage us to know the boundaries of the reserve, so we could understand where our farming starts and ends? We confronted each other so much, and we did not reach a consensus”. (Interview # 10)*

In addition, Differing world view regarding the issue at ENNR was also revealed during the interviews with conservation officials in Sanniquellie- Mahn region. Which, some of them appeared to be hesitant to frame the issue at ENNR as a conflict. They believe that ENNR has been encroached upon by the local people for agricultural activities. Thus, the local people have committed an offense against the forest legislation, which prohibits human activities in the forest reserve. They maintained that the local people lack conservation awareness. Due to that, LFDA will continue providing conservation awareness to change the local people's mindset. The interview shows that the LFDA officials underestimated the significance of the ENNR issue. They indicated that they do not see any conflict with the locals because the co-management committee now suggested that the locals also understand that the land, they have been using is part of the reserved land since they have been requesting it for agricultural purposes. Therefore, they believe there is no conflict among them. The statement comes from one of the conservation staff at the ENNR office in Liberia.

*“They have been saying they need the land because of agricultural activities, which makes them deny the existence of every conflict with the local people” (Interviewee number 7)*

This statement was also echoed by several staff members of the LFDA in the region who stated that there is no conflict because they have formed a co-management committee to address the land issue. I also saw a local organization, that has been frequently settling land disputes between the locals and the LFDA in the region.

### **4.1.3 Determination**

The interviews and FGDs revealed that the LFDA's main objective in engaging in co-management is to receive support from local communities in dealing with issues such as illegal hunting, forest degradation, and deforestation at ENNR. In return for their participation, the LFDA has promised the local community benefits such as accessing additional funds, managing forest degradation and



deforestation, and having a say in decision-making processes to gain recognition and influence. However, some local chiefs and traditional respondents claimed that the LFDA has failed to deliver on their promises, and they have raised this issue with the forest conservation office at the district and regional levels multiple times, but the LFDA has made no effort to address their concerns. As a result, the conflict resolution process has led to a deterioration of the relationship between the LFDA and local communities. The interviews also revealed that the ban on agricultural production within the reserve and differing opinions on land ownership were also identified as factors that contributed to the deteriorating relationship between the local people and LFDA at ENNR. This has created distrust and negative perceptions toward LFDA officials regarding ENNR conservation, leading to anger among the local people and LFDA in the co-management process.

During the interview, a local respondent shared that there was a time when the anger of the local community became overwhelming. This resulted in an attack on the LFDA general park rangers at the ENNR head office, causing a major conflict between them. As a result, the LFDA replaced the general park rangers with a new one that had been working at ENNR for years now. A local eco-guard reported witnessing illegal activities in the reserve multiple times during forest tours. While I was conducting fieldwork in Yamani, I observed one such instance when an eco-guard contacted the conservation office to report that someone had not obtained entry permits but had gone hunting animals in the reserve. Then the conservation officer instructed the eco-guard to contact the police for the violator's arrest. Furthermore, I observed that local people often visited the ENNR head office to express their dissatisfaction with land issues and how the ban on forest resources has contributed to increased poverty among the local population. During the interviews, locals from Zolowee and Geipa revealed that the LFDA officers confessed that the LFDA lied to them to gain access to their land. The locals also expressed the belief that the LFDA's decision-making power may be a contributing factor hardship to towards them. Another member of the CMC stated during an interview that the local people have developed a personal dislike towards them and do not want them to bring up the topic of co-management when discussing land issues in the villages.

*“Even he is hated, and the locals accused him of supporting the LFDA action in this co-management process” Interviewee #7*

In addition, another CMC member interviewee at the regional office in Yamani also reported that the local people hate conservation officials. He further explained how they faced difficulties interacting with the local people when it comes to implementing the forest law. He also confessed that the local people have been sending many letters from 2014 to 2022 to their head office, as a reminder of their concerns and no effort has been made. One local interviewee mentions as follow:

*“the locals wrote a letter in 2014 requesting permission to use the farms after realizing that the Lbfd had failed to keep their promise. However, the Lbfd did not respond to this letter. Subsequently, the locals wrote another letter after realizing that the first one had been ignored” (Interviewee #9)*

## **4.2: Institution Design**

The interviews conducted indicate that the co-management process at ENNR was not effectively implemented. There was a lack of clearly defined regulations, procedures, and rules for co-management governance. When LFDA banned agricultural activities in the forest reserve, the local people mostly resorted to seeking assistance from the authorities to resolve the issue. The interviews and focus group discussions revealed that the Representatives of Regional, District, and NGOs (AML and CI) made attempts to organize talks between LFDA and the local communities to resolve the issues, particularly, and the locals persisted in expressing their concerns to the Representatives. When I questioned one of the members of the Co-management committee (from the local level) about the standardization of institutions for the conflict resolution process, he responded that LFDA had already established ground rules before any discussions took place, making it difficult to develop any new rules.

*“Such things did not exist. You know, the government had the own rules. Such things could have been done if the government did not have those rules reaching the community”.*

### **4.2.1: Participatory Inclusiveness**

The interviews and focus group discussions revealed that the local people were highly motivated to participate in the co-management process due to their reliance on LFDA for the resolution of the issue. The local people expressed that they heavily depended on ENNR for agricultural production, as there was a shortage of agricultural land outside the forest reserve and a high population increase in the villages with limited alternatives. The local people saw engagement with LFDA officials as their best approach to finding a solution to the conflict in ENNR. Additionally, having used the land for many years, they are confident that their viewpoint on the ENNR issue will be heard during serious dialogues with the LFDA officials, especially in the presence of top leaders like the Regional, NGOs, and LFDA Representatives. The local people emphasized that the LFDA officials at the Regional and District rank require meaningful insight into the conflict at ENNR. They assert that the officials will obtain a clear insight into the matter when they engage in earnest dialogues. However, the interviews have revealed that LFDA officials have low motivation to participate in the co-management process. This could be attributed to their belief that conservation education and a ban on forest resource uses are better alternatives to managing the conflict at ENNR. As a result, LFDA officials see the provision of conversational education and a ban on forest resources as more effective means of resolving the conflict when engaging with the local people.

### **4.2.2 Transparency**

Regarding transparency, the local town chief highlighted that they had the authority to select their representatives during the co-management process. Furthermore, there was independence and transparency to select the representatives for the dialogues with government officials. The representatives were selected from the Joint Community Forest Management Body (JCFMB) through village general assembly meetings. Henceforth, another local participant stated that individuals who

were deemed troublesome were also given a chance to express their views during the co-management process:

*“I remember when the District and LFDA Representatives came, we had enough freedom, and people were freed to ask questions[...].” (Interview # 6)*

However, she was assured that the opinions of the local people were considered during the conflict resolution process. Despite the community's collective appeal to reclaim their land for farming, they had not yet received it from the LFDA office. Regarding future co-managements, the local people recommended that the representatives should only come from the ENNR communities, including the village chair-lady, traditional chiefs, town chiefs, religious leaders, and the representative respectively. They also believed that the Minister for the Ministry of Environmental Protection is involved in the process due to the difficulty of the issue in collective decision-making. Furthermore, certain members of the local community are skeptical about the effectiveness of the co-management governance approach to resolving the conflict at ENNR. They also express doubt regarding the transparency of the government's operations in the area, citing the prevalence of corruption throughout the government system. According to them, the government will be the main beneficiary of any benefits or funds, and the local communities will only be able to observe monthly enforcement without receiving any tangible benefits.

*“Even if we have representatives from different communities in the co-management process, with everything in Liberia you get a little bit of pessimistic results because corruption is high in every part of the government).”*

### **4.3 Shared conservation responsibility**

The sharing of conservation responsibility over resources between the stakeholders is essential for the creation of trust, resources, awareness, and knowledge in the co-management process. However, sharing conservation responsibility with the local community (JCFMB) has led to several problems in the conflict resolution process at ENNR. In this section, provide more information relating to the problems

#### **4.3.1 Trust**

Trust among the LFDA and local people appears to be a big problem in the co-management process of the ENNR. Both men and women interviewed from the JCFMB villages mentioned that during the co-management process, several alternatives for their livelihood and rural development programs were promised by the government. A few of them include the building of training institutions, schools, and hospitals, the establishment of pig and chicken farming, providing electricity, a loan scheme, agricultural tools, and a budget for Eco-tourism. As the mentioned did not work, this has led to a rather mistrustful relationship between the government and JCFMA. Some factors that have been creating mistrust between the government, NGOs, and JCFMB, are the fact that no hospital and community training centers have been built in the ENNR communities and no budget for Eco-guards for more than four to five months has been given to them.

Specifically, the government and NGOs on the ENNR believe that the priority should be on successful law enforcement and monitoring rather than building hospital and community training centers before the ENNR is successfully conserved. One female respondent from JCFMB, who was so disappointed, mentioned that: “she thinks the communities have no trust in the co-management process again, they promised to provide several materials to the community members, but we have not received non yet. Moreover, we tried to run after them again” [Interviewee LR18]. Another occurrence might show the lack of trust within the governance system of the ENNR. The process of sharing benefits from the higher institution (FDA and CMC) to the local level (TCF and JCFMB) failed and local men and women from TCF and JCFMB could not obtain licenses. On top of that, it seems that the JCFMB think that the FDA and the co-management committee members will act in their rest first, and not in t their local interest. The trust problem between the government, NGOs, and JCFMB in the ENNR seems to be caused by unclear communication. Therefore, building trust needs to be one of the most important elements that should be considered, because mistrust in co-management processes will result in unsuccessful co-management practices in the ENNR.

### **4.3.2 Resources**

In the ENNR government process, there are several ways for sharing benefits such as finding time, and technical and logistical assistance. The FDA and CMC are waiting for the collection of those benefits to support the TCF and JCFMB before implementing any activities. However, from the beginning of the co-management process, only little support has been received; it was used on transporting CMC member leadership for meetings and creating forest awareness. Also, monitoring illegal activities in the forest currently depends on TCF and JCFMB (called Eco-guide) and there is no budget for them. In the next section, the element resource will be discussed in detail.

### **4.3.3 Financing**

One of the CMC members explained that efficient management of the ENNR is still lacking because the present budget is not enough for law enforcement and implementation of ENNR is a challenge. One CMC member explained that the present management budget is approximately 200,000 to 300,000 USD per year. According to CMC members, a management plan needs two million USD each year and this amount could be enough for the successful management of the ENNR. Within the JCFMB, they also believe that adequate financing is needed for ENNR. “The reserve can only be sustained when there is money, implementation of the law, and the incentive to support local men and women” (JCFMB). Patrolling (Eco-guide) around the ENNR and monitoring the forest resource and tourists visiting is done once a month because of the lack of enough financing. The Eco-guide members have been volunteering for years now and they need to do patrolling at the cost of 30 USD per month. According to one of the FDA staff, there was a proposal sent to the government of Liberia and to other NGOs to obtain financing for the Eco-guidance and they are presently waiting for the authorization. To leverage financing in the meantime, the FDA wants to start Eco-tourism programs that could help in supporting the eco-guide. From the look, the different stakeholders seem to have differing opinions on establishing that Eco-tourism program. The FDA and NGOs are supporting this

ideal, while the TCF men and women are worried about the benefit sharing. Because in the past those tourists that have been visiting the ENNR, TCF have not received any benefits from FDA and others in position. Therefore, sharing resource need negotiation and a comprehensive plan of how the benefit will be shared between the FDA, CMC, JCFMB, and TCF. To improve the budget for ENNR management, one solution could be to increase the ENNR entrance fee. The entrance fee can be used to support TCF, CMC and for the implementation of the ENNR.

#### **4.3.4 Staff**

Presently, the scientific implementation division of the ENNR has only two staff representatives that are responsible for conducting training. The political issue of the country has also limited the number of staff in the ENNR. Every new government which is elected will bring its staff to replace the previous staff. It has been replaced six times so far, and FDA is responsible for their training. Furthermore, one member of the present Scientific implementation division is studying as an undergraduate and waiting to complete the BSc in the future. Because this person is often absent and therefore cannot monitor the eco-guide team, this team has to exercise self-control. If any illegal actions occur in the forest while on duty, they should take photos, record the person's information, the regional, and send them to the FDA head office in the ENNR. However, the entire system seems not to be developed yet. One respondent from the JCFMB explained as follows. "I believe we still need education on eco-guide activities because when my team was asking if forest men and women are allowed to take medicine from the ENNR, the answer was no" (JCFMB). The JCFMB and the FDA seem to have some good ideas within the ENNR. The issue is management arrangements on how to provide logistical support, and governmental and NGO assistance, and it needs knowledge for analysis and implementation. Furthermore, since ENNR has just been newly established, that knowledge is not developed yet. For the ENNR management to improve organizing and marshaling those resources, knowledge in finance might be a significant step because finance is important in the co-management process.

#### **4.3.5 Leadership**

According to CMC and JCFMB, different co-management committee members were selected from both JCFMB and FDA. "We selected six members from the JCFMB and six members from the FDA." However, leadership and creativity seem to be missing within the ENNR. Most of the local men and women from the JCFMB and TCF seem to be insecure about who has the knowledge and responsibility for implementing activities. Most of them are not educated. So, the question is who might or can suggest the way forward for action. One of the FDA members observes that leadership is a problem within the management system of the ENNR. "When it comes to action, then I think there is a lack of leadership in the ENNR. When international organizations decide to support the local community in the ENNR, we still need some time to take action" (statement from FDA staff). Another interviewee from CMC mentioned that the management needs to change every five years, and no organization is willing to take on the initiative. The CMC expects the FDA to come up with a new management plan and the FDA in turn expects the CMC to develop a management plan that will give structure to the different activities concerning implementation and law enforcement. On the other hand, the TCF and JCFMB might want to see more action coming from the FDA and others. The traditional chief said: "I am willing to do anything, just tell me what to do". "There is no leadership

for that” (statement from CMC member). Also, the difference in local community’s initiatives could seem to be an issue because one of the interviewees stated that: “Yes, who will leave his own business and work for others, even if I share my ideal, no one is willing to take their time for it” (Interview LR 4). Some members of the TCF also mentioned that most of the time government and other organizations used us without paying enough money, which causes us to stop taking up the initiative. She said: “I have a business to run every day and the government and NGOs used us, paying no good money. That is why I am running away from that to a different task” (statement from a woman). It seems like different stakeholders are not just only running away due to busy times; instead, it is because of the lack of information or knowledge about initiatives. “Sometimes we are willing to support, but how can we just start helping and we don’t know where to start from” (CMC). Overall, leadership and initiative are important aspects for driving the different stakeholders to fix the co-management process. Hence, leadership and initiative seem to be lacking in the ENNR process. Moreover, some of the stakeholder organizations are unsure about their role and responsibilities. Other stakeholders do not think they are responsible for telling TCF or JCFMB what to do. Additionally, a lack of direction from the higher level is expected by many institutions.

### **4.3.6 Knowledge**

According to one staff from the conservation office, some scientific knowledge has been provided by NGOs (CI and FFI) to local people at ENNR. The aim is to reduce forest resources, degradation, and unsustainable forest activities. Several hunters and farmers are not informed of the resulting impact on forest resources. Because of this, many local NGOs started forest education programs to reduce deforestation, overhunting, and forest degradation, and to educate TCV and tourists on the importance of forest management. “In the past, we never noticed the importance of forest management, and we just used it anyhow, but some NGOs came and educated us about the importance of managing the forest” (statement from man and women of the JCFMB). However, the language barrier between the TCV and tourists makes it challenging for most of them to create forest awareness. Both women and men stated: “We think we need more scientists to help some of our community members because some of the questions and ideas on forest management are still missing. We only have one park biologist currently in the ENNR” (chair-lady and local men from TCV).

## **Chapter 5: Discussion**

The following section will center on examining and discussing the outcomes that were presented earlier. The discussion of these findings will be structured according to the sub-research questions. Specifically, the first section will explore the primary issue relating to principle engagement, while the second section will cover a crucial aspect of institutional design that emerged from the results. The third section will explore the efficient sharing of conservation responsibilities in resolving the conflict at ENNR, while the fourth focus on the Limitations of the study, and the final section will present approaches to address the conflict that exists at the East Nimba Nature Reserve.

### 5.1.1 Principled Engagement

According to the results of the study, the stakeholders had a ‘poor’ relationship before and during the process of resolving the conflict. According to Emerson (2021) and Thondhlana & Cundill (2017), ‘poor’ relationships are likely to impact perceptions and create a feeling of distrust among the stakeholders in the co-management process. Despite the ‘poor’ relationships identified in this study, the results indicate that the local people are highly motivated to collaborate with LFDA. This is likely due to the promised benefits, such as access to funds, alternative livelihood sources, and having a say in decision-making processes to gain recognition and influence. This suggests that the local people have high expectations that the dialogues will yield positive outcomes. The local people's high motivation to participate in co-management despite ‘poor’ relationships with LFDA may be due to their heavy reliance on forest land for crop cultivation in ENNR. This dependence was evident when locals in the Yamain and Sanniquellie-Mahn regions wrote to the Forest Development representative at ENNR head office to request the return of the land. Additionally, while not explicitly mentioned in the interviews, LFDA also relies on local community support to effectively manage ENNR and achieve long-term conservation goals. This inter-connectedness of actors is a motivating factor for the implementation of co-management governance, as highlighted in previous studies on natural resource management conflicts (Thomson & Perry, 2006; Ansell & Gash, 2008; Emerson et al., 2012).

The finding has revealed that there was a lack of communication between the LFDA and local people. For instance, the people in Zolowee and Geipa villages had to continue sending a letter to the Conservation Representative at ENNR head office because several letters sent were not answered. When the interviewer asked the LFDA in Yamain if the local people wrote several letters and received no answer, there was no proof provided. The complaints of the local people suggest that there was a lack of communication between LFDA and the locals, leading to low trust and ‘poor’ relationships. The results of this study align with the findings of Thomson and Perry (2006) in South Africa, who discovered that poor communication between forest management officials and residents negatively affected their relationship. The primary objective of the research was not to analyze the main causes of conflict at ENNR but rather to examine how the co-management approach was utilized by the various stakeholders to resolve the land conflict. However, this research provides some understanding of the underlying causes of the conflicts at ENNR, which is intended to demonstrate how conflicting perceptions among the actors have influenced the conflict resolution process. Specifically, the study highlights how different worldviews between LFDA and local people regarding the issue at ENNR have affected the conflict resolution process in co-management governance. This is important because differing worldviews have been identified as a cause of poor relationships and heightened conflicts between the local community and conservation managers (Thondhlana & Cundill, 2017). The findings of this study on the differing perceptions between conservation managers and local people are consistent with those of other scholars in Australia and South Asia.

The results of this research, which reveal differences in different worldviews between conservation managers and local people, are consistent with the findings of other scholars in Australia and South Asia (Begum et al., 2021). These studies have shown that conservation officials do not recognize any conflict with local people, whereas the locals have a different perception. Their studies conducted in Australia and Bangladesh found that the conservation officials did not perceive any conflict with the local people, whereas the locals had a different perception. This was also observed in the case of ENNR. It is important to note that avoiding or ignoring these different world views among the

stakeholders regarding the ENNR issue may not be a viable solution for the long-term and sustainable conservation of the reserve. According to Margerum (2001) and Thomson and Perry (2006), communication is at the heart of any co-management governance approach. Therefore, communication is important because all other elements are linked to it. For instance, the ‘discovery’ of different stakeholders’ shared interests can only be possible when they talk with each other. The same goes for ‘determination’. For co-management governance to be successful, communication is required between stakeholders (Castro and Nielson 2003). Also, blind trust is not possible if the different stakeholders do not have the opportunity to ask challenging questions and express their concerns or interests. This was also acknowledged by Ansell and Gas (2008) who stated that stakeholders can only develop trust, respect, and commitment to the co-management process if they engage in interpersonal communication.

### **5.1.2 Institution Design**

The results indicate that the conflict resolution process was poorly managed due to the absence of formal or informal procedures and agreements for partnership. One possible explanation for this is that the co-management process had been local people in the region without adequate expert support. This implies that obtaining technical assistance and professionals from LFDA and other stakeholders is crucial for the successful co-management of conflict resolution at ENNR. Although it is well-documented that the primary objectives of conservation agencies in co-management governance have always been focused on protecting and increasing their conservation interests (Castro & Nielsen 2003; Carlsson & Berkes et al 2005; De Pourcq et al 2015) Therefore, the leaders of the co-management process at ENNR need to ensure a balance of power among all stakeholders when management process at ENNR to ensure a balance of power among all stakeholders when conservation officials provide technical support or other assistance. If this power imbalance is not adequately addressed from the outset, it may lead to an escalation of the conflict when the powerful actors seek to assert their interests, thereby undermining the ability of co-management governance to resolve the conflict effectively at ENNR.

The disregard of some conservation officials towards the use of formal institutions to address the ENNR conflict because they deemed it small may lead to an underestimation of its severity. Neglect of conflicts in natural resource management has led to critical and devastating consequences, as highlighted by Castro and Nielsen (2003). Given the differing perceptions of local people on the ENNR issue, their participation in conservation efforts may be hindered if the conflict is not resolved. Delays or negligence by conservation officials in addressing the conflict could pose conservation challenges at MFR. Local people's involvement in managing PAs is crucial for achieving conservation goals, and their absence from natural resource management may not result in positive outcomes, according to Thondhlana and Cundill (2017)



### **5.1.3 Shared conservation responsibility**

Trust appears to be a critical issue in the conflict resolution process at ENNR, where several stakeholders distrust each other's intentions, believing that they prioritize personal self-interest rather than collective interest. This is compounded by unclear roles and relationships, which can be traced to two factors: firstly, the lack of public availability of the management plan. Scientific knowledge is mainly used in conflict resolution processes at ENNR to educate locals. However, during the establishment of the management plan, scientific knowledge was utilized while local knowledge was disregarded. Cultural and language barriers further hinder many locals' understanding of environmental concerns. Finally, regarding resources, there is a lack of capacity for implementing and enforcing the management plan. Emerson and colleagues (2012) defined "shared conservation responsibility" as the relationship among stakeholders within a co-management governance system. Thus, shared conservation responsibility plays a crucial role in achieving co-management goals at ENNR, as emphasized by Margerum (2001). Therefore, to achieve successful co-management governance at ENNR FPA, trust-building is crucial for reducing transaction costs, enhancing investments and stability, and promoting learning, knowledge exchange, and innovation (Emerson et al., 2021). However, there appears to be a lack of leadership direction at multiple levels within the ENNR PFA governance system.

### **5.2.2 Ways forward to address the conflict in ENNR.**

The key takeaway is that the conflict resolution methods employed by actors involved in managing Forest Protected Areas do not give adequate importance to the land and rights of local people in natural resource management. Therefore, to successfully resolve conflicts over forest resources through governance approaches, it is imperative to recognize and respect the traditional owners (local people) for their connection and relationship with the forest resource, as well as their knowledge of the land. The findings indicate that the local community has consistently made efforts to convince LFDA to lift the ban on accessing the reserve for crop cultivation. Even though the ban is still in place, the locals persist in advocating for their right to have the ban lifted to earn a living. This emphasizes the need for effective conflict management and resolution strategies to address the issue at ENNR. Ignoring, delaying, or underestimating the conflict at ENNR could lead to negative conservation outcomes and will not contribute to the long-term sustainable conservation of ENNR.

The first strategy involves providing conservation education and empowering local groups to take on more responsibility for managing forest resources. This approach has been employed to address the conflict since 2003. However, despite its implementation for almost ten years, the conflict remains unresolved. One possible reason for this could be that the environmental awareness programs focused primarily on enhancing the capacity of local people to manage forest resources, rather than addressing the underlying issues of poor relationships or lack of trust between the locals and conservation managers (Emerson et al., 2012). According to Ansell & Gash (2008) and Emerson et al. (2012), Overcoming distrust between local people and conservation agencies requires active engagement and partnership between stakeholders. While providing conservation education to local people can have a positive impact on conflict management and conservation of protected areas, it is not enough to resolve conflicts in protected areas (ENNR). This is because the local people who are affected by the conflicts have different perceptions of the conflicting resource, and addressing these perceptions

requires active communication and engagement between all parties involved. The second strategy involves using policy implementation by the forest department to manage forest resources, which may result in evicting local people from the reserve and providing a short-term solution to the issue. However, in the long period, this approach is likely to escalate the conflict, given that local people have been using the land for many years. Using policy implementation to remove the locals from the reserve has often been reported to worsen the relationship between local people and conservation agencies, as reported by (Cox et al. 2010 and Begum et al. 2021). In addition, evicting the locals may lead to ongoing conflicts, including vandalism of the forests by local people, which could threaten conservation goals. Therefore, using policy implementation to evict local people may not be an appropriate solution for the sustainable management of ENNR.

Thirdly, the decision-making power in conflict resolution employed by the Ministry of Environmental Protection Department (MEPD) and the representative of Liberia Forest Development Department (LFDDR) in Yamian and Sanniquellie-Mahn District tends to prioritize managerialism over the interests of local people and other stakeholders. Therefore, decision-making power needs to be more inclusive, allowing for the opinions of all stakeholders to be considered in the conflict resolution or co-management process. AS Ansell & Gash, (2008) and Emerson (2012) stated that some stakeholders' opinions may be used in the final decision, but this approach does not provide an opportunity for stakeholders to make collective decisions, which is crucial for conflict resolution. Therefore, to address the conflict around ENNR, it is necessary to implement a decision-making process that considers the opinions of all stakeholders particularly evident as local people continue to demand access to the land despite the ban imposed by the LFDA. It is reasonable to assume that local people may not be satisfied with decisions made without their full engagement and participation.

The fourth issue is alternative livelihoods for local people, this is a significant challenge, especially when they are banned from accessing forest resources. One possible solution is to compensate local people whose farmland is in the village and provide them with alternative income-generating activities to support their financial needs, which may help manage the conflict when practically implemented. However, these approaches would be more effective if combined with a co-management approach that involves local people in decision-making. Nevertheless, the implementation of this strategy may take longer due to financial constraints and competing priorities of conservation agencies. Moreover, it is important to note that promises by conservation agencies to support the local community adjacent to protected areas have often not been fulfilled due to practical inadequacies (Thondhlana & Cundill, 2017).

The study findings indicate that the co-management approach was not effectively implemented, and local people were often the ones to initiate engagement with government officials. The failure to resolve the conflict was attributed to poor administration of the partnership, rather than the co-management approach itself being ineffective. Emerson (2012) and Castro & Nielsen (2003) mention that collaborative conflict resolution is essential for successful natural resource management. Therefore, this study suggested that co-management governance could help resolve the conflict if implemented properly, and considering the concerns of local people and the need for dialogue, it is reasonable to suggest this approach. Co-management governance provides a platform for collective decision-making, making any means of conflict management or resolution agreed upon during the engagement more likely to be mutually accepted. However, it is important to note that participatory approaches may not be universally effective in addressing conflicts in every context, as actors may

have contrasting perceptions and different interests that make co-management governance difficult to implement on the ground. Despite these challenges, given the situation at ENNR as described in this study and the potential for local people to engage with opposing parties to express their perspectives honestly, it seems reasonable to suggest that this approach could help resolve the conflict at ENNR.

### **5.2.3 Limitations of the Study**

As a young woman researcher from Liberia who had the opportunity to study in the Netherlands and conduct research in my county was very good, however, there was a different perception among the local people that I was aligned with the interests of the LFDA in the conflicts surrounding ENNR. This could have potentially impacted the data collection process and the analysis of findings due to my position. However, I was aware of this situation and made a conscious effort to remain neutral and objective throughout the research process.

However, the sample size used in this study may not be sufficient to accurately represent the opinions of the wider local community, LFDA officials, and all stakeholders involved in the management of East Nimba Nature Reserve (ENNR) in Liberia. For example, the focus group discussions conducted in each of the three visited villages only involved 8-10 participants, which may not be representative of the entire Yamain and Sanniquellie-Mahn communities. According to information from the Sanniquellie-Mahn District and Yamain, the average population of a village is 25,370, with each ward having between 1,634 to 1,763 people (Sanniquellie-Mahn District and Yamain, 2009). Therefore, it may have been preferable to conduct the focus group discussions at the sub-village level in the Sanniquellie-Mahn District to ensure a more accurate representation of the opinions of the entire Yamain and Sanniquellie-Mahn communities. As a result, the findings of this study should be interpreted with caution.

Another limitation is the use of the convenience sampling method in this study which may have had some impact on the data collection process, as participants were chosen based on their availability and willingness to participate, potentially resulting in the under-representation of certain sub-groups. Additionally, the limited time allotted for interviews may have further contributed to these challenges.

Nonetheless, the study provides valuable insights into conflict resolution processes in protected Areas (PAs) in Liberia, particularly at ENNR. As such, the findings could serve as a foundation for more effective conflict resolution strategies not only at ENNR but also in other PAs across the country.

## Conclusion

This research has shed light on how the co-management governance approach enables the government, NGOs, and local community members to effectively manage and control conflicts related to forest resource management and also contributes towards reducing poverty in the Yamian and Sanniquellie-Mahn district of Liberia ENNR FPA in Liberia. Several useful elements regarding co-management governance have been pointed out. Overall, the results suggest that co-management governance is an effective strategy for conflict resolution, but its success depends on proper administration and implementation.

To address the first sub-question, the study examined the impact of principled engagement in co-management governance on the process of resolving conflicts. Despite the strained relationships between LFDA and the local community, the locals remained highly committed to participating in the co-management process. The research also highlighted how divergent perspectives among stakeholders influenced the conflict resolution process and emphasized the importance of leaders in facilitating a shared understanding of the issue. Achieving a mutual understanding between stakeholders is a critical element of co-management governance since it increases the likelihood of reaching a consensus on conflicting resources.

In response to the second sub-research question, the study found that the failure of conflict resolution was not due to the inadequacy of the co-management process, but rather the improper administration of co-management governance. In some cases, partnerships were established without formal agreements on how to carry out the co-management process. The study suggests that key aspects of co-management governance, such as formal and informal rules, procedures, and agreements, should be addressed and discussed among all important stakeholders involved in the conflict resolution process. Because if properly implemented, these measures may help achieve the desired outcomes of co-management.

In response to the third sub-research question, the study found that the conflict resolution process failed due to an unequal distribution of decision-making power in the co-management governance process. The findings indicated that local people had limited involvement in the decision-making process, which negatively impacted their interests and those of other stakeholders. The study recommends that decision-making power should be more inclusive, ensuring that the opinions of all stakeholders are considered in the co-management or conflict-resolution process.

Finally, this study has limitations (mentioned in section 5.2.3) due to the use of qualitative research with a small number of participants, which may not represent the opinions of the entire local community or management administrators of the ENNR FPA in Liberia. Moreover, limited time and financial resources have prevented this study from providing a more detailed ethnographic analysis compared to other social science studies. Nevertheless, this study has brought attention to the issues at ENNR and raised awareness among conservation managers and the forest department. The findings could inspire further research into managing forest resource conflicts, particularly in understanding the diverse perspectives between local stakeholders and government and how to involve local people in decision-making processes. Further research could examine local people's concerns toward the existing ban on forest resource and the Forest Department's level of cooperation with them.

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## **Appendix 1. List of codes used for data analysis**

### **S/n Code name**

- 1 participation
- 2 Communication
- 3 Resources
- 4 Power
- 5 Transportation
- 6 Decision
- 7 Relationship
- 8 Leaders
- 9 Leadership
- 10 Determination
- 11 Institutions
- 12 Rules
- 13 Agreements
- 14 Policy
- 15 Procedures
- 16 Approaches
- 17 History
- 18gender equality
- 19 Forbid
- 20 Meetings
- 21 Independence
- 22 Recognize
- 23 Ask questions
- 24 towns meetings
- 25 decisions power
- 26 Trust
- 27 staff

28 Support

29 Benefit

30 Conflict

## **Appendix 2. Semi-structured questionnaires list**

### **1. Principled Engagement**

#### **Discovery and Determination**

1. To begin with, I am interested in learning about the beginnings of the ENNR conflict.
2. Who had the authority to make decisions during the conflict resolution process?
3. Did you have a chance to be involved in the decision-making process?
4. Was there a fair and equal chance for all stakeholders involved to participate in the decision-making process during conflict resolution or co-management process?
5. What resources were considered significant during the conflict resolution process?
6. how was the process for selecting the various stakeholders who participated in the conflict resolution or co-management committee?
7. Did the conflict resolution process include all affected stakeholders? If not, how was it handled?
8. How the all the affected stakeholders selected?
9. Can you describe the decision-making process during conflict resolution and how agendas are created and working groups are assigned?
10. Are you satisfied with how the decision-making process is conducted?
11. How were agreements on activities reached during the co-management process for conflict resolution at ENNR?
12. How did the Discovery and Determination processes affect the outcomes of the co-management process for conflict resolution at ENNR?
13. How did Principled Engagement impact the outcomes of the conflict resolution process?

### **2. Institution Design**

#### **Participatory Inclusiveness and Process Transparency**

1. Were any formal procedures, regulations, bylaws, or agreements in place during the process of resolving conflicts?
2. What was the decision-making process like during conflict resolution?
3. If there were no procedures, regulations, bylaws, or agreements in place during conflict resolution, do you believe that they are important?
4. If there were procedures, regulations, bylaws, or agreements in place during conflict resolution?

5. how were they established to guide the collaborative process of resolving conflicts at ENNR?
6. How were stakeholders distributed during the conflict resolution process?
7. Can you recall who decided on the type of stakeholders to involve in the conflict resolution process?
8. Were there any other individuals who voluntarily participated in the conflict resolution process?
9. If there were, how were they recruited?
10. How were the roles of various stakeholders incorporated into the co-management process?
11. In what ways was the co-management process presented as transparent, equitable, and capable of enforcement and monitoring?
12. What measures or protocols have been put in place to ensure transparency in the co-management process?
13. Were there any stakeholders who caused trouble during the conflict resolution process?
14. How was information about the conflict resolution process shared among stakeholders?
15. Do you believe that the conflict resolution process was transparent and inclusive? If so, how?
16. In your opinion, were all stakeholders committed and willing to participate in the conflict resolution process? Why or why not?
17. Were there any consequences for stakeholders who were not responsible?
18. Overall, how did participatory and transparent processes impact the outcomes of the co-management process for conflict resolution at ENNR?
19. How did the institutional design affect the outcomes of the conflict resolution co-management process at ENNR?
20. Do you have any additional comments on the institutional design for conflict resolution?

### **3. Shared conservation responsibility**

#### **Trust, Resources, Leadership, and Knowledge**

1. What was the source of these resources?
2. How were resources like administrative assistance, funds, and technical analysis skills distributed among stakeholders?



3. Did you feel at ease when accessing information about the conflict resolution process?
4. What were the results of the co-management process?
5. Was the conflict successfully resolved? Overall, how did power and resources impact the outcomes of the co-management process for resolving the conflict at ENNR?
6. Did you encounter any situations where other stakeholders had more power than you during the conflict resolution process?
7. Did you feel satisfied with how power was distributed during the conflict resolution process?
8. Did you feel intimidated or overlooked during the conflict resolution process? If so, can you provide details?
9. What resources were deemed crucial during the conflict resolution process?
10. Were these resources readily available and easily accessible?
11. In the co-management process, how was the process for selecting leaders and do they have decision-making authority in conflict resolution?
12. How was conservation awareness created in the co-management process?
13. Was local knowledge incorporated into the co-management process for ENNR, and if so, how was it utilized?
14. Was scientific knowledge utilized in the co-management process for ENNR?
15. Overall, how did shared conservation responsibility impact the outcomes of the co-management process for conflict resolution at ENNR?
16. Do you have any additional comments on the shared conservation responsibility for conflict resolution?

### Appendix 3. Research consent form

#### RESEARCH CONSENT FORM

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Name of Researcher

I-----freely agree to participate in the research project entitled

Name of Participant

Evaluating the role of the co-management approach in forest resource management in  
Liberia: A case of East Nimba Nature Reserve

My participation is voluntary. The research has been satisfactorily explained to me and all  
my questions have been satisfactorily answered.

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Signature of Participant

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Date