Routledge Studies in African Politics and International Relations

POWER DYNAMICS IN AFRICAN FORESTS

THE POLITICS OF GLOBAL SUSTAINABILITY

Edited by
Symphorien Ongolo and Max Krott

ROUTLEDGE

"A thoughtful and insightful collection of essays on power, its multiple dimensions and how it is exercised in African forests. This is a well-researched, fascinating and persuasive volume that will be an invaluable aid to students, foresters and policy makers throughout Africa and beyond."

David Humphreys, *Professor, The Open University, UK*

"This book is a very relevant and timely contribution to the forest governance literature. While most of it holds a rather managerial and technocratic focus, this book starts from a political-economic perspective, with much emphasis on power dynamics and resource inequalities. Such a perspective is all the more relevant in the context of post/neo-colonial relationships between Africa and the global North, and in the context of authoritarian regimes on the continent. By offering several country case studies (e.g. Cameroon; DRC; Tanzania) and by analyzing several current themes (e.g. the role of science in conservation; the permanence of 'paper parks'; the political economy of rosewood), the book draws attention to Africa, where most governance literatures addressing tropical forests focus on South-America or Asia."

Bas Arts, *Professor in Forest Governance, Wageningen University & Research, the Netherlands*

"This rich collection case studies sheds light on forests and forestry as objects of colonial, post-colonial and continued neo-colonial struggles. Right up to the current era of climate change, the volume shows how dominant actors of globalization including Europe and China, along with domestic elites, continues to expropriate resources in the name of biodiversity conservation and carbon storage. When will this unequal struggle end? The book is a must-read for anyone interested in the political-economic context in which African forest management and conservation policy is made, implemented and undone. It is chocked full of new and exciting insights."

Jesse Ribot, *Professor, American University, Washington, D.C., USA*

Power Dynamics in African Forests

This book addresses historical perspectives and contemporary challenges of the politics of forestland governance and the related sustainability crisis in Africa. It focuses on the power dynamics between key actors involved in the governance of forest-related resources either for their exploitation or with regard to biodiversity conservation policies promoted at international arenas. The book provides conceptual and empirical contributions on what happens when global sustainability ambitions and the related policy instruments meet the realities of political-economic contexts in Africa. It reveals that several actors in forest-rich countries, especially those with contested or more restricted sovereignty, have often employed complex informal strategies as the 'weapon of the weak' to resist the domination of the most powerful actors of global environmental politics.

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Power Dynamics in African Forests

The Politics of Global Sustainability

Edited by
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Contents

Illustrations

Figures

Tables

Boxes

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General Introduction to the Politics of Global Sustainability in Africa

Power Dynamics in the Forests

Symphorien Ongolo and Max Krott

Africa represents the hope toward a more sober, prosperous and environmentally friendly development trajectory. She is expected to be characterized by a lower trend of extractivism and less carbon footprint impact per capita compared to the energy-rich economies of Western countries. It is well documented, however, that the energy-intensive economies of developed nations pillaged and transformed natural resources, including forests in colonial and postcolonial societies throughout the Industrial Age (1800–2000). One of the major socio-environmental effects of globalization in Africa is an increasing conversion of forestlands[1] to agriculture for feeding the planet. Deforestation is also exacerbated by the growing demand (including from emerging economies, notably China) for global commodities such as precious wood, cocoa, palm oil, rubber and mining. The extraction of those commodities is often directly or indirectly linked to greenhouse gas emissions, water pollution and biodiversity loss in African forest ecosystems.

On the other hand, Africa is simultaneously known as one of the tropical regions where forest governance is deeply affected by systemic inequalities and multilevel power asymmetries – which jeopardize global sustainability goals (Brockhaus et al. 2021). Those inequalities and the related potentate-subordinate relations occur from the inclusion or exclusion to selective benefit sharing in the exploitation and conservation of forest ecosystems. Even if the rise of forest-dependent people supported by civil-society organizations has gained more attention in forest governance spheres, their effective participation in managing forest ecosystems remains a constant challenge. Involving the poorest in governance of forestland resources is particularly challenging in African contexts where state bureaucracies struggle to preserve their discretionary power (Ribot 2003), even by using authoritarian impositions or legal and illegal means to recentralize often feeble attempts at democratic decentralization of natural resources governance.

The concept of governance is widely used in the literature and has become one of the most common concepts in political science. Several definitions of governance coexist. Many of them are normative and not necessarily useful from an analytical perspective. In short, "governance refers to a category of social facts, namely the processes of interaction and decision-making among the actors involved in a collective problem that leads to the creation, reinforcement, or reproduction of social norms and institutions" (Hufty 2011: 405). In forest-related sectors, this definition

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of governance evokes an important and fundamental question: who are the actors involved in policy formulation, and how do these actors interact or influence each other to implement policies in cooperation or contestation of the central role of state entities? (Krott 2005; Arts 2014).

Contribution to global sustainability debates

The COVID-19 global pandemic has brought attention to the role of growing destruction of forest ecosystems and biodiversity loss in the Global South to planetary risk. Since the second half of the 20th century, about 71 per cent of the infectious diseases that can be transmitted from animals to humans (Zoonosis) have originated in wildlife (Jones et al. 2008). Among the major emerging infectious diseases (EIDs) caused by wildlife-human interactions and which have posed a significant burden on global public health, are viruses that led to the HIV/AIDS and Ebola pandemics (Jones et al. 2008). In the same vein, massive deforestation, biodiversity loss and the related domestic and transnational wildlife trafficking are increasingly highlighted as key drivers of EIDs (Guégan et al. 2020). Nevertheless, very little is known about the political-economic dynamics behind or exacerbating these phenomena and more generally the evolution of forestland politics and biodiversity loss in Africa.

From an international relations standpoint, serious tensions between the president of France, Emmanuel Macron, and his counterpart from Brazil, Jair Bolsonaro over the Amazon fires in August 2019, have been stressing how much deforestation and more generally the governance of forestlands and related sustainability challenges in the Global South have become a hot topic of global politics. According to Macron, the destructive large fires that set the Amazon rainforest ablaze were a major international crisis which ought to figure into the international agenda of the G7 summit organized in France in August 2019. In reaction, Bolsonaro accused Macron of trying to perpetuate a 'colonialist mentality' by assimilating the management of a sovereign resource (the Amazon in Brazil) into a 'global house' (a metaphor which implicitly refers to global public goods) that must be preserved for the provision of ecosystem services needed for the planet.

This incident made headlines in major newspapers around the world. "France's Macron call Amazon fires an international emergency", said Reuters on August 22, 2019; "With Amazon rain forest ablaze, Brazil faces global Backlash", "who owns the Amazon?", "Dispute over Amazon gets personal for Balsonaro and Macron", pointed out *The New York Times* from August 24 to 27, 2019; "Jair Bolsonaro demands Macron withdraw 'insults' over Amazon fires" headlined *The Guardian*; "Macron says Amazon fires 'global crisis', Brazil wants no meddling", "Brazil's Bolsonaro refutes French president's stance on Amazon fires" headlined *The China Daily*. The divergence of views between these heads of state illustrates the disputes that structure the power relations among a constellation of public and private actors involved in the governance of forest ecosystems from global to domestic and local spheres. The situation is even more worrying in developing nations in which state bureaucracies lack the ability or political interest to ensure a

good government of sectoral policies as has been the case in Africa. In these nations, policymakers and elites promote an economic prosperity trajectory based on massive conversions of forestlands for logging, agricultural expansion or mining. International disputes over agenda setting concerning forest ecosystems as global public goods often obscures the role of these spaces in supplying various goods to the 'bottom billion' who directly rely on forestland resources for their survival.

The substantial contribution of this book is to bring together original and innovative studies that address varied historical and contemporary aspects of the politics of forestland governance and biodiversity crisis in Africa. Today, very little is known about the power relations among international, transnational and domestic actors involved in the governance and government of African forests. This book particularly focuses on the power dynamics among those actors by scrutinizing formal and informal interests as well as political-economic resources they employed to get access to, control over and use of forestlands for exploitation or conservation purposes. More specifically, there is a relative lack of knowledge about the domination strategies used by powerful actors to impose their interests in the governance of forest ecosystems on the one hand and how the marginalized actors who challenge these domination strategies adapt or resist. As such, this book aims at reducing this gap of knowledge by providing theoretical and empirical contributions on what happens when socio-ecological dimensions of global sustainability goals (including reducing inequalities, climate change mitigation, biodiversity preservation and deforestation reduction) and the related policy instruments meet domestic politics in Africa.

Why does deforestation threaten global sustainability goals?

The forestry department at the Food and Agricultural Organization of the United Nations (FAO) regularly reports that around 10 to 13 million hectares of forestlands are converted each year to other land uses. At the transnational level, large commercial agricultural operations for the production of high-value cash crops, over-exploitation of precious wood, and mining activities are the main sectoral drivers of tropical deforestation and forest degradation in the Global South. At the local level, the survival of a billion people who directly depend on forest resources through small-scale agriculture or shifting cultivation, charcoal and firewood for instance, causes heavy pressure on forestlands (Geist and Lambin 2001; Mayaux et al. 2013). In both cases, the population growth in developing countries is often denounced as responsible for the growing pressure on forest resources, without pointing out the huge discrepancies in carbon footprints and consumption patterns between people living in developed countries and those in tropical regions, especially in Africa.

In addition to these sectoral causes of deforestation, the political context of 'poor' or 'weak' governance has been highlighted as a major aggravating driver of deforestation in developing countries. It is in this regard that Agrawal et al. (2008: 1460) emphasized that *"Growing and competing demands for food, biofuels, timber, and environmental services will pose severe challenges to effective forest governance in*

the future, especially in conjunction with the direct and indirect impacts of climate change". For this reason, deforestation is perceived and defined in the global environmental arenas as a systemic problem for global sustainability goals to be addressed because of its varied social and ecological damage to society, such as biodiversity loss or vulnerability to climate change (UNFCCC 2011). Many negotiation rounds at the international level promote a set of policy instruments and forest policy reforms aimed at expanding protected areas for biodiversity conservation or trying to provide incentives to reduce deforestation. However, those initiatives do not take into account the complexity of social and political contexts that enable the persistence of deforestation in postcolonial nations in Africa. In the same vein, most policy reforms, including those promoting biodiversity conservation, have been incompatible with the agendas of many stakeholders including local authorities and private companies anxious to convert forestlands for their own purposes.

Historical trends in governing forestlands in Africa

Throughout the early Industrial Age in Africa, the colonial administrations of Western countries had a strong hegemony in the access, control, use and commercialization of forestlands and related resources. As pointed out by Hardin (2002: ii), in the case of central Africa,

> *the breaking of forests into mosaics of territorial control has been happening since the early days of European expansion. Protected areas were, in many cases, an extension of the concession system for the use and management of natural resources. Conservation has thus long benefited from and contributed to concessionary logics for the use of valued natural resources.*

Regarding social conditions of forest-dependent people, the main approach to governing forestlands in the early 20th century was to prohibit indigenous populations from entering the vast areas of forest ecosystems where they once lived. Even before the expulsion of local populations, the forestlands had become the property of the colonial administration in most of the cases (Colson 1971; Beinart 1989).

According to the colonial administration, one of the objectives of forest appropriations was to satisfy an imperative need for the 'conservation of nature' (Rodary and Castellanet 2003). As such, the excessive use of force in governing forestlands aimed at securing spaces for industrial logging, while imposing biodiversity conservation not only for the protection of nature but also for the economic interests of colonial administration (Hardin 2011). In short, the government of forestlands by colonial administrations had two main pillars. First, lands were forcibly expropriated to create protected areas for the enjoyment of colonial authorities for, inter alia, sports-hunting, and ecotourism. These strong legal restrictions concerning access to forestlands are what have been called the "fences and fines approach" or "fortress conservation" (Wells et al. 1992: 1;

Adams and Hume 2001: 10). Second, the colonial domination of forestlands was also motivated by economic goals for extractive activities. The aim of this first wave of extractivism in Africa was to guarantee the provision of natural resources for the colonial powers and their allies through a set of concessionary logging and mining regimes, and through foreign control of harvesting systems for cultivated plants such as coffee, wheat and rubber (Mbembe 2001; Hufty 2001).

Since the 1960s when many countries in Africa became independent, international aid agencies, transnational corporations, and non-governmental organizations (NGOs) have exercised the most influence of all external actors on African forest management. Their main motive has been to deal with global environmental damage such as the impacts of climate change and the loss of forest biodiversity. More precisely, these postcolonial institutions of external influence were facilitated by the aid-dependency of the new African states combined with the coercive administrative style of the postcolonial local government (Darbon 1990). Indeed, the majority of post-colonial countries maintained the bureaucratic patterns of the former colonial administrations, local authorities that still looked like indirect rule and administrative extension of central authority, even with respect to the government of forestlands (Gibson 1999).

Today, authoritarian conservation policies continue to coexist with a few innovative approaches in which forest-dependent people's needs and traditional knowledge are progressively taken into account in the conservation of biodiversity. In the same vein, the conservative model of exploitation of natural resources through the allocation of vast areas of forestland concessions to agro-industrial, mining and logging companies by national authorities with discretionary powers, now coexist with decentralized and community-based management systems. This happens, even if these community-based systems are often struggling to demonstrate their effectiveness in contexts where state bureaucracies have treated them with suspicion and contempt, particularly because of alliances of these alternative management systems and Western donors or civil-society organizations. This situation echoes changes induced in African environmental politics by international demand for more democratic considerations in the governance of natural resources in the tropics. Indeed, the transformation of global environmental governance made it increasingly difficult for the state bureaucracies to govern the forest ecosystems with complete hegemony, as was the case under the colonial bureaucratic apparatus.

For example, since the early 1970s, awareness of ecological issues connected to the global environment led to the first international initiatives to tackle the causes of forest decline in developing countries (Humphreys 2008). The influence of external actors in African political economy and domestic politics, especially the weight of international aid agencies, was facilitated by the increasing indebtedness of many Sub-Saharan African countries (Boyce and Ndikumana 2001). This external involvement in African public policies increased considerably from 1980 through the 1990s even in the forest domain (Seymour et al. 2000). For example, the principle of 'ecological conditionality' (Rossi 2000) implicitly imposed by international aid agencies became a component of most aid programmes in Africa.

The promotion of biodiversity conservation with expansion of protected areas, forest decentralization, sustainable forest management, forest certification, forest plantations, forest restoration, etc., became the main requirements of the ecological conditionality package. In most cases, these ecological requirements are promoted by or implemented in collaboration with non-governmental organizations (NGOs). That was especially the case for policy reforms that promoted the expansion of forest conservation and forest certification.

In the early 2000s, with the increasing concerns about global climate change on the international agenda, tropical forests, especially those in Africa where the rate of deforestation remains relatively low, became a great hope for climate change mitigation. The idea was to promote 'avoided deforestation' in developing countries for the protection of forest ecosystem services that could stock atmospheric carbon. Paradoxically, this growing interest in the value of African forest ecosystems in international environmental debates coincided with the rapid increase in Asian investments (mostly from China, Vietnam and India) in the exploitation and commercialization of natural resources in Africa. This new effect of the globalization phenomenon raises many concerns over the sustainability challenges induced by those investments. For example, Chinese investments in the forestland sector are directly or indirectly associated with massive deforestation, biodiversity loss, increasing inequality, and geopolitical tensions in Africa.

Exploiting or conserving African forests?

The debates on the politics of tropical forest ecosystems oscillate between the 'economic valuation' view of forestlands as territory for the provision or production of varied commodities, and the opposite view of forestlands as providers of ecosystem services. There is a third vision, that of the local populations who consider the forests as their ancestral heritage that they should be left to manage. The third hybrid alternative and its relative marginalization is specifically addressed in Chapter 11 "Policy change and power dynamics: How actors respond to Participatory Forest Management across multiple scales in Tanzania" of this book.

Forest ecosystems through the valuation of forestlands provide various goods, from above- to below-ground resources such as wood, mines, and arable lands for agricultural activities. In a context of abundance, those resources which are often considered as 'common goods' might be available at no cost to anyone who desires to use them (non-excludability). However, when access to common goods become competitive due to their scarcity or increasing value, actors or institutions claiming the ownership of those resources such as national governments, may impose specific rules in their management. According to economic theory, those rules or norms may consist in establishing formal regulations including coercive (control, surveillance, penalties), and incentive-based (quotas, taxes, benefit-sharing) measures. Given the territorial dimensions of those spaces, the status of forest ecosystems as a resource provider is the primary justification put forward by developing countries, including in Africa, to claim their sovereign rights to these spaces. As such, any assimilation of forest ecosystems in developing countries,

including in Africa, to global public goods is perceived as a serious threat to their sovereignty (Karsenty 2021). As pointed out by Humphreys (2006: 5), the "forest can be seen as a sovereign resource of the state. Governments, especially from the developing world, assert their right to use forests in line with national development policy".

The notion of internal sovereignty can be summarized as the right of a nation or people to rule itself through the exercise of government authority (Foucault 1978) over its territory, people and resources. By contrast, the notion of external sovereignty refers to the exclusive exercise of powers of the state, within its jurisdictions and fully independent of outside authorities (Bull 1977; Krasner 1999; Keohane 2002). However, considering the interdependence in the management of contemporary global issues, such as climate change, the notion of sovereignty is sometimes described as a fictitious and fragile doctrine (Badie 1999: 13; Agnew 2005) with respect to global sustainability challenges. Since the 1987 Brundland report on global sustainability and the 1992 Rio Earth Summit on sustainable development, for example, most of the forest governance reforms promoted in Africa are more or less based on the principle that a sustainable forest management and 'avoided deforestation' would benefit the planet by securing the provision of ecosystem services. This vision is highly contested and viewed as unequal by many developing countries, which claim their need and right to exploit forestland resources for the well-being of their population, as developed countries did to achieve economic prosperity.

However, from an ecological perspective, it is a fact that forest ecosystems – in addition to goods – also supply services such as natural water purification, soil restoration and climate change mitigation. These ecosystem services are considered as public goods since they are usually accessible to all. In economic language (Kaul et al. 1999), the concept of public goods refers to a commodity or service provision that is made available to the whole society and characterized by two major variables: non-excludability (anyone can benefit from it once provided) and non-rivalry (the use of such a service by someone does not alter the possibility for others to benefit from it). In the case of climate change mitigation for instance, the ecosystem services provided by forestlands to the planet by reducing atmospheric carbon dioxide are considered as global public goods, given the fact that everyone around the globe can benefit from them. Because of the above detailed context, the concept of public goods has become closely linked to global sustainability with respect to tropical forest ecosystems.

Beyond debates on the common goods and public goods dimensions, forestlands are exceedingly complex to govern in Africa, notably because of the related historical background, the constellation of actors and multilevel interests involved. One of the other fundamental aspects, which makes their management difficult, is the issue of institutional capacity which can be summarized under the concept of statehood. Most of the forest ecosystems in Africa are located in or governed in a context of areas of limited statehood – where the state has limited institutional capacity and reach.

Contextualizing statehood and sustainability challenges

The notion of statehood can be briefly defined as a state which is legally sovereign and, in principle, able to govern its population, its territory and the related natural resources using an efficient bureaucratic system (Jackson and Rosberg 1982; Hagmann and Péclard 2010; Krasner and Risse 2014). Most forestlands in Africa are territories owned by the state (White and Martin 2002; Agrawal et al. 2008). As such, any policy change aimed at implementing long-term reforms regarding these forests requires a significant involvement and intrinsic interests of state bureaucracies and policymakers who manage, at least legally, the access to and use of forestlands. Two important points that characterize the governments of African states must be taken into account. First, the issue of institutional capacity, which substantially conditions successful implementations of policy reforms in many African countries. Second, the claims of national sovereignty on forestlands, that mean rejection of any assimilation of forest ecosystems as global public goods.

Low institutional capacity and lack of bureaucratic autonomy are key elements of limited statehood. Krasner and Risse (2014: 549) defined areas of limited statehood as "areas of a country in which central authorities – governments – lack the ability to implement and enforce rules and decisions and/or in which the legitimate monopoly over the means of violence is lacking". In the context of this book, this definition echoes varied situations regarding the ability of state bureaucracies to enforce rules or to control the means of violence. This is the case with localities particularly isolated from the central state, as well as natural resources-rich enclaves governed by insurgent groups.

In such a context, two dimensions are particularly relevant to take into account: (1) a territorial dimension, that is, parts of a country's ability to govern forestlands in spaces with poor infrastructure and which are not (or weakly) integrated to forest-related policies. This is, for example, the case for many protected areas called 'paper parks', which are managed by private entities such as transnational conservation NGOs, in contrast with a growing number of militarized conservation zones which are managed by paramilitary militias. In the same vein, forestland resources in many countryside and transboundary localities in Africa are exploited by armed groups or individual entrepreneurs employing local population in modern slavery systems to exploit mining or precious wood. The second dimension (2) is a sectoral component, with regard to the ability of African state bureaucracies which efficiently contribute to defining the rule of the game with respect to the globalization of their forest ecosystems and improving the governance of forest-related sectoral policies. This is, for example, the case with the perpetuation of the politics of promises at international environmental spheres aimed at supporting climate change adaptation and mitigation in Africa. In addition, African countries are often more observers than actors in producing knowledge to define the most optimal extent of protected areas vs. agricultural zones, or suitable governance arrangements and political transformation needed to meet global sustainability goals in Africa.

The hilly way for a democratic forest governance

The low institutional capacity and the lack of optimum bureaucratic autonomy in many African countries represent a huge political barrier to policy reforms (Ascher 1999; Easterly 2003), including in forestland governance. To overcome this situation, many external actors try to pressure national governments into implementing policy reforms formulated out of African contexts by foreign policy entrepreneurs. This has been the case with the agenda of most of forest governance reforms that aim at promoting or securing global public goods from inside Africa. However, most of these economic and political interventions from outside, ignore or neglect the fact that the majority of African postcolonial states are governed by autocratic leaders. Most of them are characterized by neo-patrimonial traits and led by bureaucratic monoliths reluctant to take on any reform that might compromise the interests of dominant actors. In this regard, most of the policy reforms imposed on African states by external actors, especially since the 1980s, sought to 'spread' democracy, liberal economics and promotion of eastern ecological and sustainability awareness in the Global South. This was particularly the case for the policy agendas aimed at pushing 'non-democratic' developing countries to move from the 'government' to 'governance' approach in which public policy should be made by both state bureaucracies and non-state actors including local communities. This reform agenda aimed at promoting 'good governance' for a better provision of collective goods and services, including with respect to forest ecosystems. In theory, the strategy of empowering non-state actors induced substantial changes to reduce corruption in natural resources governance and promoting the participation of marginalized actors in policy formulation and implementation. In practice, state bureaucracies adopted the formal rules and principles of 'good governance' reforms, but then developed what Olivier de Sardan (2008) called the 'practical norms' of real governance in Sub-Sahara Africa, that is to say, the informal strategies and behaviour patterns used in African bureaucracy to exploit or circumvent the formal norms.

Book chapters' overview

This book is composed of 11 original chapters. In Part I, two chapters analyse implications of global politics of biodiversity conservation and scientific knowledge in African contexts. In Part II, three chapters provide transnational perspectives on colonial roots of protected areas in central Africa, global China effects and domestic politics of rosewood in Africa, the governance of independent forest monitoring in the Congo basin. In Part III, six chapters analyse case studies from Cameroon, Democratic Republic of Congo (DRC), Madagascar, Tanzania and Tunisia.

Part I: Contextualizing biodiversity governance and scientific knowledge

Chapter 1: Méral and colleagues scrutinize market-based instruments for biodiversity conservation in the tropics, focusing on the complexity of actors' interactions in

global governance spheres of biodiversity conservation and ecosystem services in Africa. Their work shows that some actors at the domestic level, sometimes in coalition with local communities, have developed an alternative rhetoric based on an economic use of biodiversity, in order to resist the growing global pressure for the global capture of forest ecosystems in the tropics. Following the pioneering work of some political economists including Karl Marx and Karl Polanyi, economic rhetoric strategies can be characterized as a form of commodification of nature. Local rhetoric is countering this economistic talk. The economic approach to nature and subsequently to biodiversity argues that it is more effective and beneficial to conserve nature rather than exploit it, but it dismisses a range of questions about the limitations of any approach that ignores or neglects the central role of state bureaucracies in the governance of biodiversity in the Global South. Similarly, the economic approach to nature does not fundamentally challenge the productivist model that underlies the increasing globalization of natural resources. Nor does the economic approach focus sufficiently on the power relationships among the stakeholders in biodiversity conservation policies and the inequalities caused by these processes, particularly in African countries.

Chapter 2: Krott and Zavodja address a widespread global assumption according to which science is able to produce singularly best or optimum solutions for a sustainable use of lands, especially forestlands. First, the two authors point out that this assumption ignores unsolved issues like that of legitimacy in defining and prioritizing problems and related best solutions. Second, they ask what the right approaches and conditions should be for transferring prioritized or selected solutions, especially from the global north to the Global South with a policy change agenda aimed at transforming land-use change practices. Applying what they call the Research-Integration-Utilization (RIU) conceptual framework, the chapter shows that in a pluralistic world of users facing conflicting interests, science-based approaches to substantial land-use practice improvements must account for power. They argue that scientists should 'empower scientific information' by, for example, transferring new scientific information to users with specific science-based solutions and by addressing their information procurement channels (*integration forums*). In the same vein, land-users can also be encouraged to empower scientific information by identifying the relevance to themselves of a specific science-based solution; checking its scientific rigor and evaluating its potential to be implemented in practice in their context. These strategies are particularly relevant in African contexts where most of the transferred international biodiversity knowledge and policies have been ineffective in practice. The chapter concludes with constructive remarks on how to empower scientific information in support of land-use change dynamics that can improve biodiversity preservation and sustainable use of forestlands in Africa.

Part II: Transnational dimensions of forest politics

Chapter 3: Using the context of recurrent global debates for the increase of biodiversity conservation areas, Walters and Wardell introduce their chapter by pointing out that some of the related proposals can be traced back from the

Western colonial period in Africa. The power asymmetries which characterized the creation of colonial protected areas in many African countries produced inequalities and violence such as dispossession of ancestral forestlands and systemic violations of community rights by the settlers. The authors employ a territorialization approach for an in-depth historical analysis of the links between colonial and contemporary protected areas in Africa, both from creation and management perspectives. One of the key pieces of evidence put forward by this research is that in some cases, the creation of contemporary protected areas are reactivation processes of colonial reserves. Empirically, the chapter focuses on the process of creation of four protected areas in central Africa: the Mont Fouari colonial hunting reserve complex (Gabon/Republic of Congo), the Reserve Floristique de Yangambi (Democratic Republic of Congo-DRC), Lomami National Park (DRC), and the Plateaux Batéké National Park (Gabon). The work also reveals that the participation of local communities was non-existent during the creation of those protected areas. The authors conclude with a reflection on the consequences, on biodiversity and people, of colonial roots in the creation of contemporary protected areas or expansion of those that coexist.

Chapter 4: Baidoo and colleagues provide a comprehensive overview on the complexity of the rise of global China in the politics of rosewood across Africa. Their focus on this category of precious woods as case study is notably justified by the fact that African Rosewood (including Pterocarpus and Dalbergia species) has become the most traded endangered wood species from Africa to China. This increasing commercial pressure is linked to the multiple uses of rosewood to furniture production, cultural and social prestige in modern China. Using a realist synthesis review approach, inspiration from network theories and key informant interviews of key actors in Ghana – as a selected high rosewood supplier to China – the paper shows that Chinese entrepreneurs and African politicians are major actors of the rosewood sector. The authors also reveal that various regulatory initiatives set in motion by policymakers to contain and manage the spike in rosewood extraction in Africa have failed. One of the reasons for this failure is the lack of policy coordination among export countries facing the transnational illegal trafficking of rosewood over the African continent. As such, the paper points out the need for a regional sub-continental approach in regulating and combating informal supply chains of rosewood trade, instead of the fragmented droplets of local or national approaches, which have been largely ineffective.

Chapter 5: Mbzibain et al. focus on the independent forest monitoring (IFM) that emerged from civil-society spheres in the late 1990s. IFM is a forest governance mechanism in response to galloping forest crimes in the tropics. Initially promoted by transnational non-governmental organizations (NGOs) and multilateral donor agencies such as the World Bank, its popularity as a tool for civil-society engagement in the governance of forest-related sectors has spread to many countries in Africa including in the Congo Basin. IFM is a third-party assessment of how well forest management and forestry activities comply with national legislative and regulatory standards. With forest illegality and related crimes continuing to rise unabated in the Congo Basin, proponents of this private governance

initiative have only now begun to question its contribution and effectiveness to promote sustainability in the governance of forestlands. Although donors, NGOs, and local communities are generally supportive, logging companies and state governments tend to ignore, contest, oppose and seldom incorporate IFM recommendations into forest management and implementation of forest policies. This chapter provides a political-economy perspective on the role of actors, their interests, motivations and the relationships that underpin their positioning in the forest governance arena in the Congo Basin. In this way, the chapter illuminates the challenges local IFM organizations face in delivering on their mandates, in a context with weak coercive, mimetic and normative pressures and complex power dynamics. The authors conclude with a set of policy initiatives and concrete actions that local IFM organizations can take for a substantial contribution in changing the governance of forestlands in the Congo basin.

Part III: Global politics and forestland governance from below

Chapter 6: Hasnaoui et al. scrutinize the contestation of state authority in Tunisia produced by Arab Spring movements. The authors point out that land-tenure systems have been governed by central state authorities, at the expense of local communities, since the 16th century. This domination of state entities was significantly affected by the 2011 Tunisian revolution that occurred during the rapid spread of democratic claims in Arab nations called 'Arab Spring'. Building from this political change with a specific case study in northwest Tunisia, the chapter analyses power dynamics among state bureaucracies and non-state actors, including local populations, in the access processes and control of forestlands. From a methodological perspective, the paper focuses on an in-depth empirical analysis of two decades (2000–2019) of the politics of forestland access in rural Tunisia. The. A particular attention is paid to socio-political ruptures and continuities induced by the revolution of 2011. The results show that one of the major effects of the Arab Spring protest movements in rural Tunisia was the collapse of state authority in the governance of forestland resources. The paper also reveals that the use of coercion measures was the main power element employed by state bureaucracies before the revolution. However, this exclusive and even often excessive use of force by state authorities over the colonial and postcolonial period has become inefficient and ineffective after the 2011 revolution. The chapter brings an important contribution with empirical evidence on the misuse and collapse of coercion in a heated post-crisis political arena.

Chapter 7: Majambu et al. analyse a case study on the influence of regional insurgencies in the governance of biodiversity and protected areas in the Democratic Republic of Congo (DRC). This most important forest-rich country in Africa has set itself the target of extending the total surface area of protected areas to 17 per cent of the national territory. In 2020, DRC protected areas accounted for 15 per cent of the national territory. The creation and management of these protected areas have often engendered or triggered multiple, complex rivalries and conflicts among different categories of actors. Once limited to rivalries among

indigenous populations and colonial administrators and their local intermediaries, these conflicts have intensified with the rise in the number of actors interacting to manage the various natural resources contained on and under the forestlands that are designated protected areas. The tensions and confrontations among the different groups of actors, often with diverging interests, have become more complex and have now transferred from local to national and transnational levels. In this respect, DRC has for several decades been developing as a classic example of a country confronted by a range of internal and transnational security and socio-political crises, whose origin and/or exacerbation are closely linked to natural resources. Based on a case study of the Okapi Wildlife Reserve, this chapter offers a contextualized analysis of the rise and resurgence of transboundary conflicts which alter biodiversity governance in the protected areas of DRC. This chapter also provides an empirical examination of a reality, rarely considered in the scientific literature: in DRC, there are close links between the management of protected areas and the dynamics of privatization of these forestlands by armed groups seeking training grounds, rear base camps or continuously renewable resources to supply war economies.

Chapter 8: Assembe-Mvondo and colleagues question the complexity of biodiversity governance processes and socio-environmental injustice in the forest zone of southwest Cameroon. As introductory remarks, the authors stress that biodiversity and conservation strategies are facing multilevel crisis that is jeopardizing the well-being of society, especially the poorest and most socio-politically isolated or marginalized forest-dependent communities. As such, it is necessary to rethink forest policies and related strategies to build stronger sustainability solutions that are more appropriate and efficient to deal with global environmental challenges such as climate change, emergent infectious diseases from forest ecosystems, armed conflicts. The objective of this chapter is to illustrate some of the multiple aspects of the crisis affecting biodiversity governance in Cameroon, with specific attention to the biodiversity conservation crisis which has affected four protected forest landscapes in the Southwest region of Cameroon. As one of the major findings of this research, the authors point out the persistence of a top-down and incoherent modes of governance, characterized by negative impacts on biodiversity, the rights of local communities, environmental justice and human well-being. This precarious situation is compounded by the existence of an armed conflict, since 2016, that aggravates socio-environmental injustices and the loss of biodiversity. As a way forward, the authors highlight the necessity to rebuild an alternative model of biodiversity conservation rooted in justice, place-based knowledge and local culture.

Chapter 9: Rasoamanana and colleagues explored links between institutional weaknesses and deforestation drivers in the governance of protected areas in Madagascar. As observed in many other biodiversity-rich countries in Africa, the expansion of protected area (PA) networks has been the predominant focus for forest policies in Madagascar over the past couple of decades. However, effectiveness and sustainability in the management of existing and new Malagasy protected areas remain a torturous path paved with numerous setbacks. For a better

understanding of major factors that undermine effectiveness of PA management, the authors used the Institutional Analysis and Development framework to analyse the persistence of deforestation and forestlands conversion in one of Madagascar's most important PAs, Menabe Antimena. This theoretical and conceptual framework is supported by first-hand empirical data including face-to-face interviews with 53 key informant actors and 12 focus groups with local community members, staff of conservation NGOs and government entities. The authors reveal that deforestation for cash-crop cultivation persists mainly because of financial, socio-economic and political factors: (i) the PA managers lack adequate and long-term funding to either provide farmers with viable alternatives to shifting cultivation or to adequately enforce the law at local level; (ii) law enforcement and coercion measures mostly target farmers and rarely the private sector operators driving informal activities and trade from protected areas; and (iii) many PAs in Madagascar have been insufficiently mainstreamed into regional economic and policy reforms priorities. As a result, shifting cultivation remains an attractive livelihood option for the well-being of resident and migrant communities, while regional authorities (including law enforcement agencies) at subnational level fail to preserve protected areas against the increasing commercial pressure from cash-crop production that exacerbate deforestation.

Chapter 10: Ongolo and colleagues question what happens when local deals meet global politics of palm-oil expansion in areas of limited statehood. The authors highlight that international efforts to curtail deforestation and biodiversity loss are increasingly challenged by agricultural expansion including for palm-oil production by powerful agribusiness companies where agriculture is taking over forestlands. The chapter examines how the global dynamics of agricultural expansion change the power relations among the key actors of forestland conversion processes in areas of limited statehood. Focusing on Cameroon and a US-based private agro-industrial company called Herakles Farms as case studies, the three hypotheses defended in this chapter are: (i) limited statehood and lack of bureaucratic autonomy are key political drivers of deforestation and forestland conversion; (ii) despite the recurrent pressure from the 'international community' and powerful private actors in exploiting or conserving forest ecosystems, state bureaucracies in areas of limited statehood remain capable of skilfully preserving their informal interests; and (iii) science-based knowledge is often used as a power resource for legitimizing or contesting palm-oil expansion and related deforestation activities in areas of limited statehood. Empirically, the chapter demonstrates that forestland conversion to agro-industrial palm-oil production is often caused by the combination of weak domestic bureaucratic capacities and autonomy and strong external influences from transnational companies and Western cooperation agencies. Coalitions of conservation NGOs pressure dominant actors to limit social and ecological impacts induced by large-scale palm-oil production, but they only achieve short-lived changes for sustainability practices. Because state bureaucracies, despite their institutional fragilities and fragmentation, are able to keep the upper hand and manage to successfully pursue their informal interests which are more convergent with the exploitation of forestlands than the conservation of those territories.

Chapter 11: Magessa and Hockley focus on policy change and power dynamics in Tanzania by examining how actors respond to participatory forest management across multiple scales. The authors link the historical centralization of the management of forest resources in many postcolonial contexts to the persistent trend of marginalizing or excluding forest-dependent communities or the local population from equitable access or use of those forestland resources. In the same vein, forest decentralization policies strongly recommended by international donors since the 1990s have been jointly promoted to reduce the size of the state administrations through structural adjustment, while strengthening civil-society organizations in the governance of forestlands. Drawing on both a sharp literature review and the authors' experiences in the political economy of forest decentralization, the chapter explores how one Participatory Forest Management (PFM) project interacted with existing power dynamics at multiple layers of Tanzanian society. The authors show how a policy initially designed to shift domination away from a state-centred system has been resisted or co-opted by different actors while nullifying some of the related policy reform objectives. In some cases, when reformers failed to introduce substantial quality-enhancing reforms, the situation led to a political disorder including elite capture, and effective privatization of previously de facto communal resources. Nevertheless, the formulation and implementation of PFM in Tanzania has been subject to dynamic power relations with relatively formal changes, even if the limitations of state domination it aimed to resolve remains a big challenge. This case shows the limitations of promoting or imposing policy reforms driven by foreign actors, without an intrinsic motivation, involvement and interests of recipient actors.

Note

1 Forestland refers to "a continuum from land sparsely covered by trees to a dense forest ecosystem with anthropogenic pressure aimed at converting or using the land for: agriculture, hunting, infrastructure, ecotourism, natural resource extraction, carbon storage, biodiversity conservation, and forest restoration" (Ongolo et al. 2021).

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1 Global Political Economy of Conservation Policies and Ecosystem Services in the Tropics

Philippe Méral, Colas Chervier and Symphorien Ongolo

1.1. Introduction

The increase in environmental damage and tensions in the use of natural resources since the 1970s have been analysed as evidence of a new era in the contemporary global expansion of capitalism (O'Connor, 1994; Newell, 2013). The growing interconnection of economies brought about by increasing trade, direct foreign investment and diversified global value chains has caused some observers to examine how these developments might be regulated at international level. Starting from an economics approach in which governments are central to such regulations, both as constraints and as levers for effective public action, analysis has gradually extended to other stakeholders: multinational companies, international institutions, non-governmental organisations (NGOs), scientists and other civil society organisations (Wijen et al., 2005; Kütting, 2011; Dauvergne, 2005).

In addition to the role of these stakeholders, emphasis is placed on the circulation of ideas, concepts and norms and the strategies and instruments some of them use to advance their interests and/or modify the positioning of their allies and competitors. Thus, a field of study has emerged and gradually become established that specifically examines various aspects of the global governance of the environment. Because of the diversity of topics covered and the numbers of stakeholders involved, the field comprises specialists in international relations, international economics, international law, etc. Despite the diversity of their approaches and analytical frameworks, the common feature of their research is that all these specialists converge on a holistic approach to understanding the challenges inherent in the governance of natural resources at a time of accelerating global change (greenhouse effects, desertification, ocean acidification, erosion of biodiversity, deforestation, destabilisation of the human-nature relationship, etc.) with no binding global framework of norms regulating environmental issues.

The aim of this chapter is to illustrate the complexity of the interactions between stakeholders and the challenges and purposes of globalised governance of the environment, using the example of global governance of biodiversity in the tropics. It focuses on one of the most frequently used instruments for conserving biodiversity: protected areas. This is because in situ conservation policies using protected areas are a particularly instructive example of the impasse that

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stakeholders and change initiatives find themselves in with respect to the global governance of the environment in its aspects of biodiversity conservation. The forests included in these protected areas were initially considered, and still are by some, as natural resources to be used for food security and/or export income, and as land that could be converted to other uses (agriculture, logging, mining, oil, etc.). Currently they are also seen as providing ecosystem services (carbon sequestration, protection of catchments and coastlines, habitats for emblematic species, tourist resources, etc.). In developing countries, particularly in tropical Africa, the governance of protected areas crystallizes a whole set of tensions and interests among stakeholders of varying legitimacy, often contested in certain forums. This article seeks to describe stakeholders' thinking and positioning strategies for or against the economic use of biodiversity conservation in the creation and expansion of protected areas in tropical countries. In order to resist the pressure to convert forest to other uses and the accelerating use of these resources, some stakeholders (conservation NGOs, international environmental organisations for biodiversity conservation policy, sometimes in coalition with local communities) have constructed an alternative rhetoric based on making economic use of biodiversity. This positioning is sometimes interpereted as a commodification of nature, as described by generations of socialist economists since the pioneering work by Karl Marx and Karl Polanyi. These conservation stakeholders and the scientists they have been inspired by have increasingly turned to economic instruments. This economic approach to nature and subsequently to biodiversity may well aim to show that it is more effective and beneficial to conserve nature rather than exploit it, but it dismisses a range of questions about the limitations of any approach that ignores or neglects the central role of governments in the governance of biodiversity. Similarly, the economic approach to nature does not fundamentally challenge the productivist model that underlies the increasing globalisation of natural resources. Nor does it focus sufficiently on the power relationships between the stakeholders in biodiversity conservation policy and the inequalities caused by these processes, particularly in developing countries.

The chapter is structured as follows: first, we examine the origins of conservation policies and the creation of protected areas in tropical countries from the colonial period to the 1980s, since when a set of new stakeholders has emerged as governance of natural resources and biodiversity has become increasingly globalised. Then we analyse how these new stakeholders have tended over time to turn to economic instruments; this reveals a preference for apolitical market solutions and a de facto rejection of government regulation, typical of neoliberal rhetoric and the fetishisation of the effectiveness of incentive-based governance.

1.2. The colonial roots of conservation policies in Africa

Over the last two centuries, the role of governments in managing nature has often been hegemonic, then contested and tolerated to various extents by non-governmental stakeholders and communities whose survival closely depends on nature. This central role of governments and their colonial predecessors was often a

strange mix of over-exploitation and conservation. As Rodary et al. (2003) point out, the expansion of capitalism from the late 19th to late 20th centuries was characterised by an ambivalent relationship with nature, displaying both over-exploitation and strict conservation of nature in general and forests in particular. On the one hand, these resources were almost always systematically plundered to supply the economies of the colonial powers via various forms of commodification above and below ground: deforestation, plantation economies, logging and mineral extraction, etc. (Hufty, 2001; Mbembe, 2001; Coquery-Vidrovitch, 2017). On the other hand, the colonial administration laid the foundations for coercive nature conservation policies by creating vast protected domains often seen as fortresses off limits to local communities (Colson, 1971; Adams and Hulme, 2001). One of the main functions of these extensive conservation areas was to create and preserve game hunting grounds for settlers and their friends (Hardin and Bahuchet, 2011; Blanc, 2020).

Either way, the colonial administration, representing the home government, was seen as the only legitimate entity able to ensure the proper management of nature by economically exploiting resources and conserving protected areas. In the latter case, colonial conservation policy would often involve violent dispossession of local communities. Less dramatically, Indigenous communities would be given strong incentives to abandon primary forest areas and settle near communication routes. This strategy was intended both to free up land marked out for economic use and facilitate the colonial administration's control of these communities. One major legacy of this historical situation has been that the colonial and post-colonial government took over the ownership and subsequently the virtually exclusive management of land and natural resources, at the expense of local communities whose customary unwritten rights were replaced by new forms of regulation based on so-called modern written law (Chouquer, 2011; Boone, 2014).

1.3. Globalisation and neoliberalism of biodiversity conservation

In the latter half of the 20th century, the role of government in managing nature in the Global South was initially confirmed by the political elites of postcolonial countries. Across the Global South, most of these stakeholders maintained the privileges of a regulatory framework whereby the government was free to decide in matters of natural resource management (Dominguez and Luoma, 2020). The central role of government was strengthened during the Cold War, a period when geopolitical confrontation between Soviet and American blocs increased competition on both sides to extract natural resources.

Meanwhile, as UN bodies assumed a dominant role on the world stage (United Nations Environment Programme set up and first UNESCO biosphere reserves recognised in 1972), the conservation community shifted towards a vision based on the compatibility between conservation and economic development. The International Union for Conservation of Nature (IUCN), for example, which since its foundation in 1948 had promoted action to preserve species and natural sites, revised its doctrine. In a policy document entitled *World Conservation*

Strategy: Living Resource Conservation for Sustainable Development (1980), it proposed an approach seeking to reconcile the development community (aid agencies, UN bodies such as FAO, WHO and UNDP) and the nature conservation community. Its language also adopted terms like biodiversity, ecosystem and sustainable development.

The emergence of this international governance of biodiversity led by conservationists coincided with some questioning of the role of governments within the development aid community. The influence of public choice theory economists in institutions like the World Bank (WB) reshaped the international aid paradigm. The new vision emerged in the early 1980s, particularly with structural adjustment plans, and peaked in the Washington Consensus of 1989 (Williamson, 2003).

The fall of the Berlin Wall, the end of the Cold War and increasing indebtedness in developing countries all accelerated the spread of these ideas and policies. The international aid community became much more critical of the role of governments and urged greater involvement by local communities in development projects, efforts to extend ownership to their beneficiaries and greater coordination of donors' actions. Global governance of biodiversity was launched by the Brundtland Report, *Our Common Future* (Brundtland et al., 1987) and institutionalised at the Rio Earth Summit in 1992. This led to a greater diversification of stakeholders and the promotion of these new forms of biodiversity management.

The authoritarian governments of post-colonial states were thus gradually pushed towards greater democratic openness and the joint management of natural resources. Central government no longer governed unilaterally, but rather in cooperation with new stakeholders both local and transnational (international organisations, development agencies, NGOs), the latter often acting as allies or defenders of local communities in the Global South.

This was a fundamental moment for change in how the Global South's natural resources were managed. A shift occurred from a government approach to nature to the globalised governance of biodiversity. This meant a change in the discourse and practice of stakeholders carrying out biodiversity policies in the Global South. For example, the narratives and initiatives favouring fortress ('fines and fences') conservation of nature, long promoted by NGOs, were gradually replaced by approaches recommending greater consideration of development and participation issues in biodiversity conservation policies. Integrated Conservation and Development Projects (ICDPs) were flagship programmes in this approach (see Box 1.1).

Box 1.1. Experience of Integrated Conservation and Development Projects (ICDP)

Integrated Conservation and Development Projects were initiated in the mid-1980s by the World Wildlife Fund (WWF), a pioneering transnational NGO in biodiversity conservation. Their initial purpose was to advance a new approach to biodiversity conservation that combined ecological aims and the socio-economic development of the communities in the Global South whose survival closely depends on forest ecosystems (Alpert, 1996).

One specific contribution of ICDPs to the globalisation of biodiversity conservation policies in the Global South was that they emphasised the intertwining links between poverty and threats to biodiversity (Robinson and Redford, 2004; Blom et al., 2010), notwithstanding the debates surrounding these links (Roe, 2008). The economic principle of ICDPs was that introducing incentive funding for micro-projects for local people would help reduce poverty and improve the effectiveness of biodiversity conservation policies (these incentives are more widely discussed in Section 5). The allocation of these incentives was also intended to make protected areas more acceptable and ensure more active participation by local communities in biodiversity conservation initiatives (Blom et al., 2010). Despite the numerous controversies (breach of customary rights, inadequate alternatives proposed, local externalities induced by global sustainability targets, etc.) provoked by ICDPs from the outset (Rodary, 2008), these socio-economic projects continue both explicitly and implicitly to inspire the management of many protected areas in the Global South.

The internationalisation of biodiversity governance issues coincided with the democratisation of the 1990s in the Global South and led to the creation of new regulatory systems for access to and use of natural resources and biodiversity in those countries. For example, the promotion of ecotourism, a term that emerged in 1990, was intended to justify the pro-development use of protected areas.

Despite the changes, protected areas have consequently remained the main instrument for nature conservation in tropical countries: witness the IUCN's 1994 categories of protected areas ranging from so-called Strict Nature Reserves to jointly managed protected areas with multiple uses.

Nevertheless, pressures on these areas' biodiversity remain strong, and greater media coverage of the human causes of deforestation and the poaching of wild species mobilises conservationists. Faced with governments' inability or unwillingness to stick to their international biodiversity commitments, conservation NGOs supported by international donors press for extensions to protected areas to slow tropical deforestation (Hrabanski et al., 2013; Aubertin, 2013). One of the first major initiatives of this type involved the World Bank and World Wildlife Fund (WWF). The WB-WWF alliance[1] was formalised in 1998 and was intended to incite countries in the Global South to set aside 50 million hectares of new protected areas and to advance the sustainable certification of 200 million hectares of forestry concessions. In countries like Madagascar, a fragile state context with poor governance and weak law enforcement from the 1990s onwards led to a wave of privatisation in the management of biodiversity to the benefit of conservation NGOs (Corson, 2014; Méral et al., 2016). Because policymakers and citizens in the developed countries see the work of these new stakeholders as attractive and legitimate, the NGOs receive greater support, which now matches the modest human and financial resources that Global South governments invest in biodiversity conservation.

So, although protected areas are the result of a long process that began in the colonial period, their number increased considerably in the 1990s. Despite their limited effectiveness, and indeed doubts about their existence (some authors use the term paper parks for protected areas that only exist in official documents, with no presence on the ground) and the legitimacy of their advocates, protected areas remain the main instruments for conserving biodiversity. However, the way they are managed has gradually shifted from the authoritarian, coercive enforcement of colonial and immediate postcolonial days to more decentralised approaches.

1.4. Linking economic rhetoric to biodiversity conservation policies

In order to increase the size and legitimacy of protected areas, biodiversity advocates have gradually adopted the incentive approaches of economic analysis (McNeely, 1988). This point of view broadly comprises three schools of thought.

The first is usually called environmental economics. It began in America and was gradually constructed to take into consideration the requirements of economic analysis for the environmental problems that had emerged in the US since the 1950s. As environmental costs and benefits were included in public decision-making (like costs for infrastructure projects and benefits from recreation in nature parks), so methods of monetary valuation were developed such as contingent valuation and the travel-cost method. This school is part of a wider public economic approach that focuses on the supply of public goods with positive externalities. It is supported by bodies such as the highly influential American think-tank Resources for the Future (RFF), which was behind the creation of the Association of Environmental and Resource Economists (AERE) in 1979 and more particularly the US government's Environment Protection Agency (EPA) in 1970. The interest in environmental matters of such renowned economists as William Baumol and Robert Solow helped to develop environmental economics in most Western environment agencies and the international aid community (USAID, World Bank, etc.). By the late 1980s, the idea that protected areas were justified by the non-market benefits they procured became commonplace (Dixon and Sherman, 1991; McNeely, 1994). New monetary valuation methods supported the case (Munasinghe and McNeely, 1994).

The second school is that of new resource economics, largely an offshoot of the public choice school mentioned above (Grolleau et al., 2007). Its influence takes the form of environmental policy recommendations based on the benefits of market-based regulation and privatisation rather than public regulation. It, too, began in America in the early years of the Reagan administration. The shift to neoliberalism and distrust of government regulation, particularly the action of the EPA, led to advocacy for market-based instruments, seen as more effective than government regulation (rules, taxes). The pejorative term 'command and control,' referring to the hypercentralisation of military decision-making taken to explain US failure in the Vietnam War, was even applied to the US administration's environmental regulations. Conversely, decentralisation via market-based regulation became the be-all and end-all of US environmental policy and, in turn, that of

international bodies such as the World Bank. Other stakeholders and networks gained in influence, such as the Environmental Defense Fund (EDF) and the Political Economy Research Center (PERC).

The third significantly influential school to develop has been the economics of biodiversity (Pearce and Moran, 1994; Perrings, 2000). Its principles are the environmental economic valuations described above, which it applies to the conservation of biodiversity, with a focus on tropical ecosystems. Much work has been done on the monetary valuation of the services rendered by ecosystems. This shows the benefits gained from conserving ecosystems as services rendered in terms of regulation. Saving forests by means of protected areas not only saves the habitats of emblematic species but also enhances carbon sequestration and reduces soil erosion. This approach is also taken towards all ecosystems, forests on land and others in marine and coastal areas, including mangroves and coral reefs. These approaches developed following the Rio Summit in 1992, and even more from the 2000s, with such international initiatives as the Millennium Ecosystem Assessment (2001–2005), and The Economics of Biodiversity and Ecosystem Services from 2008 to 2012 (TEEB, 2010).

Conservation stakeholders, especially the advocates of Global South protected areas, see these approaches as valuable, innovative levers and quantitative decision-making tools appreciated by policymakers and donors. The reason is that since the Rio Summit, more transversal participatory approaches have been promoted that encourage conservationists to make use of community management and income-generating activities. The point is to seek support from local communities and bring them into pro-environmental economic activities and thus turn them away from extractive activities detrimental to ecosystems, such as trading in wildlife, timber and minerals, often taken from protected areas. This economic approach based on promoting profitable local activities (ecotourism, eco-guards, bee-keeping, sale of non-timber forest products, new crafts based on forest products, etc.) is of real value (see Box 1.1). But the impact of their expansion on the living standards of rural households seldom diverts these households from extractive activities (with high levels of deforestation) whose returns are often greater. Furthermore, these approaches usually affect local communities and arouse distrust among Global South governments, who may perceive them as ways of undermining their sovereignty both to manage their natural resources and independently govern their citizens.

1.5. The growing influence of economic regulation in the biodiversity sector

Advocacy for the economic regulation of biodiversity irrespective of socio-political considerations (reducing the role of governments, inequalities, power relations between dominant and dominated stakeholders in conservation policy, etc.) became stronger and more institutionalised in the mid-2010s. It increased with the emergence of the term ecosystem services in the development programmes of many international organisations influential in the Global South: World Bank,

Organisation for Economic Cooperation and Development (OECD), United Nations Development Programme (UNDP), UN Food and Agriculture Organization (FAO), etc. At this stage, the emphasis was on the capacity of preserved ecosystems to stock carbon and act as common goods to mitigate climate change, while Global South claims of sovereignty over these ecosystems were downplayed or even ignored. As the international governance of biodiversity has focused on market-based instruments, a number of mechanisms have been developed targeting tropical countries with vast forest ecosystems. Payments for ecosystem services (PES) are a prime example (box 1.2).

Box 1.2. An example of Payments for Ecosystem Services (PES)

PES are incentives designed to internalise externalities. The principle is that payments from stakeholders or economic agents who benefit from ecosystem services are made to those who provide them. The classic example is the fight against deforestation. Here payments go to those stakeholders whose endeavours to fight deforestation help to store carbon in trees and forest soils and avoid soil erosion (and thus the loss of farm soil fertility or the silting up of watercourses of use for drinking water and efficient hydro-electric plants). The beneficiaries of the water whose supply and quality are preserved therefore pay the opportunity cost of stopping deforestation borne by upstream users of forestland. This system was a great hit in the 2000s and the early 2010s with donors, conservation NGOs and researchers, particularly in environmental economics. Some of these stakeholders saw PES as an exemplary decentralised incentive. Its advocates had scholarly backing from the Coase theorem, evidence of the influence of environmental economists mentioned above. The direct nature of this mechanism is emphasised, since farmers are paid directly for not converting their forestland to other uses, rather than, as before, funding development actions to compensate for stopping deforestation. PES payments are made to conserve ecosystems, particularly forest ecosystems, mainly for water flow regulation, carbon sequestration, and ecotourism. The World Bank, together with conservation NGOs such as TNC, CI, WWF, and FFI, developed this instrument in the light of success stories like Costa Rica and other Central American countries. The approach has also been rolled out in South-East Asia and, to a much lesser extent, in Africa. Note that alongside PES paid to private local stakeholders another incentive scheme was developed in the 2000s in order to extend to governments this type of biodiversity conservation for payment deal. This is the mechanism to reduce emissions from deforestation and forest degradation (REDD+). Institutionalised at the Paris climate conference, it has had little effect on tropical deforestation and symbolises the limitations of an apolitical approach to the international economics of biodiversity.

1.6. Global network of protected areas and related financial issues

This preference for an economic discourse on protected areas needs to be understood in the light of international commitments made in the last 20 years. The erosion of biodiversity has been warned against in a succession of reports from such bodies as IUCN and UNEP and has prompted initiatives such as the Convention on Biological Diversity, Multilateral Environmental Agreements (MEAs) and, more recently, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). It is in these international forums that conservation stakeholders influence governments. Rounds of negotiations have led to commitments to increase the total size of protected areas. In 2010, for example, the Aichi conference agreed on a growth target for protected areas. These were to cover at least 17 per cent of the world's land area and 10 per cent of its sea area, an ambitious target for 2020. This form of international governance based on such a simple indicator quickly became problematic for tropical countries, since their existing protected areas and those set up under this agreement are chronically underfunded.

Over the years, the use of market instruments advocated on account of their supposed effectiveness in internalising the positive externalities generated by protected areas has become a way of finding additional funding for these areas. Since the start of the 2000s, many international networks of committed conservationists, ecologists and economists, plus financial experts and protected area managers, have emerged, with telling names like Ecosystem Marketplace and Conservation Finance Alliance. These networks have been influential in revising international biodiversity agreements (particularly under the Convention on Biological Diversity) and have brought into their discussions, stakeholders from banks, insurance companies, major private corporations and philanthropic foundations. Their shared objective is to create what Daily and Ellison call a 'new economy of nature' (Daily and Ellison, 2002). The point is not only to internalise positive externalities as with PES but also to extend the use of these types of payment by setting up new ecosystem service markets for forest carbon, protection of catchment areas by new planting, etc. The aim is to arouse the interest of private investors in allocating some of their funds to schemes likely to provide a significant return on investment. Although the application of such markets is still limited and has mainly been tried in rich countries (particularly the United States and Australia), international bodies have gradually adopted this thinking. In 2013, the OECD published a handbook entitled *Scaling-up Finance Mechanisms for Biodiversity*, and the Global Canopy alliance of 37 scientific bodies in 19 countries produced its own *Little Biodiversity Finance Book: A Guide to Proactive Investment in Natural Capital* (Parker and Cranford, 2010; OECD, 2013). The latter was supported by the Convention on Biological Diversity, and the NGO is funded by the Prince Albert II of Monaco Foundation; the book clearly states both that the main sources for funding biodiversity conservation come from government budgets for their own protected areas (half from the United States, Canada, Europe and China) and that the amount of development aid devoted to biodiversity in 2010 was USD 6.6 billion. Consequently, increasing the total size of protected areas as

much as was agreed internationally in 2010 focuses attention on obtaining extra resources. The discourse shifts from market instruments to innovative financing mechanisms: where to find extra funds for developing countries that since the advent of the structural adjustment policies have little capital of their own.

This pressure on financial resources is currently increasing, since the Convention on Biological Diversity is considering extending the global network of protected areas to 30 per cent of all land and sea ecosystems, when it is now 'only' 16 per cent for land and 7.4 per cent for sea (below the commitments made for 2011–2020). As Global Canopy's new, catchily titled, *Little Book of Investing in Nature: A Simple Guide to Financing Life on Earth* (2021) points out, the need for finance will be considerable (Tobin-de la Puente and Mitchell, 2021).

One consequence of this focus on what are scarcely innovative financing mechanisms is that it largely ignores how existing protected areas are actually managed. Increasing the total size of protected areas, particularly in tropical countries, is not based on any close examination of the effectiveness of the existing ones but is rather the effect of institutional momentum at global level. It is this momentum that leads to discussions of how to make financing sustainable. This is well illustrated in the case of trust funds, as explained in Box 1.3.

Box 1.3. Conservation trust funds

Trust funds are a prime example of current trends in the international governance of tropical biodiversity. They are legal instruments whereby a donor has capital managed by a third person for a specific purpose. For biodiversity, these conservation trust funds are set up to finance conservation actions and, particularly, protected areas. The specific feature of these trust funds is that they enable an entity, usually a foundation, to manage the capital obtained and use it partially (investment earnings only) or totally for a period of years with no accountability to the governments of the countries where the conservation actions are carried out. Since conservation trust funds began in 1979, they have continually increased in number. There are currently nearly 90 for biodiversity conservation. Although the managements of these funds do not always practise transparency, we estimate their total capital to be USD 2 billion. One reason these trust funds are so popular with international stakeholders is that they are often used to manage funds arising from what are known as 'debt-for-nature swaps.' The capital obtained is often invested in shares and only the earnings are used at the discretion of the foundations that manage it. Although governments are sometimes represented on the boards of these funds, most funds are managed by a consortium of stakeholders where the government representative(s) are often a minority in the decision-making processes. However, on the ground these trust funds' activities are regularly faced with the complex reality of government economic policy in the Global South, where there is often no point in attempting to circumvent governments in the governance of biodiversity. Even when such circumventions appear to bring about changes that

favour the sustainability of ecosystems in the Global South, most of these changes are reversible, given the lack of political will in the governing class to consolidate progress made, particularly where that progress threatens the informal interests and private agendas of decisive stakeholders excluded from the process (Doinjashvili et al., 2021).

1.7. Globalisation and biodiversity conservation politics

The current globalisation of biodiversity governance continues to give a key role to the protected area system, a system of territories that are consequently subject to national sovereignty. And yet the economics-based discourse on conservation has produced forms of regulation based on economic incentives. We have described PES payments, but others could have been included, such as carbon offsets, socio-environmental labels and certificates, etc. Most of these systems and instruments are designed to circumvent government or reduce its previously dominant role in the Global South in production systems, natural resource management and biodiversity conservation. These attempts to circumvent government are generally motivated by the weakness or failure of postcolonial governments and aim to ensure a rational and fair management of biodiversity that will be compatible with global concerns for sustainability.

This weakness of governments has often been worsened or indeed created by global circumstances of austerity policies and neoliberal reforms imposed by international financial institutions such as the World Bank. In many cases, government weakness has aggravated the confusion between public and private sectors, between public and private interests. Whether sectors or interests, one consequence for biodiversity management is that informal practices persist or increase in the access to and exploitation of natural resources. This leads to a prosperous trade in plundering biodiversity, often exacerbated by globalisation: transnational smuggling of wildlife and derived products (ivory, pangolin scales, etc.), illegal trading in precious woods, especially rosewood, occupation and plundering of protected areas by insurgent movements, informal or discretionary acquisition of huge forest areas (land grabbing) for industrial farming or biofuel schemes, etc.

These attempts to delegitimise Global South governments in biodiversity governance are, however, thwarted by some governments' tendency to break their international commitments on environmental matters, particularly if those commitments are likely to compromise their interests. This increases tensions between conservation projects (often put forward by international stakeholders and their allies in civil society organisations) and priority agendas to make use of biodiversity, an option particularly advocated by local governments. Initiatives for the sustainable management of biodiversity in the Global South, whether focused on norm-based regulation or economic incentives, find it hard to achieve their aims because they underestimate or overlook the central role of government and the constraints involved in attempting to reduce it. One example is the international attempts to have forest ecosystems and biodiversity declared 'global public goods'

(Kaul et al., 1999; Compagnon, 2008). These regularly come up against claims to sovereignty by Global South governments, who see the location of these resources as de facto evidence that they should be managed by the public interest policies of the countries concerned. As for decentralisation policies, attempts to circumvent government veer between partial delegation of access rights and biodiversity management and recuperation by central government of that governance (Ribot et al., 2006). Recent developments include the greater use of international instruments based on allocating financial incentives to combat deforestation (UN REDD+ initiatives) and the preservation of biodiversity (PES), where it has been observed that their chances of success intrinsically depend on a Global South government's ability or political will to support their implementation (Karsenty and Ongolo, 2012; Tosun and Howlett, 2021).

1.8. Conclusion

As pressures on natural resources increase across the world, conservation stakeholders are looking for any way to make protected areas sustainable and effective. A host of initiatives aim to restrict the conversion of forests to farmland and any more land grabbing to exploit natural resources, often as concessions. This way of thinking about the use and conversion of natural spaces for economic purposes is countered by another that aims to make these spaces sanctuaries as habitats for natural species and more recently for the ecosystem services rendered to societies.

From colonial times to the present day, when tropical ecosystems are seen as providing global public goods, Western governments have often had a determining influence in defining forms of access to and regulation of tropical ecosystems and their biodiversity. The models of thought advanced by economic analysis pervade decision-making forums in international organisations and conservation NGOs, universities and research centres specialising in biodiversity questions.

These models have two limitations. One is that they fail to address the sovereignty that governments have and intend to maintain over their territories, including protected areas. In fact, although international environmental regulation accords an ever-larger place to networks of non-governmental stakeholders, it is ultimately government agreement to international or regional conventions that decides the speed of decision-making. At national level, the success of public action, including for the environment, remains conditional on the political will of government officials to support its implementation, even in those countries where the government is weak or vulnerable. The desire to restrict the governance of protected areas to the closed circle of international and non-governmental stakeholders, justified by rhetorical statements about government incompetence (policy failures) and the ineffectiveness of centralised regulation (market instrument fetishism), can only lead to deadlock. The case of Brazilian governments under President Bolsonaro and their pro-deforestation policies suffices to show how governments can at any point stop or hinder the conservation of biodiversity in the name of sovereignty (Meeus, 2019) or to preserve the private interests of their supporters or political clients.

The other limitation is that this economisation of nature conservation obscures the capitalist dynamic that is one of the main causes of these pressures on natural resources and the places where they are located (Cuypers, Geerken et al., 2013). One reason pressures on ecosystems too are increasing is that global demand for raw materials, especially agricultural ones, is increasing (Pendrill et al., 2019). To continue to enlarge the protected areas, a perfectly proper idea as seen by the conservation community, without attempting to restrict the well-known causes for the human impact on ecosystems driven by the current capitalist dynamic, can only be an illusion. Very few signs of greater consistency of thought are emerging, such as the Europe-wide adoption of a policy to combat imported deforestation, an initiative to internalise the impact of European import and consumer markets on the sustainability of tropical ecosystems. Once again, government has a determining role to play.

Note

1 https://documents.worldbank.org/en/publication/documents-reports/documentdetail/825041468739261524/world-bank-world-wildlife-fund-wwf-alliance-for-forest-conservation-and-sustainable-use-annual-report-1999

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2 Empowering Scientific Information about Biodiversity by Linking Science with Forest Users in African Contexts

Max Krott and Mirjana Zavodja

2.1 Illusion about science pushing a one world biodiversity governance

Since its establishment in 2012, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES[1]) signals that science is expected to provide an important contribution to biodiversity protection globally. Science-based solutions for biodiversity protection should strengthen the global land use governance. Expectations put on the scientific information are respectively high, yet the results in the land use change often look disappointing (Kankeu et al., 2020; Romijn et al., 2015). In spite of the fact that the new science-based solutions and tools exist (e.g. project-based actions for biodiversity, which are tailored to the specific conditions of urban settings – Xie, Bulkeley, 2020), they rarely find a proper way into the land use practice (Williams et al., 2020).

When it comes to the activities of using science to create science-based biodiversity solutions for practice, then fundamental differences between the sphere of research and the sphere utilisation become visible. In the sphere of research the scientific activities, conducted according to the acknowledged rules and methods, remain within the scientific context (in which they are produced). In the utilisation sphere, where science-based solutions are created, scientific information gets de-embedded from the context of science and becomes re-embedded into the actors' context of land use (Stevanov, Krott, 2021). As a consequence, interest-driven conflicts between land use actors pop up and these actors start using their power as a means to shape the land use in the direction of the preferred solution. Based on that, power and interests become major driving factors of the land use governance and they exercise dominance over scientific information (Böcher et al., 2016).

Cheeseman et al. (2015) show that in Africa domestic actors on the regional level use strategic alliances to bundle their power resources and select alternative science-based solutions that are in line with their regional interests. In the same vein, those authors emphasise also the importance of an international dimension. By following the dependency theory, which draws attention to the dominant influence of the global north in the African countries (Itai, 2016), the scientific information from the global north may push science-based biodiversity solutions

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in the global south. These solutions are often biased and may therefore not work in the direction of a promised sustainable development in the global south but strengthen mainly the interests of the global north (ibid.).

Land use governance in Africa is conflicting (Schilling et al., 2010) and the science is often not able to solve the conflicts in practice solely by arguments. This is one of the reasons why scientific arguments lack the power element to dominate the practice (Böcher, Krott, 2016). Besides, the direct involvement of science with the practice would destroy the scientific principles and the ability of science to produce information correctly. Therefore, a bridge between the scientific production of information (=Research) and its use for science-based solutions in practice (=Utilisation) needs to be established (ibid.). The next sections will show how this bridge can be established and which strategies can help scientific information to be transferred from the scientists to the users. A bridge that can empower scientific information and lead toward improved biodiversity and sustainable land use governance in Africa.

2.2 Bottlenecks in turning scientific information into action

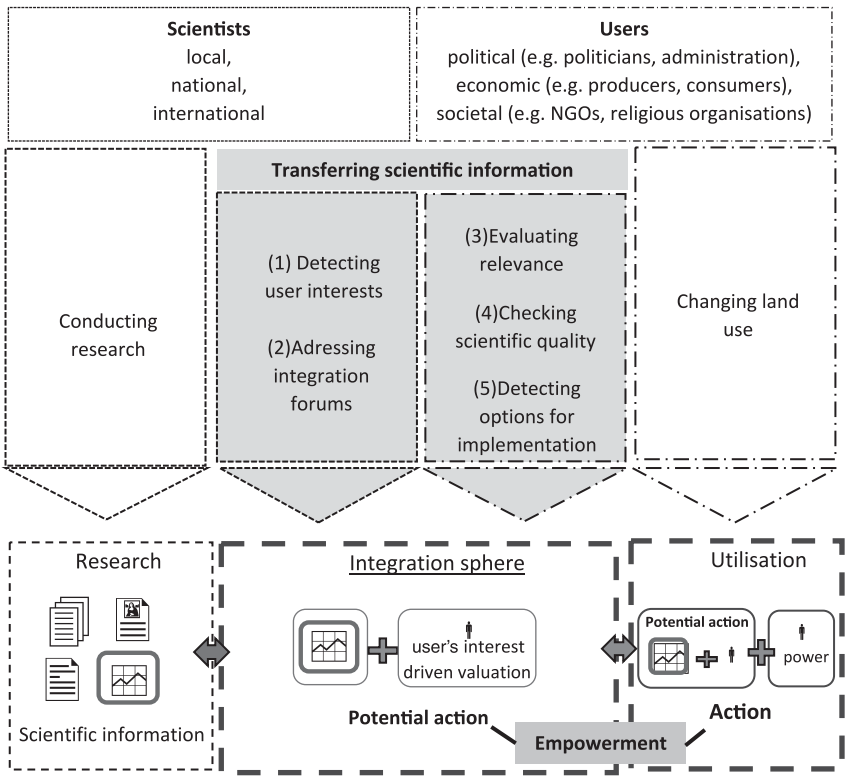
Scientists can describe how biodiversity develops within the land use in Africa and explain which factors influence the land use from the biodiversity perspective. As far as these explanations are factually right, they can be used by actors in practice to design actions that influence biodiversity towards the chosen goals (Krott, 2012; Popper, 1972). In this manner successful scientific explanation directly leads to the successful science-based solution that improves biodiversity in practice. This expectation of scientists is, however, rarely met in practice (Böcher, Krott, 2016) since implementation of science-based solutions in practice does not solely depend on the reliability of the scientific information. A science-based solution depends also on other factors; foremost on the willingness and the ability of actors from practice to select and utilise scientific arguments for pushing their own science-based solutions in the field. Therefore, the interests of actors and their political power will dominate the utilisation of science-based solutions in practice.

This important link, which exists between the science and the utilisation of scientific information by actors on another, is conceptualised in different models. These models, evolving since the 1960s, can be grouped in three phases (Sokolovska et al., 2019): the (1) linear model of the 1960s expects that scientific information will directly guide the actions by politicians and bureaucrats. In the second phase, 1970 to 1990, the (2) co-production and recursive models draw attention to the active part that politicians and bureaucrats play in the use of scientific information. Turnhout et al. (2019) argue that co-production models will fail, due to indirect supporting depoliticisation, as long as they miss integrating political practice made of actors with different power resources. Finally, after 2000, the recent (3) embedded models enlarge the role of practice by including actors from society and economy as they also strongly influence the application of scientific solutions in practice.

Keeping embedded models in mind Stevanov and Krott (2021) show, based on the Research-Integration-Utilization (RIU) model (Böcher, Krott, 2016), where the bottlenecks in transferring scientific information into praxis could appear. They are summarised in five key activities – (1) to (5) – in Figure 2.1. This figure illustrates a framework for the transfer of the scientific information. It shows (i) scientists and users, (ii) who conduct specific activities and (iii) by these activities scientific information is transferred from the research into utilisation via integration:

(i) Scientists comprise all persons who conduct research activities within scientific organisations on all levels (from the local, over the national to an international) in both the global north as well as the global south. In our case special attention is given to the dominant resources the researchers from the global north have within national and international organisations.

Users comprise all actors having the ability to change land use directly or indirectly (Schusser et al., 2016). Direct land users are producers and consumers



Source: adapted from Stevanov, Krott (2021)

Figure 2.1 Transfer of scientific information by scientists and users through the Integration sphere
Source: Adapted from Stevanov, Krott (2021)

of land use products. Most of the forestland users in the global south are self-providers of the food and domestic energy (such as wood fuel) they need for their survival. International companies buying products from the global south belong to the direct user group, too. Most important among direct forest-related land users in Africa are certainly the governments, with their specific state agencies on different levels, but also organised interest groups belong here. Organised interest groups represent either user interests or interests of environmental protection groups. The latter prefer the term "NGO" (Non-Governmental Organisation) as it stresses the critical role they have toward governments. Simultaneously, under the objective goals of NGOs specific environmental interests of their members are camouflaged, and these interests are often in conflict with those of land users (Laraswati et al., 2022). In general, however, pluralistic interests of these actors are assumed, which may partly be in conflict but may also offer options for alliances. The same is true for international organisations. This actor group is comprised of multiple agencies and regimes, e.g. global aid agencies, WTO/GATT (World Trade Organisation / General Agreement on Tariffs and Trade), UN-CBD (United Nations Convention on Biological Diversity), UNFF (United Nations Forum on Forests), etc. (Biermann et al., 2012). These agencies and regimes are highly conflicting and competitive on both international level and in respect to national states, not contributing to a global consensus in optimised governance yet (Giessen, 2022 forthcoming).

(ii) The activities of the scientists and users are classified by the RIU model into Research-Integration-Utilization (Böcher, Krott, 2016). Research activities are conducted by scientists (Figure 2.1), who conduct research following a strongly self-regulated process of science, with the claim to be public and to produce sound scientific information. Utilisation activities are conducted by (direct or indirect) land users (Figure 2.1), who are able to change the land use. While applying technologies and power to turn potential action into action in practice, they follow specific interests and deliver products for the society by causing external effects at the same time (e.g. on environment represented by NGOs and public agencies, among others). In this chapter we focus on the link between the research and utilisation activities and actors, which we call Integration. According to Böcher and Krott (2016), integration is a bidirectional process in which pieces of existing and available scientific information are used to produce potential solutions for biodiversity problems in land use. Within integration, scientists offer new scientific information produced within the Research, and users select what is relevant for their problems according to the interest-driven valuation. If a piece of scientific information becomes selected (marked red, Figure 2.1) then it is de-embedded from the context of the Research and re-embedded into the user's existing knowledge and experience so that a potential action (=science-based solution) is created. In cases when available scientific information does not match the user interests, no potential action will emerge but the users can communicate the gap to the scientists (=bi-directional process). Scientists can accordingly use that hint to (re)shape their research question and continue research activities. This requires the existence of close and trustful communication between scientists and users.

Both sides have to trust each other and accept their different roles. Scientists have to accept that users will not apply the comprehensive results (but select pieces according to their interests) and users have to accept the limits of scientific information.

Integration may empower scientific information when users attach their specific power resources to potential action(s) and turn it into a real action (Figure 2.1). The RIU stresses that putting power behind science-based options is the main driver of transferring scientific information from the scientists to the users, which can then change the land use in practice. Despite the fact that both take part in the same integration process the viewpoints of scientists and users differ considerably (Kirchner et al., 2021a). In their activities, scientists are driven by curiosity, which is scientifically captured as theory-based knowledge gaps (Böcher, Krott, 2016). The main task perceived by scientists is, therefore, to diminish these knowledge gaps and this is happening with the Research sphere. While entering the sphere of Integration scientists become challenged while, in addition to the provision of sound, high-quality research, they also need to (1) detect users to whom produced scientific information could serve and (2) find and visit places where those users can be supplied with the scientific results (Figure 2.1). According to Kirchner (2021a, 2021b) these places (where science and practice meet) are called "integration forums".

Differently from scientists, land users are facing other challenges in the process of transferring scientific information. They have to (3) evaluate the relevance of the scientific information for their particular activities (Figure 2.1). Relevance is evaluated in regard to the specific problem of a land user but also in regard to the potential alliances that could be built in order to support their potential solutions. In addition, it is important to check how far the potential solution fits into the public goals. A good fit of a potential solution with the public goal(s) will provide strong legitimation for the potential solution of a land user. A quite different task for land users is to (4) check the scientific quality of the information provided by scientists (Figure 2.1). As a matter of fact, scientists do not speak with the only one voice but multiple scientific information is available. A check of the scientific quality of available scientific information is indispensable for selecting it as part of the best solution. Finally, users have to act within the given economic and political environment. Therefore, (5) detecting existing options for implementation of science-based solution(s) within the given environment is decisive for having an impact on land use (Figure 2.1).

These five key activities, two conducted by scientists – (1), (2) – and three by land users – (3), (4), (5) – often represent a bottleneck in empowering scientific information. These bottlenecks will be discussed in detail in the following chapters (3 and 4). Based on these five activities, two strategic options for empowering scientific information will be described (Chapter 5). The first, capacity building strategy, is trying the establish capacities for professional knowledge transfer in the global south in the identical way as those are existing in the global north. The second, capacity integrating strategy, aims to rely on the existing performance of actors in the global south and to extend or mix it with elements from the global north.

2.3 Options for scientists in the transfer of scientific information from the research into utilisation

Step 1: Detecting user interests (pre-analysis)

Drawing attention of scientists from scientific results to users is challenging. It can considerably change the idealistic picture of science that everybody outside the science is eager to apply the most advanced science-based solutions. The "outside world" is full of actors, who play diverse social roles and differ also considerably within the one category only. The category of land users, for example, differs in the access rights to the land, starting from access through ownership of huge land resources up to illegal access for the purpose of harvesting small amounts of commodities like fruits (Ribot, 2003). Land users can also be organised in groups and conduct joint activities. Besides, land use is politically regulated by a number of different actors, who not only make and implement regulations but also compete in pushing their specific interests forward. Both land users and regulators influence the protection of biodiversity and a first step for researchers is to map different actors having a stake in biodiversity and judge the influence of their particular activities on biodiversity protection.

Mapping actors that are affected or can affect biodiversity has to be specific with respect to the scope of relevant users, and the economic and political environment. This task might be particularly demanding in the global south because of the dominance of the informal level over land use and the political system in respective countries. Thus, consideration of the formal system has to be extended by focusing on the most influential actors (Krott et al., 2014; Schusser et al., 2016). Due to their strong influence on the land use such actors are well known within the actor networks and can be observed as land users and regulators:

- For mapping the land users, it is important that the natural scientists contribute their whole knowledge about the effects of land use on biodiversity and vice versa. In that way, the new insights of natural science will open new links to different land uses that were not considered before. For example, new fruits in agroforestry systems could cause new pest risks for trees or agricultural plants and enlarge the group of affected land uses. Building on the knowledge on affected land uses the natural scientists should be able to make the step consequent to the land-use analysis and mention the most influential land user(s) specifically.
- For mapping the regulators, who are only indirectly linked to the land use and biodiversity issues, the additional competence of social scientists is valuable. Inclusion of social scientists, who deal with specific questions about the regulators engaged with biodiversity on formal and informal level, could trigger fruitful multidisciplinary cooperation within the particular research. While using particular methods to analyse actors, their interest and power resources, social scientists can complement research projects about biodiversity and contribute knowledge for effective knowledge transfer respectively.

It is not sufficient to know who the land users and regulators are, but insights are needed too into their interests, potential conflicts which may emerge between conflicting interests and into resources of power the actors have at their disposal. For answering these specific questions, social science has developed adequate theories and methods, which need to be complemented by deep experiences in practice. To get such information from practice a trustful cooperation between the researchers from the global north and the global south is an inevitable precondition (Nago, Krott, 2020). The researchers from the global south will not only contribute their specific empirical knowledge about the land use and biodiversity in particular but they will also have some experiences with land users and regulators. Considering the huge importance of informal behaviour (Hyden, 2015; see section 2.4) in the global south, such experiences are very valuable for the evaluation of interest and power of respective actors in Africa.

Evaluation of conflicts between actors is an important challenge for scientists. Scientists are used to thinking in rational solutions that provide benefits to land users and society. It is hard for them to accept that, depending on different interests in society, every solution also creates costs and disbenefits. Providing one, best solution or compromise is usually not possible because of diverse and (often) controversial interests of land users and regulators, which often lead to conflicts. Within the realm of utilisation, the power which land users can put behind their interests are decisive and not the scientific rationale of an overall best solution (Böcher, Krott, 2016). Nevertheless, by designing multiple, different science-based solutions scientists offer options that will have different benefits for different actors. Which science-based solution will be supported and implemented will depend on the interests and power resources of specific actors. What scientists can do is to be open for the conflicting nature of the society and politics. The more realistic the picture about the actors, their interests and conflicts they can make, the better the link to a specific, science-based solution for biodiversity that will emerge. As a consequence, scientific activities always remain within their own context of science.

Step 2: Addressing integration forums within powerful actors

The pre-analysis of land users and regulators reveals the relevance of specific science-based options for specific users and networks. Such prioritised actors could become the most promising allies for transferring scientific information into practice.

In order to become relevant, the scientific information has to find its way to actors' existing knowledge and experience first, and then creep into their decision-making (Stevanov et al., 2021). The places where actors get in contact with the scientific information and this information has a chance to extend their knowledge (and become integral part of potential action) are called "integration forums" (Kirchner, Krott, 2020). Integration forums are manifold, from simple science-based education to reading scientific content on the internet, to participation in the permanent expert group. Most of the actors have already participated or

established some kind of an integration forum – e.g. state agencies employ university educated staff (science-based education) who often have the opportunity to get particular training within the job. Despite the fact that facilities for gaining specific qualifications in the global south might not be well developed, they do offer a highly important opportunity as a place for exchange of scientific information about biodiversity (=integration forum). Environmental lobby groups often have close cooperation with experts in the field of their respective interests and get information from them or even organise trainings by experts and scientists from the global north (Laraswati et al., 2022). Organised interest groups of land users are also engaged in education of their members and have links to experts from state agencies or private industries for getting science-based information about advanced technologies (Krott, 2005). If researchers are intensively searching for different, existing integration forums then the probability of detecting specific ones, within the required set of actors, will be high. These particular integration forums are the most promising places where innovative scientific information can be integrated into the existing knowledge of land users and regulators and influence their decision-making (Stevanov et al., 2021).

In contrast to the described procedure (i.e. focusing on existing integration forums), developing and scientific projects of the global north usually apply a different one – they create new integration forums within the project. The most common forums are the "workshops", which include researchers and actors from practice. Within the multi-stakeholder concept of the European Union the workshops have almost become a synonym for knowledge transfer. Despite researchers and research managers frequent acknowledgement of workshops, evaluations show that the transfer of knowledge by newly created forums remains poor (Kirchner et al., 2021a, 2021b). The main reason for that may be in the fact that the concept of a workshop is embedded into the realm of science where all participants are expected to play the researcher role, meaning that they are expected to communicate openly and be driven by scientifically rational discourse only. But actors from practice cannot take this role and separate workshop communication from their political role, interests and power. Therefore, they will typically resist opening the discourse and will either misuse the workshop for a symbolic purpose (symbolic discourse, to legitimate their position) or ignore it (as source of serious science-based information). Accordingly, the workshops, as new integration forums that are easy to organise and scientists are so familiar with, have less potential for knowledge transfer than the existing integration forums.

After existing integration forums are identified as promising, the researcher has to contact them directly. Each forum is already connected with relevant actors and their organisations, being in that way an important part of decision-making. If a researcher triggers an interest of an integration forum and becomes invited to present scientific information, then this scientific information will be considered seriously by actors in the decision-making process. An invitation to present research results within the forum can therefore be excellent for opening the gate for information flow. The gatekeeper, i.e. the person providing the invitation, has (pre)selected the researcher in the hope of getting valuable science-based

information to be used in strengthening their own position. The price that the researcher pays for being invited is that actors will be selecting pieces of presented scientific information by following their interests within that integration forum. This kind of selection means neither that information will be manipulated, nor the scientific content of the information will be hurt. It simply restricts the amount of scientific information that is requested and applied by the forum. In the best case, the integration forum selects the specific scientific information relevant for its decision-making and promises to support its mission. If the researcher accepts this (a modest role as a provider of scientific information, which will be embedded into the knowledge and decision made by the integration forum by following its own rules) then he or she will be able to strengthen the scientific bases of the respective decision. Otherwise, the researcher might feel frustrated with the knowledge transfer, while realising the integration forum dominates research results.

Acknowledging the limits of scientific information within political decision-making is of great importance for the researchers from the global north. As long as they aspire to drive political decisions in the countries of the global south by their science-based information they will not be able to achieve a strong impact in Africa. If they, on the other hand, respect the need to embed their scientific information into the existing knowledge and experiences of actors from practice, they will accordingly enlarge the scientific basis of the policy and decision-making. Focus of researchers on existing integration forums offers therefore a bundle of respective advantages:

- Strong integration into formal and informal decision-making: researchers who communicate within an existing integration forum play a formal role but being invited by the forum means simultaneously that informal expectations are linked to the scientific solution. The researcher does not need to know these informal politics but can trust that he has some informal backing already and that his scientific information will be taken seriously by the decision-making process.
- Pluralistic cooperation with different integration forums: public goods delivery in Africa is not a monopolistic task of the state and bureaucracy but multiple actors (like development agencies, non-governmental organisations, community-based organisations, chiefdoms and private sector) coexist and shape the governance (Olivier de Sardan, 2013, p. 77). This is true also for securing biodiversity as a major public good. Consequently, integration forums relate to all actors that researchers can approach. The interests and goals of these multiple actors will often be conflicting, and they will be selecting different pieces of scientific information respectively. Instead of expecting a consensus (based on scientific information) it is more realistic for a researcher to open up for pluralistic cooperation with actors from different integration forums, providing entrance of available scientific information into respective biodiversity solutions and strategies.
- No need for additional capacity building in knowledge transfer: very often existing projects are planning to build new capacities for land use governance in Africa quickly. This fails mainly while domestic conditions and politics are far too challenging for researchers and their scientific projects. Capacity

building is a tricky task that can best be solved by specific political projects. This does not mean that new governance options are not important for the transfer of innovative science-based solutions, but recommends separation of the political from the scientific tasks. Researchers can check political innovation that might pop up as the possibility of cooperation, as suggested in above paragraphs.

2.4 Options for users in Africa to integrate scientific information into land-use solutions

Step 3: Checking the relevance of biodiversity issues for the actors

The relevance check focuses on the three areas – the specific problems the actor is facing in practice, the options for alliances and the establishment of links to public goals. Before going into the details of each, it is important to underline that in all three areas the formal and the informal levels of action are important (Krott, 1990, 2000). The second is even dominant in the global south because the weight of multiple informal actions is higher there than in the global north (Hyden, 2015; Olivier de Sardan, 2013). The informal level should not be mixed with the illegality – on an informal level many different actors are simply trying to pursue their policies distinct from their formal role. Even if they rely in public discourses on their formal role, everybody is aware that the actors play an informal role too (Krott, 1990, 2005). Therefore Hyden (2015) stresses that the formal and informal levels are interlinked. Consequently, the relevance of scientific information is based on the formally as well as on the informally shaped problems of actors.

Biodiversity issues are formulated within the formal discourses. There, the public aim of securing biodiversity is being expressed and formulated by multiple actors:

- State authorities are one of the actors and they do pay attention to biodiversity while designing solutions for biodiversity protection. Their statements can even make it into the written guidelines, where aspects of biodiversity are officially considered as a part of existing problems. But the more important part belongs to an informal level. There, bureaucrats look on their self-interests (Olivier de Sardan, 2013, p. 73), searching individually whether a biodiversity solution is linked to additional gain like income or influence. If yes, relevance of a goal for a specific bureaucrat would be high, otherwise the formal aim of protecting biodiversity will not be strong enough.
- If biodiversity protection is a match with the (potential) privileges of bureaucrats (e.g. informal economic gain or prestige) then the relevance of biodiversity issues will increase for this type of actors (see previous paragraph). Such informal criteria for judging the relevance of scientific results are applied also by other types of actors such as organised interest groups or local communities. Their strong informal orientation means that the relevance of a scientific result will be judged not only by its contribution to biodiversity protection but also by its contribution to their informal aims. This makes judgement of relevance more complex but also opens additional

chances for pragmatic approaches toward formal (public) arguments and informal (hidden) criteria of relevance.

- For actors, like enterprises and landowners, all actions towards biodiversity conservation look as though they would be shrinking their options for existing land-use practices and related economic gain. The standard answer of the (formal) programmes for biodiversity protection are therefore "payments of ecosystem services". They should turn biodiversity protection into a basis for profitable land use. Following evaluation in literature, however, (Gaworecki et al., 2017), the potential of programmes for payments of ecosystem services can be considered as rather weak, while being part of the formal level only. Consideration of gains that actors could have on an informal level might on the other hand increase the relevance of biodiversity research for the practice.

Biodiversity could also gain higher relevance if it is a subject for building alliances. Alliances are built within a multiple set of public and private actors. Their engagement happens on the formal as well on the informal level, which can be classified into the following types (Helmke, Levitsky, 2006, cited by Hyden, 2015, p. 338):

- Complementary and accommodating: means that informal actions support the formal ones. Informal actions may open up space for actors from the economy or civil society to provide strong support to biodiversity protection on the formal level. If organised interest groups, for example, want to engage in biodiversity protection then they can find many options under the umbrella of a formal biodiversity protection goal. Bureaucrats can include these options into their own judgement of relevance and could become interested in new and innovative biodiversity solutions of organised interest groups. In this vein, formal statements and authority goals are not worthless even though the authority itself will not put own resources behind the implementation of such goals. Formal programmatic services – as protection of biodiversity – may often be delivered by organised interest groups, activities of which are complementary to the state.
- Substitutive informal actions: they can compensate for ineffective formal policies of biodiversity protection. Informal mobilisation of support against a common threat (=self-defence), is one type of action which could positively contribute to biodiversity. For example, damages in forest biodiversity or agricultural land uses have a potential to cause threats to many users. Use of monocultures in agriculture could trigger ecological damage by pests quickly and become a threat for the whole harvest. The loss of particular tree species might destroy the economic value of the forest or its stability. Making such damages and common threats visible for the users could trigger their self-defence and this informal action will act in support of biodiversity protection. Science has huge potential to prove the level of such damages and make them visible for land users. Sometimes, even a pure description of damages may be enough to make science highly relevant for informal mobilisation.

- Conflicting actions: they challenge policies informally. If they become strong the results will typically end in a deadlock (=stalemate) or reform. Hydén, G. (2015, p. 341) finds, that "a stalemate is likely to happen in situations where formal and informal institutions live side by side in a competitive manner, but where the stakes are mainly individual rather than public". Strong biodiversity goals might lead to such a stalemate. On the one (formal) side, the bureaucrats should deliver biodiversity protection as a public good. On the other (informal) side, the bureaucrats are willing to serve their informal allies, who might seek for (short-term) economic benefits. Those will be diminished by pursuing the goal of strong biodiversity protection. In this conflicting case the delivery of biodiversity protection as a public good could suffer substantially. This would typically end in informal blocking of biodiversity policies, which is rather common. It means that improved scientific evidence related to biodiversity and its effective protection could typically become part of the formal programme of bureaucrats, but it will not become truly relevant for them as long the informal benefits of a solution are missing. By neglecting the common scenario of such a stalemate many policies from the global north aim at reforms by modernising the formal programmes of the global south only (Hydén, G., 2015, p. 342). Within this approach, scientific information (coming mostly from the global north) is considered as highly relevant by actors from the global north (they want to undertake reforms), who integrate it into the reform programmes. The precondition for success of such a reform programme is a "scenario in which formal institutions prevail over informal ones" (Hydén, G., 2015, p. 341). Empirically Göran finds, this is seldom the case in Africa. Summing up, if scientific information is recognised as relevant by actors from practice, then this will increase the likelihood for its transfer into practice. The literature-based look at the practices in Africa shows that relevance of informal actions is more important than the formal. Therefore, existing multiple informal practices do offer chances for scientific information to proof the relevance if they are considered pragmatically, i.e. breaking through the restrictions of formal policies.

Step 4: Checking scientific quality of available biodiversity research

The added value of the scientific rationale is that the actor who uses scientific information can trust that the science-based solution will work in the way science is forecasting. This added value of scientific information can be expected only from high-quality research. Therefore, an actor has to check the quality of available scientific information. This quality check is, however, a rather difficult task for an actor from practice because it goes far beyond his existing abilities. The direct check requires application of scientific methods, which most actors cannot provide for. There are, however, indirect steps that can help evaluate the quality of scientific results (Kirchner et al., 2021a, 2021b):

- First, an actor has to consider how he typically gets (or could get) in contact with the scientific results. This could be happening while reading scientific

publications, consultancy reports, attending scientific seminars, being in contact with the collaborator of the research project, etc. All these "places" where actors get in contact with the science are called "integration forums". It is important to be aware of specific integration forums an actor has at his disposal – e.g. for public administration staff, it is the formulation of new guidelines that can be considered as a forum, while scientific advice is included into formulation procedure so that bureaucrats get in touch with researchers. Also, education courses for bureaucrats are often provided. A frequently used integration forum is also expert meetings organised for getting different science-based expertise or meetings with consultants. It is, however, a challenging task to organise such meetings because they are often cross-departmental and departments have to cross hierarchies and informal areas of competence related to their sectors, which on the one hand often triggers informal resistance and loss of trust, and hinders open exchange of information on the other (Hubo, Krott, 2010). In Africa, such efforts would be even more difficult because of "areas of suspicion" (Olivier de Sardan, 2013, p. 73), which are high between bureaucracies. If bureaucrats meet in groups, they already give rise to suspicion if they are looking for specific benefits or organise political resistance informally. Therefore, most bureaucrats restrict their activities to their own action or include a very small group of most trusted collaborators. However, such informal behaviour cuts connections to science and restricts the integration forum to their own education potential and existing expertise, often limiting contacts to "outside" (including science). Experts from outside, who might have this highly needed direct access to research results about biodiversity, seldom become part of the integration forums within bureaucracies of the global south. Overall, the minor representation of people with direct links to scientific biodiversity expertise within the integration forums of bureaucrats, politicians, small enterprises, landowners, organised interest groups or other actors, can be considered as a major obstacle to detect and judge science-based options for biodiversity protection in African land-use practice or elsewhere.

- Second, if actors managed to arrange close contact with researchers, their chances to get to know the recent results but also the limits of related scientific solutions are high. Open and trustful exchange between actors and researchers will dismantle not only the possibilities but also the limitations of science-based solutions – e.g. a science-based solution that relies on selected scientific indicators related to endangered species might require high monitoring standards. Avoidance of high monitoring costs often results in simplified procedures that produce empirically weak data (Do Thi et al., 2018). Such data might be useful in policy discourse but cannot provide a science-based orientation for land-use strategies aiming to protect endangered species. Thus, recognising the limits of scientific information (in this case, high costs related with the monitoring of scientific indicators) is the only way to select the right scientific solution, i.e. the solution that will work in practice. Considering the weak role of science in integration forums in Africa, the direct trustful exchange with researchers about specific limits of science-based solutions remains an unsolved challenge.

- In the absence of close contact with researchers, the credibility of the research institution can be checked as an alternative. This can be done by looking at scientific sources published by the particular researcher or a research group. If this pre-information is promising, then it is highly recommended to get into direct contact with one knowledgeable scientist and ask for an independent opinion.
- Finally, it is also necessary to make proper use of scientific information. After promising, scientifically solid information is detected and evaluated, fine-tuning is needed in order to design a science-based solution which will work in practice. Fine-tuning as a resource is consuming in terms of time and financial means. In the cases of biodiversity protection, such fine-tuning is also risky because it depends on many unpredictable ecological factors. In contrast to this, international scientific projects (financed by the global north) claim to provide ready-made science-based solutions often without considering time or financial resources for fine-tuning. For example, a huge international research project aiming to strengthen biodiversity protection in the Ngoc Son Luong nature reserve in Vietnam developed innovative solutions and published them in both scientific papers and accomplished PhD reports (Do Thi et al., 2017). The project ended after five years, and no resources remained for the fine-tuning of these innovative solutions towards better biodiversity protection in this nature reserve. Another example is from the Congo Basin (Nago, Krott, 2020). A huge research project (financed by the global north) promised to design solutions for adapting land use to climate change in the Congo Basin. Due to the informal dominant managers from the global north, scientifically excellent models of climate change were produced, but no resources left for designing adaption measures and fine-tuning them in the field. Most often the actors in the global south lack these resources for expensive fine-tuning and therefore the highly ambitious and innovative science-based solutions for protecting biodiversity never get adapted to the very specific conditions in the global south.

Step 5: Judging chances for implementation

Assuming that an actor has selected a highly relevant solution (Step 3), which is based on high-quality research and fine-tuned it to the specific case already (Step 4), then the final step (Step 5) is now to check the chances for implementation. Certainly, the implementation process is highly complex, it is full of risk, and it is driven by multiple factors (of which many are unknown from the very beginning). Nevertheless, the pre-evaluation of potential actors and a selection of a few key factors can still provide valuable information that is necessary for judging the odds of an innovative science-based solution to be implemented in a particular case.

The relation between the science-based solution and the legal framework is important. In the global north it represents a kind of a corridor within which an innovative solution has to be fitted and implemented. This existing legal framework might either support or hinder a specific solution, and both do matter by the

implementation. In the global south on the other hand, the role of the legal framework differs. Due to the dominance of the informal level in political practice (as mentioned before) the legal and therefore the formal level plays a strong symbolic role. By describing biodiversity issues, the problems are overstated in the form of a threatening crisis and as such they address emotions. Consequently, also the "magic" of the solution is related to traditional but also new symbols. Such a contribution to the formal discourse is important while it activates (within other sources of legitimation) the general trust in science. But for this kind of communication no specific science-based criteria of the solution are needed. As far as the actor is able to take part and apply the general scientific discourse in protection of biodiversity, he activates symbolic support in line with the legal frame.

In the global south it is important to deal with the relation between the legal frame and the informal political process. The legal frame is full of restrictions which could be activated by actors if they have an informal interest to block the implementation of the science-based solution. The decisive factor is whether informal fit and benefits will trigger a powerful actor to choose this option or not. For judging informal fit, the specific requirements related with the particular solution and its future effects become relevant. Powerful actors need realistic, science-based prediction of the effects that the solution could have in the future and this will be communicated to potential allies. For that, a high level of trust is needed and such communication can accordingly happen on the informal level only (Krott, 1990, 2005).

For judging the informal benefit, the economic framework of the science-based solution is also relevant. Economic resources and the economic rationale of a solution are even more important in the global south than in the global north. Restrictions caused by economic resources can go far beyond the formal and informal discourses. Apart from the scientific information about the most effective and efficient solution (that will also be competitive on markets), actors need a pragmatic judgement of the resources available in implementation. For example, Hasnaoui (2021, vii) has shown that even under a fragmented and weak legal framework (emerged due to the revolution in Tunisia) the implementation of an innovative technical project is realistic as long as the actor (in this case the state authority) can rely on strong economic resources (in this case state land which can be distributed). A solution for biodiversity protection will not have high chances for implementation without economic benefits for all major actors.

The third criterion for checking implementation chances is how the solution is embedded into the democracy and good governance – normative ideas of the global north that became part of an international setting. Linking biodiversity with democracy means to keep an eye on the consequences of the biodiversity protection for the citizens as a group but also for individuals and land users. Quoting biodiversity as a fundamental requirement for the survival of mankind sounds powerful, but it is too general to be able to provide support for a specific case of implementation. A more specific analysis of requirements and consequences is needed to design a democratic, science-based solution that can work in practice. The implementation of purely natural science-based solutions might be difficult but adding a social science concept

makes it easier for the actors in practice to keep democratic standards high. The same holds true for the modes of good governance. Nevertheless, the normative level of democracy has to be kept in mind. And good norms, even when formulated by international regimes, are neither self-implementing in the global north nor in the global south.

Giessen (2022) did a comprehensive analysis of the international forest regime complex, which comprises all international regimes relevant for the forests, including the UN Convention on Biological Diversity that is of central importance for biodiversity protection. The results show that the most important pathway from international regimes to national policies is "customising" international regimes into domestic government and governance approaches. The driving force are domestic actors in specific countries, who customise international biodiversity concepts to fit specific domestic policies in a way that both their formal and informal interests are covered.

National bureaucracies are frequently using the pathway of customising international regimes to strengthen their position in competition with other bureaucracies (Giessen, 2022) and international concepts of protecting biodiversity could fit well for legitimating the access of specific state agencies to the natural land resources. It is foremost the informal competition between agencies for broadening their realm of competence that might open up new chances to implement new solutions for biodiversity protection. This informal competition is observed in the global north but may also be highly relevant as a driver for implementing biodiversity policies in Africa (Krott, 2001; Peters, 2010). In particular it means that a specific agency might jump on an innovative biodiversity solution due to its chance to get better access to forestland use. Biodiversity will be supported and simultaneously the area of political competence of an agency will be broadened. A most recent case is the reform of national parks in China (Zhang et al., 2023), where the state forest agency offered highly competent management solutions. This agency tried to convince the central government to delegate national park management to it and not to the competing Ministry of Environment. At the end, the state forest agency got the task to manage all protected areas (including national parks) in China while simultaneously the new, nationally unified solution for national parks was established.

Besides state agencies the interest groups ("NGOs" in practice terms) can become strong allies for implementing science-based solutions for biodiversity protection. By customising international regimes, they are able to generate substantial financial support from developing agencies of the global north and use them for projects in the global south. The informal advantage for international agencies is that the national NGOs are highly dependent on the financial support and have therefore almost no alternative but to accept the internationally preferred solutions for biodiversity protection. The disadvantage is that a policy which is based on NGO support, is weakening the responsibility of national and local agencies of the country in the long run and leads to unsustainable solutions (it vanishes as soon as the financial support by foreign donors ends). Nevertheless, engagement of national NGOs is crucial for a governance, which could particularly be triggered by international regimes (Agrawal et al., 2008).

Summing up, democracy and good governance are widely spread norms that are strongly put forward by the global north through the formal level of international regimes. As such, they become relevant for the science-based solutions in biodiversity protection of the global south. But they will become implemented in the practice as far as the link to informal power strategies is established.

2.5 Conclusions on empowering scientific information

Protection of biodiversity opens up chances to improve land use and human life globally. Natural sciences can provide a significant contribution to this improvement. Natural sciences describe and explain ecological processes of biodiversity by using scientific procedures developed during past centuries. But universal principles of natural sciences leave the crucial political issues unsolved. It remains still open which specific problems of biodiversity and land use should be prioritised, which goals should guide the development of science-based solutions, and how these solutions can be transferred into and use practice. For these genuine political questions, natural sciences cannot provide specific science-based solutions that could as such be transferred into the practice. Two alternative strategies for transferring scientific information about biodiversity into improved land use in Africa are summarised here, based on scientific findings about five key political factors mentioned above (Figure 2.1).

2.5.1 The capacity building strategy: following the model of democracy and bureaucratic state of the global north

The core of the natural sciences has been developed in the global north for centuries. The natural sciences owe their strong political weight to their universal contribution delivered to the economy, society and policy of the global north. The modern states of the global north therefore continue to heavily invest into the natural sciences in order to cope better with the challenges like climate change or poverty reduction. Innovative solutions are the answer to these challenges and they rest upon new scientific information provided by natural sciences. Within the environment of democratic policy making and bureaucratic state functioning it is assumed that actors do have abilities and capacities to support the application of innovative science-based solutions in practice. Based on that, the idea of transferring this model from the global north to the global south has been followed: build up research institutions, public administrations, courts, parliaments, enterprises and other institutions in the global south in a way similar to the global north so that the link between the institutions and scientific expertise can be established respectively. The expectation from such an approach is that imitation of procedures from the global north would increase the likelihood for implementing science-based solutions in the global south successfully (either in general or related to biodiversity in particular).

This approach is advantageous for the scientists and politicians from the global north because they are already familiar with it. Besides, applying solutions from the global north in the global south contributes to the legitimation of the practice

from the global north – as the best way for all. Due to the ongoing and conflicting discourse related to this approach – whether it holds true or not – we will tackle several issues related to Africa:

- Time frame: it takes a long time to build up institutions and organisations in Africa adequately, i.e. in a way similar to the global north. One prominent example is that of private land ownership. Private land ownership is a basic social and political institution in the modern state of the global north (United Nations, 2020), strongly legitimated by the law and deeply anchored in land use and in the interests of land users (Krott, 2005). Clarification of ownership rights is seen as a presupposition for sustainable land use. In Africa on the other hand, land use has been dominated by multiple, integrated land user rights held by the king, national state, regions, community, tribes, private users, etc. (Movuh, 2013).
- Failure risks: in addition to the long duration of capacity building, there is also a high failure risk. Olivier de Sardan (2013, p.78) shows how the hopes in new, formal procedures often end up in informal practice working in the way opposite than expected. While judging the chances to build up formal capacities for good governance by using the model of the global north, Oliver de Sardan puts it harshly: "Nothing is less likely to take place". A second risk has been indicated by Aurenhammer (2020): building up new northern style capacities often starts with destroying existing global south capacities. This results in additional weakening of already weak, existing capacities (after promising, new capacities fail), which often happens when the project from the global north exceeds traditional capacities remaining after the reform.
- Absence of a pluralistic concept: finally, the model of a modern state is based on the norms of the global north. Despite their claim of being universal norms of mankind, this view is not shared by all states and actors from the global south. It might be fair and in the interest of the global north to follow a more pluralistic concept that is open for norms of the global south, too. Besides, the specific norms of the global north are the political construct and not a scientific one. From the point of view of science and its science-based knowledge transfer, it is not necessary to link the processes of knowledge transfer with the models from the global north only. Scientific information can also be transferred and applied within alternative political and social systems.

2.5.2 The capacity integrating strategy: bundling capacities of the global north and the global south

The alternative to the previous approach (2.5.1) is to transfer scientific information in a more flexible manner – by linking it to the specific formal and informal procedures that already exist in Africa. In line with Hyden (2015), we observe that in Africa the formal level of state institutions and organisations is weaker than the multiple structures on the informal level (Ongolo et al., 2021). The integrating strategy accepts this relation and builds on it by using procedures to transfer scientific information into the

praxis of land use governance targeting biodiversity. The integrating strategy makes use of the whole universe of multiple and diverse integration forums that handle biodiversity issues on formal and informal levels. Integrating strategy can quickly act by activating a suitable integration forum, with a formal or informal setting for information exchange (Kirchner, Krott, 2020). By addressing multiple integration forums, science serves multiple interests, comprising actors from the global north as well the global south. Of course, one should not expect application of scientific results for the creation of a one best science-based solution for biodiversity protection that will be welcomed by all actors in harmony. From the opposite perspective, scientific results may become part of diverse science-based innovative solutions. These solutions may be created by different actors, who selected scientific information while it can support their action and while they can support it by their power means. It is not necessarily the case that a single, most powerful actor will determine the selection of scientific information and push for the implementation of the science-based solution in practice. Weak actors may also act. First, weak actors have the option to form alliances and bundle their power resources while pushing for their preferred science-based solution. Second, the multiple integration forums offer multiple power settings to integrate scientific information in specific actions of a land use governance (Böcher, Krott, 2016). Instead of fighting against the high formal and informal diversity of politics in Africa the integration strategy makes use of the high diversity to open up multiple channels to embed scientific information within society and policy and to link the integrative solutions with the power of actors in order to shape land use into a path serving biodiversity in a sustainable manner.

The integrating strategy also bears risks (due to the contingent open process of politics in Africa) but it may better contribute to science-based land use governance in Africa than the knowledge transfer strategy based purely on the norms, practices and policies of the global north (2.5.1). Integration represents a bridge between the production of scientific information and its use in practice, which is most helpful in empowering scientific information. The RIU model is helpful while it shows the pathways to how the transfer of scientific information from scientists to the users in practice can work towards improved biodiversity and sustainable forestland use in Africa.

Note

1 www.ipbes.net

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3 The Rise and Fall of Protected Areas in Central Africa

A Historical Perspective

Gretchen Marie Walters and David Andrew Wardell

3.1 Introduction

The political context of present-day protected area expansion

In view of their new commitments to the Convention on Biological Diversity, many countries are deciding how to increase the area dedicated to nature conservation to 30 per cent by 2030. Proposals vary on how to achieve this, including if 30 per cent is enough (Wilson 2017), and if it will benefit people (Schleicher et al. 2019). Alternatives to strict conservation models are being promoted including "other effective area-based conservation measures" (OECMs) (Dudley et al. 2018; Gurney et al. 2021). However, few consider the impact of these proposals within a historical context.

In Central Africa, some governments intend to pledge to the 30 per cent goals and are already moving towards expanding existing PAs. This is not the first time PAs have been increased: in the 1930s, 1960–70s and 1990s, Central Africa also saw increases in relation to international policies and with the support of conservation organisations (Proces et al. 2020). Although PA degazettement may occur globally (Mascia et al. 2014), and while some has occurred in Central Africa, it remains rare (Walters et al. 2016). The tendency is to create very large PAs (Kashwan 2017).

Despite the new objectives being set by the Convention on Biological Diversity (CBD), at the time of writing this chapter, most countries have not reached the current targets of 17 per cent, including many countries in Central Africa, such as the countries we focus on: the Democratic Republic of Congo (DRC), Gabon, and the Republic of Congo (Proces et al. 2020). Not all proposals to expand current PAs are entirely new, with some having colonial roots. Colonial PAs often have histories related to land dispossession and removal of natural resource rights (Brockington & Igoe 2006; West et al. 2006; Wardell 2020a). Some PAs created in the colonial period were gazetted in areas considered by colonial governments to be common lands without recognised titles (sensu Herzog 2021). The past becomes important when talking about local implementation of international agendas such as the sustainable development goals or the CBD targets. When international targets talk

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about creating or expanding protected areas today, one should understand what happened in the past in these areas regarding similar expansion, under different regimes. History matters, and is not limited to perceptions of the past, but has a direct link to how actors are involved in future projects (Engelstad 2003). A starting point is understanding that PAs were created in "frontier spaces", which upended customary property systems, social dynamics, disregarded customary rights. These legacies live on in people's memories (Walters et al. 2015; Omoding et al. 2020; Gilli et al. 2020).

Territorialisation through protected area creation

Gissibil, Hohler and Kupper in their book Civilizing Nature: National Parks in Global Historical Perspective (2012) attempt to explain the globalisation of PAs by exploring the varied experiences of establishing national parks through progressive efforts to civilise, territorialise and categorise nature from a historical perspective. Conservation became an integral part of "civilising missions" within nation-states and empires, but also through international or non-governmental organisations and post-colonial states. Territorialisation is the strategic use of bounded space to control resources (Vandergeest & Peluso 1995). It is "not just as an acquisition or as a security buffer but was a decisive means of power and rule" (Maier 2000: 818).

The ascribing of specific activities permitted within these boundaries (Vandergeest & Peluso 1995) is central to our argument in this chapter, as is land control (Peluso & Lund 2011; Wardell & Lund, 2006a). The restriction or outright forbiddance of some activities is significant with PAs, whether in international PA categories (Dudley 2008) or in the national laws and decrees when establishing them (as we will see in the case studies in the next sections). And such territorial restrictions do not equally impact all people (Vandergeest & Peluso 1995). In the colonial era, the colonisers and the colonised were treated differently in terms of resource use and access to areas and resources within them. Priority was typically given to tourists, scientists, and expatriate hunters. Here we focus on the internal territorialisation (sensu Vendergeest & Peluso 1995) during the colonial era, where the colonial empire internally divided its territories across multiple sectors and uses. We concentrate on the creation of PAs.

During the 1933 London Conference, European colonial powers agreed on a definition of a national park that emphasised control by the highest legislative authority and the area's double purpose viz. "the propagation, protection and preservation of wild animal life and wild vegetation … and enjoyment of the general public". Defining and categorising rendered the imperial world legible and governable and also generated universal standards (Scott 1998). It often neglected, however, the complexities of the socio-cultural ties to customary lands appropriated to establish PAs and the impacts on local livelihoods (Domínguez & Luoma 2020; Wardell & Lund 2006b).[1]

We use the International Union for Conservation of Nature (IUCN) definition of a PA, "a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley 2008). PAs include national parks, reserves, sustainable use areas, cultural landscapes, but also scientific and hunting reserves, and after 1946, United Nations Educational, Scientific and Cultural Organization (UNESCO)-recognised areas (Dudley 2008), with countries recognising PAs in different ways. This latest version of the IUCN classification system represents more than a century of efforts to categorise and classify the animal and plant kingdoms and the spaces they occupy.

Territorialisation is a process that occurs in "frontier spaces", which are "… novel configurations of the relationship between natural resources and institutional orders that happen at particular moments in particular places" (Rasmussen & Lund 2018: 388). Although we will show a link between colonial history of PAs and some current proposals for PA expansion, we show how the interaction today in creating new PAs is likely influenced by historic frontier spaces where colonial policies radically changed people's association with their lands and resources.

In this chapter, we focus on the history of PA creation in Gabon and DRC, linking it to colonial and post-colonial state territorialisation in conservation frontiers, encouraged by the CBD targets to protect 30 per cent of national lands and waters by 2030, which are still being negotiated at the time of writing this chapter. We concentrate on colonial and modern PAs, where colonial-era PAs were gazetted and then either forgotten or degazetted. In some cases, these same areas are now being resurrected and considered for regazettement, with new efforts to consult communities. We trace territorialisation over time in the Mont Fouari colonial hunting reserve (Republic of Congo/Gabon), the Reserve Floristique de Yangambi (DRC), Lomami National Park (DRC), and the Plateaux Batéké National Park (Gabon) (Figure 3.1). We ask: What are the consequences of colonial and post-colonial territorialisation on people and conservation? What can be learned from the history of colonial-era PAs when we think about the 2030 goals?

The first part of this chapter provides a historical context to colonial PA creation. This is followed by four case studies illustrating a forgotten scientific reserve, the degazettement and potential resurrection of a hunting reserve, and the creation of two new PAs, one of which benefited from colonial resettlement policy and the other which held participatory consultation for its establishment. We show how colonial attempts to territorialise their colonies through the creation of various reserves (e.g. hunting, floristic) continue to live on in new proposals for modern PAs. We reflect on the consequences of these types of proposals, and whether resurrecting colonial-era PAs is good for people and biodiversity.

3.2 Colonial roots of PAs

Although the colonial period began much earlier, the period after 1895 witnessed significant social, economic, political, and environmental changes throughout the

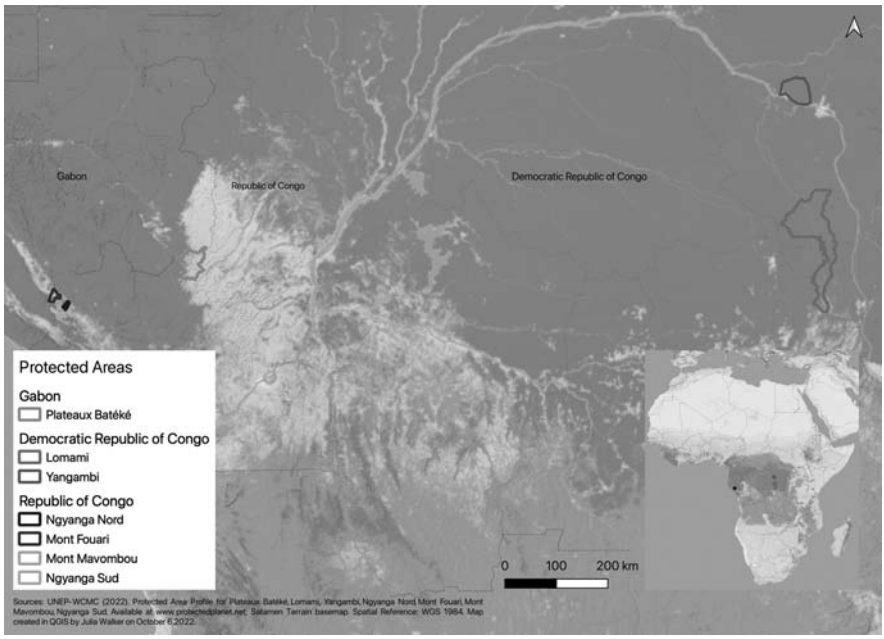

Figure 3.1 The four study areas in Gabon, Republic of Congo and Democratic Republic of Congo.
Source: UNEP-WCMC (2022)

region as African communities were confronted with increasing demands for labour, for commodities and for African territory. The extension of political control by the French, Germans, Belgians, and British raised the issue of ownership, management, and access to land and forests. Africans were affected by the establishment of colonial states and institutions such as Forestry Departments, as well as efforts to integrate local production systems into the global economy (Tilley 2011). However, these forces interacted continuously with long-established patterns of customary land and resource use, labour extraction and migration, social change, and internal trade. Africans were persistently framed as profligate land and resource users who encountered the "empire forestry mix" (Barton 2002) in different places, and at different times. Empire forestry models comprised three main elements: the appropriation of lands to create forest reserves, the establishment of Forestry Departments, and the production and marketing of wood fuels and other non-timber forest products (NTFPs).

These empires also sought to conserve colonial resources. A series of meetings following the 1900 London Conference led up to a consolidated international conservation movement (Adams 2004). A key moment was the 1933 London Conference where France and eight other countries promised to conserve fauna and flora, including in their colonies. This resulted in an increase in the creation of PAs, including in Central Africa (Phillips 2004), which were added as a form of

territorialisation to the existing forestry and rubber concessions. However, not all colonies reacted in the same way; we next focus on the Congo Free State (Democratic Republic of Congo – DRC) and French Equatorial Africa (AEF).

The Congo Free State and the Belgian Congo

The Congo Free State was the only African signatory to the first 1900 London Convention relating to wildlife preservation in colonial Africa. This, and the subsequent 1933 London Convention on the preservation of fauna and flora, were critical in promoting and defining conservation enclosures, which served as a blueprint for establishing PAs well beyond the African continent (Cioc 2009). In addition, both London Conventions and the 1902 Paris Convention for the Protection of Birds Useful to Agriculture adopted an approach based on categorisation. Hunter-naturalists of the 19th century, scientific foresters, hunting interests of colonial administrators, and the British Society for the Preservation of the (Wild) Fauna of Empire (SPFE) created in 1903, were all also instrumental in "framing global environmental problems and instigating conservationist policies across empires and nation states" after 1900 (Gissibil et al. 2012: 6; Grove 1995, 1997; see also Beinart & Hughes 2007: 289–309; Adams 2004). The early political pressure was to protect a particular, narrowly conceived human interest – the preservation of a sufficient supply of wildlife to satisfy the hunting community whose "naked utilitarian perspective was made explicit in the preamble" (Bowman et al. 2010).[2]

It took more than 15 years, however, before PAs had a secure legal footing in the Belgian Congo. The Parc National Albert, renamed Virunga National Park after 1969 (Languy & De Merode 2006), was the first PA established by decree in the Belgian Congo in 1925, a year before the first Lake District National Park was created in the United Kingdom. A law promulgated by the Government of Belgian Congo in 1908 noted that "The Governor General sees to the conservation of the indigenous populations and to improve their moral and material conditions of existence". Furthermore, a decree adopted in 1934 defined the processes involved in the acquisition and compensation of native lands. A first legal instrument to establish the Congo Park Guard Corps was only adopted in 1958 shortly before independence. The term "protected area" was first introduced in the DRC, however, in a decree in 2010 and reaffirmed by the Law # 14–003 on the Conservation of Nature in 2014. The creation of PAs and the fixing of their boundaries have resulted, in many cases, in depriving individuals and communities of the use and right to their customary lands. For the most part, the individuals or communities affected by the creation of PAs have not obtained fair and equitable compensation (Mirindi 2008). More recent research has suggested that protected areas in the Congo Basin are failing both people and biodiversity as poaching persists, undermining customary land rights, with widespread land conflicts in and around PAs, and diminished local livelihood opportunities (Pyhälä et al. 2016; Bifane Ekomi et al. submitted).

French Equatorial Africa

Colonial concessions in French Equatorial Africa (AEF) were attributed an early and important role in colonial territorialisation, as it was seen as a way of reducing the fiscal burden of colonisation on the metropole. The Rapport sur la Colonization des Compagnies de Colonization published by the Ministry of Commerce, Industry and the Colonies in 1890 was followed by a Consultative Commission on concession requests, established by decree on 16 July 1898. In 1899, France became the sole owner of lands and waters (Legault & Cochrane 2021). From 1899 to 1900, 40 decrees allocated 70 per cent of the AEF to private concessionaires, with areas varying in size from 200,000 to 14 million hectares. Many of these concessions failed and timber concessions did not have the economic impact intended either for the colony or local people (Hymas 2015).

The AEF's first PAs were created in 1929, focusing on strict PAs and hunting reserves; the first national parks were: Goz-Sassulko (Chad), Bamingui and Mtoumara (Oubangui-Chari), and Odzala (present-day Congo) and several reserves de faune for a total of 11 million hectares (Tchakossa citing Ruis 1956: 60). In 1931, Governor General Antonetti was inspired to create national parks based on those in the Congo Free State and South Africa (Tchakossa 2012). After the London Conference in 1933, other PAs were created including, in 1935, the Réserve de Faune de l'Offoué and the Lopé-Okanda National Park in 1946. These areas were heavily regulated, with a strong focus on hunting with the first decrees in 1916. By 1930, sport hunting permits were designated; according to Tchakossa (2012), these contrasted with traditional hunting laws that managed wildlife. Local hunters were typically excluded, an issue we will see in the case studies below. Sport hunting was extremely popular, and some hunters were noted for killing some 700 animals (Tchakossa 2012). Publishing popular books on colonial hunting was prevalent (e.g. Augias 1928; Ramecourt 1930; Dheur 1938, 1939; Weite 1954; Soret 1959; Roulet Roulet 2004; see also Mackenzie 1998 and Beinart & Hughes 2007).

Guidebooks in English and French published in the 1930s united the ideas of hunting and conservation. Game management was meant to deliver income to protect the fauna and so hunting-related businesses were encouraged by the Comité de Tourisme et Syndicats in Brazzaville (Anon. 1938). Hunting was further stimulated by France's 1946 Société Zoologique de France conference on hunting in the colonies and the creation of the Comité des Chasses Coloniale Française at the Musée National d'Histoire Naturelle with a focus on trophy hunting in 1947; it encouraged annual publication of hunting trophy records (Tchakossa 2012). Hunting was further encouraged by fairs such as the one in Brazzaville in 1953, which specified which areas of the AEF were better for select species (Anon. 1953).

Colonial PAs were largely created for species protection, sport hunting, and science. All were made by decree without consultation with local communities, and often involved forced removal or appropriation of community lands. According to Tchakossa (2012), PAs and reserves were under-resourced, often

underestimated the home ranges of the animals they claimed to protect, were hard to attain, and with poorly defined reasons for conservation.

Beyond the creation of protected areas in the AEF, a second policy related to labour paved the way for the creation of PAs later: "regroupement" policy (forced resettlement); through colonial territorialisation, communities were forced to abandon their common lands and to move to roadsides with the argument that health, education, taxes, and labour were more efficient if connected by roads. Access to labour, such as to build the Congo-Ocean Railroad (Pourtier 1989a), or to impose taxes (Oligui 2007) were common reasons.

Regroupement contributed to emptying the youth from the countryside in Congo (Vansina 1973). In many cases it involved forced relocation and often did not result in the desired effect of a more effective government (Burnham 1975). Regroupement policy began in Gabon in 1910 around Libreville (Coquery-Vidrovitch 1972) and was continually enacted throughout Gabon in the colonial and post-colonial periods (Aubame 1947; Sautter 1966; Wunder 2003), including being implemented as late as the 1960s in the Haut Ogooué province (Walters 2010). In Gabon, 4,111 villages were reduced to 770 (Pourtier 1989b), leaving many places to appear "vacant" (Walters et al. 2019), despite continuing to be governed as common lands used for hunting, gathering, and cultural practices. This policy created vast stretches of "empty land" which could be attributed to other purposes, such as concessions and PAs. The creation of Gabon's PAs in 2003 did not displace people to create them (Curran et al. 2009) as this wasn't necessary since this had already happened during earlier regroupement (forced resettlement). In contrast, the establishment of the Yangambi Floristic Reserve was associated with in-migration of labourers to the area given the initial interest in developing commercial agricultural plantations at the site (Figure 3.2). The establishment of the Lomami NP in DRC in 2016 involved an extensive period of consultation with seven different ethno-linguistic groups mandated by a range of stakeholders (Hart, J., pers. comm., 26 September 2022).

3.3 Methods

Archival work by GW was conducted in France's Archives d'Outre-Mer (AOM), Aix-en-Province in July 2021 and at the Archives Nationales du Gabon, Libreville in October 2021. The library of AOM was also consulted, as well as online bibliographic sources, which are cited throughout this chapter. Archival work by DAW was conducted from 2015 to 2017 as part of the supervision of a doctoral candidate at the University of Kisangani, sponsored by the European Commission-financed Forests and Climate Change in the Congo (FCCC) project. Archival research was primarily carried out at the INERA library, Yangambi, the National Archives in Brussels and the Musée Royal de l'Afrique Centrale (MRAC) in Turvuren, Belgium as well as the CIRAD libraries in Montpellier.

Fieldwork by GW was conducted in the Ndendé and Mont Fouari area in January 2018 and in the Plateaux Batéké area between 2006, 2008 and 2022. Interviews were conducted with key informants from villages near the proposed and

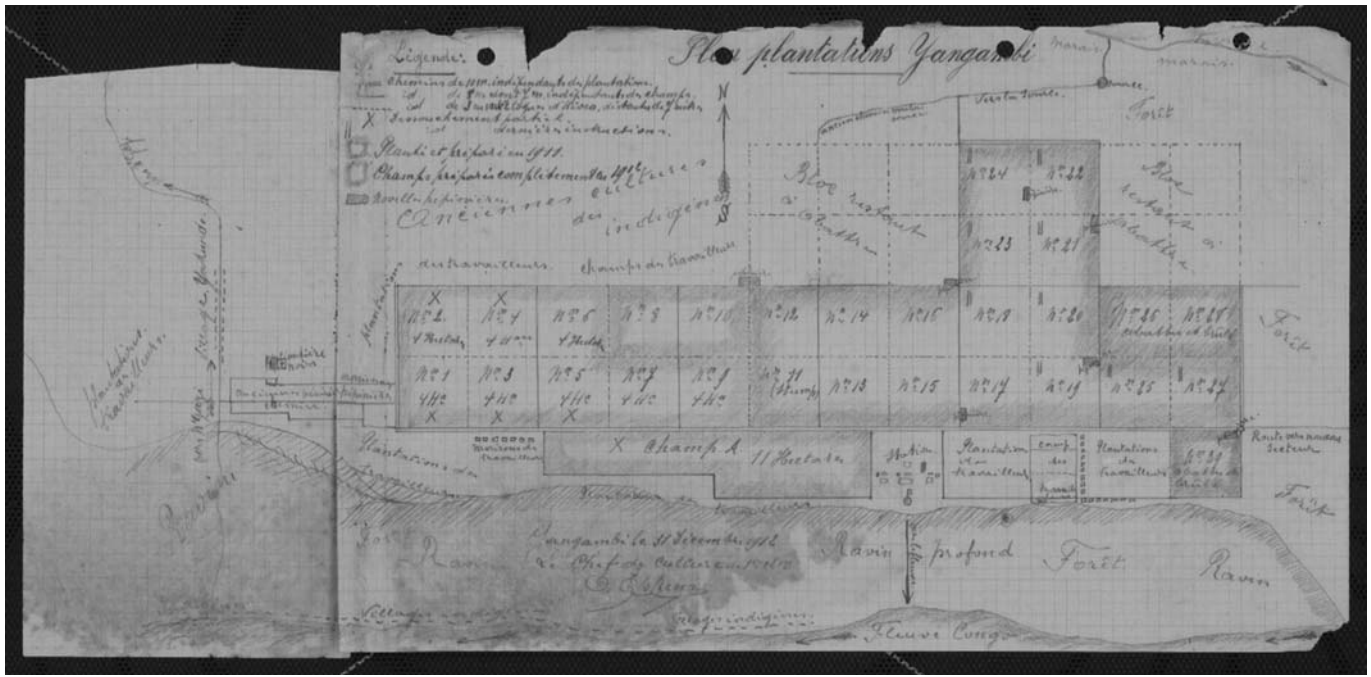

Figure 3.2 Early plantations in Yangambi on contested lands (31 December 1913)
Source: National Archives of Belgium [Brussels], Archives INEAC (Inv. I 546)

actual PAs about the impact of regroupement policy, the creation of a PA and the cultural meaning of the area. Fieldwork by DAW was conducted by the doctoral candidate in more than 20 villages and settlements inside and bordering the Yangambi Floristic Reserve during the period 2015–2017. The case of Lomani NP was created from secondary source materials, and interviews with two former Wildlife Conservation Society (WCS) staff who coordinated the process which led to its creation and joint management by the Frankfurt Zoological Society and the Institut Congolais pour la Conservation de la Nature (ICCN) with effect from 2020.

3.4 Case studies

Democratic Republic of Congo

The Democratic Republic of Congo (DRC), now regarded globally as one of 18 "mega-biodiversity" countries, boasts 55 national PAs including nine National Parks, one Reserve de Faune, 25 Hunting Domains, 12 international PAs including three UNESCO Man and the Biosphere Reserves (Doumenge et al. 2021: 61). The two DRC case studies presented below – Yangambi Floristic Reserve (YFR) and the recently created Lomami National Park (LNP) – illustrate a variety of transformations, adaptations and contestations associated with the establishment of PAs by the Belgian Congo and the Democratic Republic of Congo. They illustrate in the first case, over 80 years of efforts to territorialise Turumbu lands – in the absence of any compensation – during the colonial and post-colonial periods and a recent donor-funded initiative to resurrect YFR as a "landscape laboratory". The second case provides insights into recent attempts over the past decade to territorialise lands, which became provincial PAs before being recognised as a National Park in 2016.

Reserve Floristique de Yangambi (DRC): the forgotten reserve?

The Yangambi Floristic Reserve (YFR) was established in 1939. In contrast to other PAs managed initially by the Institute of National Parks of the Belgian Congo, the creation of YFR was inextricably linked to earlier agricultural research initiatives (Figure 3.2). In the late 19th century, Emile Laurent of the Gembloux Agronomy Institute in Belgium, under orders from King Leopold II, developed a project for the "rational organisation of agriculture" in the (then) Congo Free State. The appropriation of customary lands to establish the first palm oil and rubber plantations started in Yangambi and Ngazi along the banks of the Congo River occurred in ca. 1910 by the new civil administration of Belgian Congo. An initial focus on developing commercial (export) crops (1910–1933) was reinforced, after 1917, by Edmond Lepae of the University of Louvain, Belgium who introduced "a regime of obligatory cultivation" by the colony's subjects.

After 1936, the plantations established by the Yangambi Research Centre were briefly managed by the Regie des Plantations de la Colonie, and later by INEAC (National Institute for the Agronomic Study of the Belgian Congo) established in 1933, the same year that a royal arrêté established the administrative organisation

of the colony. It also represented a radical shift in the agricultural policy first introduced by Leopold II. The creation of INEAC was nevertheless, still motivated by the expansion of (commercial) agriculture based on better science and the territorial appropriation of more customary land. Legislation adopted in 1934 to provide compensation for the appropriation by the colonial state of customary lands was not respected or implemented in Yangambi (Kyale-Koy et al. 2019c). Early concerns were raised about indigenous agriculture practices as a prerequisite to protect and conserve forests suggesting early colonial interest in a "landscape approach" (Tondeur 1937). The INEAC was dissolved on 31 December 1962.

Management and use of the YFR after independence

After independence, INERA (National Agricultural Study and Research Institute) which replaced the INEAC, did not undertake any further acquisition of customary lands. Compensation claims by the Turumbu community on the southern edge of the YFR started in the 1960s. Social memories of the appropriation of customary lands by INEAC have continued to inform local claims for compensation, notably after land conflicts re-emerged between Yelongo and Weko in 2012 (Kyale-Koy et al. 2019b). These claims remain largely unsettled to the present day.

The "Bakajika" law adopted in 1973 resulted in the re-appropriation of all land by the Zairean State. Postcolonial agricultural development policies during the 1970s and 1980s were largely a failure. Canadian private sector interests inventoried parts of YFR in the mid-1970s with the aim of converting part of the YRF into a forest concession due to the rich stands of afromosia (Pericopsis elata), the first tropical timber species to be listed in Annex II of the Convention on International Trade in Endangered Species (CITES). This effort was thwarted by parallel initiatives which led to (then) Zaire signing up to CITES and recognising YFR as a UNESCO Man and the Biosphere reserve in 1977. As others have noted, in practice this new status remained "merely a further title without concrete management consequences" (Gissibil et al. 2012: 22). The country faced turmoil during two civil wars during the period 1996–2003 during which time retreating military forces plundered much of the remaining wildlife in YRF. Fiscal, legislative, and institutional reforms in the forest sector were initiated in 2002 with support from the World Bank Group but did not result in any change in the status or limited management of YRF.

From its creation, YFR has been continuously "managed" by a precariously funded national research institute and not by the Congolese Institute for the Conservation of Nature (ICCN), which manages all other PAs in DRC. YFR was not formally recognised as a PA until after 2014 and, to the present day, does not benefit from any support (staff, budgets or materials) from ICCN. Small-scale NGO-led initiatives to support the protection of YFR have included projects with WWF, IUCN and Austrian Aid during the 1990s and 2000s, focusing on mapping exercises and equipping "eco-guards". YFR covers 224.410 hectares and with periodic project funding, this been managed by 75 eco-guards with each surveying and protecting more than 3,000 hectares on foot. The inability of INERA to

effectively manage YFR has resulted in the progressive degradation of the reserve due to new human settlements, illegal mining camps, and the continued exploitation of the forest and wildlife resources by local communities to sustain their livelihoods (Kyale Koy et al. 2019a and Kyale Koy et al. 2019b).

The resurrection of Yangambi Floristic Reserve?

A recent European Commission-financed project, building on earlier support for capacity building of the University of Kisangani, may help to resurrect YFR through investments to do the following: 1) preserve and modernise the YFR (colonial) herbarium in collaboration with the Meise Botanic Garden in Belgium; 2) create a new wood technology laboratory linked to the Royal Museum of Central Africa (MRAC) in Teuveuren, Belgium; 3) build a carbon flux tower to measure CO2 emissions from the canopy of DRC's moist tropical forests in partnership with the University of Gembloux, Belgium; and 4) create a CIFOR-led rural development "laboratory" to develop plantations of fast-growing species to provide biomass for electricity generation as part of a new "landscape-based approach to sustainable development". In many cases, the same Belgian institutions which were involved in colonial agricultural development policies are today engaged in these novel scientific ventures. The critical issues of how to sustainably finance INERA or the costly new scientific experiments and how to improve the management of YFR have not yet been addressed.

Modern conservation – Lomami National Park: A new wonder of the DRC?

Lomami National Park (LNP) was officially established in 2016, the first national park created since 1970 and only the eighth with this designation in the DRC (Lomami National Park, 2020). It straddles Tshopo and Maniema Provinces and was established largely through the efforts of John and Terese Hart, former Wildlife Conservation Society staff, and with substantial US funding. It covers an area of almost 9,000 km2 and is at the heart of a 40,000 km2 natural landscape. LNP is estimated to have more Congo endemic species than any other PA in the country. The land bordering LNP serves as an important 35,000 km2 buffer zone for the PA.

The Lomami landscape was explored in 1883 by a Scottish Baptist Missionary, George Grenfell and his West Indian wife, Rose Patience Edgerley, who travelled up the Lomami River to 1o 33' (within the current Lomami NP), before turning back. Grenfell noted that, "The course of the Lomami was very torturous, and its current very strong" (Grenfell 1886). Commercial hunting started early in ca. 1890 and during the Etat Independent du Congo, control of the Lomami ivory trade went from Swahili Arabs and the Zanzibar caravan routes to Leopold II's agents and the Congo River trade. During the colonial era, the landscape was largely ignored despite several attempts to build a road to the Congo River. Official maps up to the 1970s continued to show an erroneous course for the Lomami River (Hart 2022). The lack of interest reflected low soil fertility, poor productivity and harsh

conditions during the rainy season as well as the fact that the Yangambi Research Centre remained the "jewel in the crown" for the Belgian Congo.

Jacques Verschuren worked as a biologist in Zaire's national parks after 1948 and became Director General of the (then) Zairois Institut National pour la Conservation de la Nature (INCN) between 1969 and 1974. He identified the "immense, almost unexplored forest that stretches between the Lualaba and Lomami Rivers" (Verschuren 1975: 28), and acknowledged that "traditional hunting by local populations has no serious effects; it has always existed and can even be encouraged, so long as only "authentic" weapons are used – bows, arrows, pygmy nets" (Verschuren 1975: 32). Verschuren considered poaching raids from neighbouring countries, the lack of an effective Wildlife Department and the world ivory trade as the greatest threats to the landscape at the time (Verschuren 1975: 32–33).

After more than 30 years, another exploratory phase (2007–2009), identified three rivers – Tshuapa, Lomami and Lualaba – in the Lomami landscape and led to the adoption of the TL2 name. This exploration confirmed the known range of the bonobo (Pan paniscus), Congo's endemic great ape, further to the southeast. The TL2 project also found the okapi (Okapia johnstoni), DRC's endemic forest giraffe, forest elephants (Loxodonta cyclotis), and the Congo peacock (Afropavo congensis). Both a new species, the Lesula monkey (Cercopithecus lomamiensis) and an extremely rare monkey (Cercopithecus dryas) were also found in LNP and its buffer zone.

In stark contrast to the establishment of NPs in the colonial period, a subsequent phase (2010–2013) involved extensive consultation with seven ethnic groups (Mbole, Lengola, Mituku, Langa, Ngengele, Arabisées, and Tetela) who were all involved in the founding process of the national park together with ICCN. Continuous outreach and collaboration with local chiefs involved town baraza meetings and traditional tambiko ceremonies (Hart 2011). This first led to community agreements for a park and eventually to an accord on the park limits. The Lukuru team also worked with the Congolese Army, the Wildcat Foundation and FARDC to address elephant poaching and improve security in and around LNP. Initially both Maniema Province in 2010 and Tshopo Province, in 2013, had created two provincial parks to protect the area until national park status was granted. The Lukuru team had to provide surveillance in the park and alternatives for hunters coming from outside the park. ICCN organised the first guard training in the LNP in 2015 with funds coming through the Lukuru Foundation. ICCN selected almost all of the park guards from the surrounding communities. These guards are now dispersed in the seven operational surveillance camps established over the years on the park border or (one) within the park. In the DRC, new community forestry legislation also provides a way that communities can work with ICCN to gain greater control over the use and management of their forest resources if they can demonstrate changes that lead to long-term forest sustainability and hunting viability. However, doubts have been expressed on the viability of the community forestry model in the DRC (Lescuyer et al. 2021).

Fundraising efforts primarily in the US during 2014–2015 helped to secure more than US$ two million prior to a joint letter from the governors of Tshopo and Maniema Provinces which led to the formal recognition of LNP in April 2016. In April 2019 LNP officially became the focus of a Frankfurt Zoological Society (FZS) project. In January 2021, LNP, FZS, and ICCN signed a ten-year agreement to co-manage LNP. A similar model of public-private-partnerships has been used in the management of other national parks in DRC including Virunga, Garamba, the Faunal Reserve of Okapi, and Salonga. A critical issue remains the long-term financing of the LNP (Hart, J., pers. comm., 26 September 2022).

Hunting of species not protected by national law and during open hunting season is authorised by Maniema Province regulations in the buffer zone of the Lomami National Park. Since 2017, vouchers record numbers and species of authorised bushmeat, as well as shotgun ammunition and snare cable transported across the LNP on established tracks. The voucher system has high rates of compliance. Vouchers provide proof to park rangers checking caravans that bushmeat is not illegally harvested, and ammunition and snare cable are not illegally deployed in LNP. Insecurity in the area in 2019 led the Congolese military to limit shotgun ammunition in transporters' loads. This was associated with a decline in numbers of primates in bushmeat loads. Increasing costs and risks of bushmeat transport versus increasing availability and decreasing cost of domestic meat in Kindu have progressively reduced the economic value of bushmeat trade from the LNP buffer zone (Hart et al. 2021).

Gabon

In 2003, Gabon's president simultaneously created 13 national parks (Quammen 2003). Since then, the protected area system has been expanded to include marine areas and it is currently undergoing another expansion to meet the projected 2030 CBD targets. The two Gabon case studies presented below – the Ndendé-Mont Fouari Complex and the Parc National des Plateaux Batéké (PNPB) illustrate, in the first case, over 65 years, how colonial-era hunting reserves which excluded local hunting were degazetted in the 1980s, are being revived as a potential PA today. The second case (PNPB) provides insights into repeated attempts over more than 130 years in the pre-colonial, colonial, and postcolonial eras to territorialise Batéké lands, part of which became a PA in 2003.

The Ndendé-Mont Fouari complex (Gabon-Republic of Congo): the resurrected reserve?

HISTORY AND CONTEXT OF CREATION 1920S–1980S

The Complex of Ndendé-Mont Fouari is a series of reserves and parks straddling the border of present-day Gabon and Republic of Congo. A forest-savanna mosaic, its savannas are ancient grasslands dating to at least 6,000 years BP (Schwartz & Lanfranchi 1991). The area is largely inhabited by the Pounou ethnic

group, which until the recent past, collectively managed their lands (Deschamps 1962) and are inscribed with many meanings. According to an interview with a resident of Nzinga village in 2018, Mont Fouari is sacred, including places inhabited by spirits, and areas revered for their special properties, such a Dimatobé.

During the colonial era, villages were regrouped numerous times between the 1920s and 1930s (Gray 2002: 178). A map from 1928, published in relation to botanical surveys for the Flore de Mayombe (Pellegrin 1928), shows that villages were still scattered throughout the area (Mariol 1928). Village placement in the Ndendé area was typically situated at the limit of lands managed by local chiefs (Balandier & Pauvert 1952). An interview with the Chief of Nzinga village (Gabon) in 2018, near Mont Fouari, indicates that the regroupement policy that he experienced passed without problems. Another interview with the Chef de Regroupement and two widows shows that the regroupement process occurred again in the early 1960s by a solider named Antoine Ivembi Pama, which united the Pounou of the forest and the Pounou of the savanna together along the road.

The area was also prized for wildlife: a 1928 map listed animals found in the Ndendé area including elephants, buffalo, sitatunga, waterbuck, reedbuck, yellow-backed duiker, and leopards (Mariol 1928 cited in Spinage 1980). The area was the subject of botanical surveys starting in 1924–1938 (Pellegrin & Le Testu 1938) and then in the 1950s (Koechlin 1961). In 1955, a series of six hunting domains and wildlife reserves were created between Ndendé Gabon and Mouyombi Congo, each with different hunting restrictions and sometimes displacement Gouverneur de France d'Outre-Mer 1955 (Table 3.1).

Table 3.1 Summary of the protected areas created in 1955, with notes on the various impacts on village displacement, hunting, and subsistence.

Protected area	*Impact on village displacement, local subsistence, and cultural practices*
Réserve de Faune du Mont Fouari	Displacement of the village of Fouari and Dounzaza II Camp. Hunting was completely forbidden in the area, including all other forms of use except the gathering of bamboo and palm tree products.
Réserve de Faune de la Nyanga Nord	Forbade all hunting but permitted most other usages (agriculture and gathering). An exception was made for the village of M'Békila whereby some hunting was permitted with mid-sized, locally made arms within 5km of the village.
Réserve de Faune du Mont Mavoumbou and the Réserve de Faune de la Nyanga Sud	Some hunting rights for permit holders. Specifically, Africans residing inside or on the border of the Reserve were permitting hunting through the use of guns acquired through trade.
Réserve de Faune de Ndendé	Resident Africans in the villages on the perimeter or inside the reserve were forbidden all hunting rights (Mercier 1955).
Domaine de Chasse de Ndendé	Created to favour sport hunting and specifically those hunters (resident and non-resident) who had a permit for the grande chasse.

Borders between Moyen-Congo (present-day Gabon and Republic of Congo) were modified in 1941 (Eboue 1941; Sice 1941); however, the border was never described in detail and remains disputed; and in 2014 a commission was established to resolve the issue. After independence from France in 1960, a series of decrees dating from November 1962 changed and completed the Gabon PA network, which included the Lopé-Okanda National Park, reserves in the Wonga Wongué Area, and established others (Brugière 1999). Each PA gained the status of a "rational fauna exploitation area (AERF)" (Brugière 1999). By the late 1980s, the Ndendé Hunting Reserve and the related complex were degazetted by Gabonese Authorities, and from 1987 were no longer part of Gabonese national maps (Wilks 1990).

Early in their creation, the designations of rights clearly prioritised sport hunting, which, as noted in the introduction, was a key focus of European tourism in the colonies. We have a hint of what this meant for Mont Fouari, when in 1990, it was noted that although the Reserve du Mont Fouari formerly had an important tourism industry, this was no longer the case (Hecketsweiler 1990).

Modern conservation 1990s–2022

In 1990, a proposal published by IUCN for 15 new PAs emerged in Gabon (Wilks 1990), many of which underpinned the 2003 creation of Gabon's PAs. None of these cover the Ndendé-Mont Fouari area. On the Republic of Congo side of the border, a similar IUCN proposal calls to unite the existing four areas into a single PA under the name of Mont Fouari (Hecketsweiler 1990). Hecketsweiler noted that there had never been a systematic biological inventory of the area. The area, although observed to be sparsely populated, was still considered to be under threat from local agriculture and urban elite hunting. In a summary of the conservation of tropical forests, the chapter on Congo while mentioning the Mont Fouari and related reserves, does not mention any active conservation work occurring in that area (N'Sosso & Hecketsweiler 1992). From this period, there is little work focused on conservation, almost extending to a disregard for the area in Gabon.

In 2003, a proposal to make a cross-border PA emerges (Doumenge et al. 2003). In the last five years, steps have been made to make that happen. First, with the rapid expansion of oil palm in Gabon, Olam, an agricultural enterprise with which Gabon established a public-private partnership and created a series of oil palm plantations in the Mouila-Ndendé area (Burton et al. 2017). The state seeks to collaborate with the company to contribute to paying for the new PA to offset their environmental footprint from their oil palm plantations in the nearby savanna. Currently, through the CAFI project, four cross-border PAs are proposed, including in the Mont Fouari area, citing that a peace park can help resolve contested border issues, protect rare species and habitats that have recently been observed in the area, and complete biodiversity elements missing in the current Gabonese PA network. The proposed park comprises 82,500 ha, and for which a community consultation is planned; in the same map, a new PA is also proposed around Ndendé (Anon. 2019).

Parc National des Plateaux Batéké: a postcolonial park with a colonial territorialisation history

PRE-COLONIAL TERRITORIALISATION 1880S–1960S

For the Batéké, the reorganisation of their territory began with Pierre Savorgnan de Brazza's voyages where he became an "inventor of space" (see Gray 2002: 104; Pourtier 1989a: 83), with his exploration, mapping, and treaties opening their and other's territories to French colonisation (de Brazza 1887, 1888). As he walked across the Plateaux Batéké, he realised that his operations in Batéké territory would only be successful if authorised by the land chief, and not the village chiefs (Guiral 1889: 342). He carefully delimited the extent of the Batéké kingdom (Brunschwig 1972: 52) with one map noting numerous domains (ntse), each with a chief (Pobeguin 1888) Figure 3.3. These domains refer to the territory over which the land chief, or ngantse, presided. The land chief was the person in charge of a particular domain, responsible for the productivity of the land (Ebouli 2001). The Plateaux Batéké territory began to disintegrate with de Brazza's negotiation with the Makoko, the Batéké Supreme Land Chief, who ceded their trading rights to the Congo River's Stanley Pool in 1880 (de Brazza 1880).

After this first act of colonial territorialisation, the Batéké area was also subject to colonial concessions and forced labour for rubber collection (Coquery-Vidrovitch 1972). It soon became an administrative backwater between Libreville and Brazzaville. The borders changed in 1903 and 1925. And in 1956, a hunting zone was declared nearby in Zanaga (Anon. 1956).

A critical act in territorialisation was regroupement policy, which was enforced in the area 1955–1967. Prior to regroupement, villages would voluntarily relocate every six to seven years, creating village forests, a visible testimony to historic settlement and migration patterns (Guillot 1980). These movements drastically changed when the new Gabonese government enacted regroupement. Since then, most villages in this area remained fixed in their 1967 location.

In the 1950s many of the smaller villages apparent on aerial photos were still scattered in the savanna (Institut Géographique National 1954), including in the present-day PNPB as is the case of Kewaga village, visible near the park's present-day Camp Ntsa. The regroupement of the 1960s realigned villages along roads, reorganising societal space. This left large areas to appear as "uninhabited". In the study area, regroupement disconnected people from their lands and disrupted their natural resource governance; it stopped the creation of new village forests, and it coincided with the last organised hunting fires (Walters et al. 2014; Walters 2015).

In the study site, many of the villages that were once along the Mpassa River corridor (Deschamps 1962: 61) were then regrouped along the forest road to Boumango. Other Batéké groups remained in the savannas. Regroupement was proposed at least twice for the area, with some villages initially moving to the first proposed road site but refusing to move a second time when the road site changed; these groups remain on the still unpaved road to the PNPB. Those that accepted the

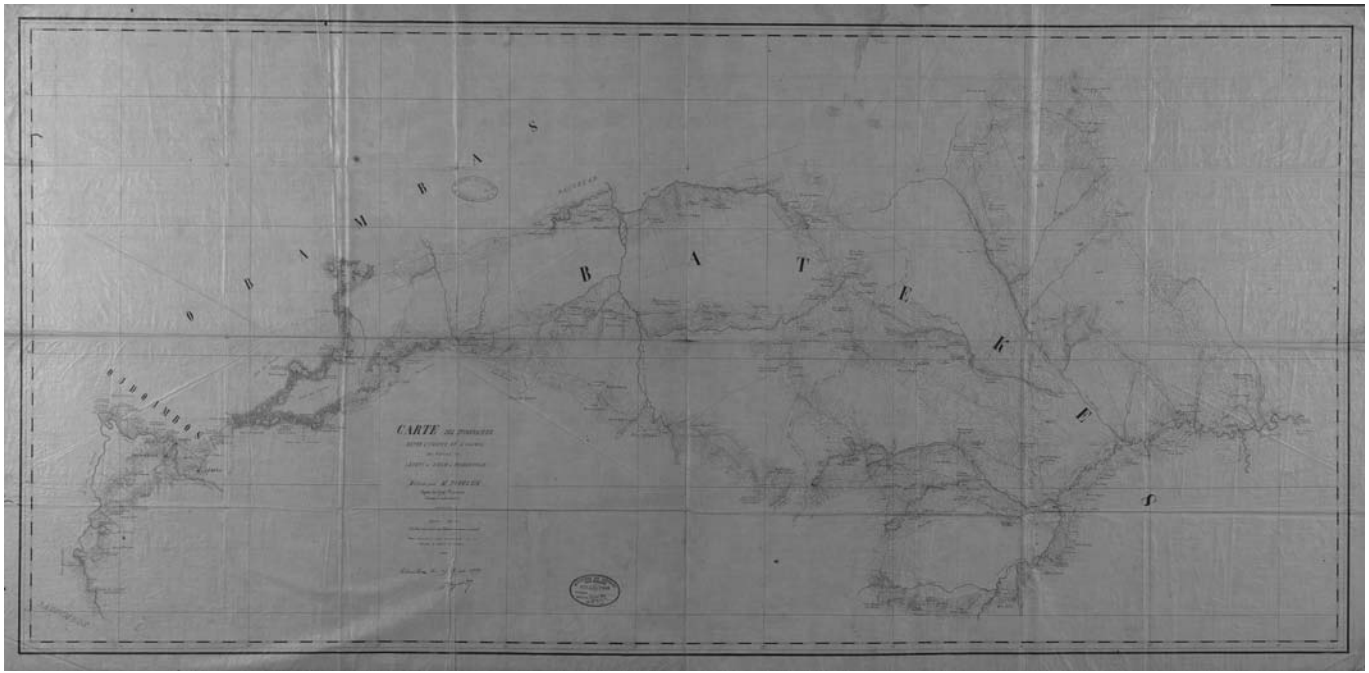

Figure 3.3 A portion of Pobeguin's 1888 map of Batéké territory and its chiefs. The noting of land chiefs and their territories creates a foundation for negotiating away Batéké land rights.
Source: FR ANOM. Aix-en-Provence (# AF 563) – all rights reserved

proposal for the second regroupement moved into the semi-forested Bongoville area along a road and became strangers in a new forest ecosystem.

Some groups who were regrouped still lay claim to their domains. Kanini's village Mboua was formerly located in PNPB but had been regrouped 40 kilometres to the west in the forested zone near Boumango. Kanini had disputed park jurisdiction over this ancestral area. Likewise, just across the border in the Republic of Congo, hunters in the Lékana area lay claim to ancestral hunting rights in the eastern part of the park (Gami 2003). They continue to hunt there, despite efforts to stop poaching within the park. In 2005 and in the past few years, members of Kessala village also lay claim to the eastern part of the park, notably Lake Loulou, a sacred area. The Batéké around PNPB speak about this landscape's history by citing names of villages, old trails, weekly markets, hunting savannas, and places where liana bridges once crossed the Mpassa. Even if today there are no villages in PNPB, the Batéké still remember what it was like to live there and it remains an important part of some groups' ancestral territory.

The creation of PNPB and current conservation measures: 2003–present

Based on rapid biological surveys throughout the country, Gabon's then president, Omar Bongo Ondimba, established 13 national parks, including the PNPB. Three reasons are given for park establishment in the 2008 management (ANPN 2008): unique habitats, mammal and bird species, and the possibility of lions. No villages were present in the park at the time of its creation. The plan recognises Batéké cultural heritage, noting that people should be considered as part of nature and should be implicated in the management of the park.

The presence of community forests is noted in the buffer zone; but, the plan notes, according to Article 14 of the Loi 03/07, these cannot exist within the park. And furthermore, customary hunting and fishing rights are forbidden, and former village sites within the park are not allowed to be reoccupied. Sport fishing is permitted, and scientific research is encouraged. In the buffer zone, co-management is proposed through the establishment of a Comité Consultatif de Gestion Locale (CCGL). This body was created but is not functional (ANPN & Panthera 2018; pers. obs. 2022), something which is reported from other PAs in Gabon (Franks & Small 2016; Pyhälä et al. 2016; Bifane Ekomi 2022).

Thanks to the encouragement of scientific work in the park, the area is now known for western lowland gorillas (Le Flohic et al. 2015), cuckoo migration (Hewson et al. 2016), the reintroduction of lions (Henschel 2006; Barnett et al. 2018), as well as a diverse flora (Walters et al. 2022) and cultural fire usage (Walters 2012).

This landscape received external support from several conservation partners including the Aspinall Foundation for gorilla reintroduction, and Panthera for lion reintroduction. The Wildlife Conservation Society was active from 2003 to 2012. During that time, they zoned community areas around the park. Although these exercises were in consultation with the Batéké villages, and although they acknowledged cultural land management, this exercise in territorialisation largely

failed to engage with the Batéké land chief system (Walters et al. 2021). WCS ceased activities in 2012 after the large USAID program, Central African Regional Program for the Environment (CARPE) withdrew. Currently, the main conservation organisations in the area are PPG and Panthera.

Currently the park is proposed to be expanded by approximately 70,000 ha, and in partnership with the Republic of Congo who are also planning a PA (Anon. 2019). The justification for the expansion is to protect rare habitats and to foreclose agro-industrial expansion. The PA expansion is further supported by the Rainforest Trust. Community consultation is in progress to define the boundaries of the expanded area. While one community has already resisted the expansion, this is not yet the case for the others. In 2022, results from fieldwork, clearly show that the historical legacy of previous land loss by Batéké people continues to be associated with the park expansion today.

3.5 Discussion

What are the consequences of colonial and postcolonial territorialisation on people and conservation?

A key consequence of colonial and post-colonial territorialisation has been the upending of social and institutional order (Alvarado 2019) in conservation frontiers. As conservation areas edge into people's territories, they conflict with customary institutions. In the cases of PNPB and YFR, communities witnessed the appropriation of customary access rights and lands for conservation and "science". Territorialisation reduced access to community lands and natural resources such as forests, wildlife, and fisheries. This often occurred in the absence of any compensation even when colonial legislative instruments were introduced as early as 1934 in the Belgian Congo. Local communities in, for example, Turumbu on the southern boundary of YFR continue to contest their right to compensation on the basis of their social memories, more than 80 years after the creation of YFR (Kyale-Koy et al. 2019a). Around the PNPB, Batéké groups from both Gabon and Republic of Congo have contested their loss of land, but without governmental mechanisms through which to make formal claims.

In cases of regroupement policy, local people frequently gave up their rights for the promise of basic development (e.g. education, health, clean water supplies etc.) which has only come, if at all, very slowly while also costing them their resilience (Haller 2019). In the case of Mount Fouari, local hunting norms and practices were forbidden and replaced by conservation through legally gazetted protected areas. Whether for hunting or tourism/animal viewing, conservation remains a luxury for a global travelling elite, and largely inaccessible and unknown to residents. Although the progenitor of the "new wave" of PAs differs from its colonial antecedent, it is still distinguished by being largely externally driven, and externally financed. The concessionary model continues today in Gabon, with land tenure centralised and 53 per cent of its territory being allocated in forestry or agricultural concessions (Legault & Cochrane 2021).

Almost all of the PAs in present-day Gabon and DRC were created with limited consultation with riparian communities. This contrasts with the use of Reserve Settlement Commissions in India and, for example, Ghana which used secondary legislation to identify rights of access to and use of land and resources prior to the gazetting of forest reserves (Wardell and Lund 2006a). It is reassuring to note that the recent establishment of Lomami NP in DRC involved an exhaustive process of consultation with local communities (see above) and that the expansion of Gabon's parks have begun community consultation. However, given the historical dispossession, consultation under this legacy will be challenging.

The Government of Gabon is now formalising their land use planning with a national strategy for development (République Gabonaise 2011), with the previous policy dating from the colonial era (Ovono Edzang 2019). The Plan National d'Affectation des Terres includes consultation with local communities (République Gabonaise 2015). Ovono Edzang (2019) reported that rural populations, including fishing and forest communities with customary usage, are the most precarious, and lack legal title to land. Gabon is currently mapping their villages and surrounding community forests in an effort to finalise their territorial planning. The 2030 PA targets are part of this process.

The laws in both countries, nevertheless, continue to favour a "policing approach" to PA management by adopting a battery of prohibitions and restrictions on human activities (a continuation of "fortress conservation", Brockington 2002) with reference to other sectoral texts such as the Code Forestier in the DRC. To sustain livelihoods, poor rural communities have little choice but to continue to negotiate local rights of access to PAs "in the margins of the law" (Wardell and Lund 2006b). Given these results, we question the territorial imperative to create new PAs particularly when existing PAs have had in some cases devastating impacts on communities, provided little development, and at best limited engagement.

What can be learned from the history of colonial-era PA territorialisation when we think about the new 2030 goals?

Colonial-era conservation has resulted in a "hierarchy" of PAs in both countries with National Parks at the pinnacle – usually distinguished by either iconic (sometimes endemic) species (gorillas, okapi, Congo peacock etc.), leading to some PAs being recognised and others forgotten (IUCN 2020). National authorities mandated to manage PAs such as the Institut Congolais pour la Conservation de la Nature (ICCN) and the Agence National des Parcs Nationaux in Gabon are centralised, and often poorly staffed and budgeted. In the DRC, ICCN has established 10-year co-management contracts with international NGOs, notably for PAs with endemic or iconic species. This has reinforced the hierarchy in terms of the allocation of staff and funding predominantly to four PAs in the country supported by wealthy communities in the US and Europe.[3] This pattern is being repeated by the Lomami NP. In Gabon, a variant of the colonial concessionary model continues to the present day in terms of favouring conservation maintained

through public-private-partnerships established with foreign organisations, e.g. Grand Mayumba, Olam (Legault & Cochrane, 2021), and largely funded from external sources. Little consideration is given to exit strategies by international NGOs currently managing PAs, and how these PAs will be sustainably financed in the long term through national budgets. This echoes earlier concerns raised about the precarious funding of conservation and PAs (see Wilkie et al. 2001 and Lindsey 2018).

Genese Sodikoff in her book Forest and Labor in Madagascar: From Colonial Concession to Global Biosphere (2012) examines the role of low-wage labour in biodiversity conservation, the conservation agents who do the "heavy lifting" of biodiversity protection. Besides building and maintaining park infrastructure, portaging, directing tourists, and monitoring PAs, local conservation staff are expected to spread Western conservation ideology and educate members of their own communities. Low pay and uncertain working conditions mean they often must continue with the forest clearing and wildlife hunting practices that their employers find so problematic. This is just one of several persistent contradictions in environmental management in many parts of sub-Saharan Africa. Despite the importance of these workers, they have often been rendered invisible by the heroic view of conservation (Garland 2008), where the intellectual work of scientists and conservationists is privileged over the day-to-day practices on the ground and the challenges faced by poor rural communities. This has been reinforced in countries such as DRC where the management of National Parks has been sub-contracted through public-private-partnerships and is still in evidence on the Lomami NP website. It is no longer the days of Roosevelt and son (whose safari had more than 250 porters!), but how will these sparse and poorly paid jobs help such rural communities move out of poverty?

When thinking about how Central Africa (or any country) can expand its PA system to meet the 2030 CBD targets; new, inclusive models of conservation must be considered. There are some glimmers of hope in terms of the multiple efforts, often associated with decentralisation processes, to delegate authority for the management of natural resources to Indigenous Peoples and local communities, and to develop alternative approaches. Several ways to recognise community contributions to conservation exist. First, category V or VI PAs recognise cultural landscapes and sustainable-use zones (Dudley 2008), such as a formalised hunting territory (Cornelis et al. 2017). Since 2010, the CBD recognises "Other Effective Area-based Conservation Measures", OECMs (Dudley et al. 2018; Gurney et al. 2021) which favour the recognition of community areas (and other land types) which contribute to conservation, and which do so in a just way (Jonas et al. 2017). States could also foster bottom-up processes which permit communities to self-recognise their communal lands that contribute to conservation through Indigenous and Community Conserved Areas or Territories of Life (ICCA Consortium 2021). And Gabon could recognise communities which call for community protected areas to be created on their ancestral lands to halt logging (Evine-Binet 2022). PA creation and expansion should never come at a cost of community land and rights loss (Tauli-Corpuz et al. 2020).

The DRC adopted a legislative instrument for Community Forestry Concessions in 2014 and is testing this model in different parts of the country (Moise 2019).[4] Concerns have been raised about the socioeconomic viability of such models (Lescuyer et al. 2019). Furthermore, reform of the 1973 land tenure law is still pending. In Gabon, since 2001, Gabon's Code Forestier permits community forests and since 2007, all of Gabon's parks should have co-managed buffer zones. In Namibia, community conservancies have been successfully developed by local communities to manage wildlife (Weaver & Petersen 2008) after the earlier not-so-successful WINDFALL and CAMPFIRE initiatives in Zimbabwe (Milupi et al. 2017; Ntuli et al. 2020).

3.6 Conclusions

The critical and frequently overlooked importance of the historical context of PAs show that these territorial interventions were often associated with European colonial rule in sub-Saharan Africa (and other parts of the world). The establishment of PAs as an integral part of the part of the "empire forestry mix" often led to the appropriation of customary lands and restricted access to natural resources (sensu Haller 2019); they are not simply post-IUCN's World Conservation Strategy in 1980, or in response to postcolonial conservation policies. Historical perspectives, as our case studies have shown, help us to understand the social and political relationships associated with PAs, and in identifying contemporary coping strategies and adaptation to environmental stress.

Historical records in sub-Saharan Africa, however, are often fragmentary. Even where longer historical time series can be assembled, the selection of appropriate reference conditions may be complicated by our limited knowledge of the past influence of humans, and by non-equilibrium dynamics. These complications do not lessen, however, the value of history. The reconstruction of PA histories which recognise hierarchical scales of analysis in both time and space can highlight the complexity of specific local geographical and historical settings, and provide a basis to redefine baseline ecological conditions, to reinterpret the impact of demographic growth or, as one scholar has suggested to "… systematically build in perspectives from political economy as well as ecology …" (Beinart 1996).

Some scholars have highlighted the frequent failure to recognise that colonial systems varied according to what Europeans actually found in Africa and that

> … the developments in each colonial territory had their unique quality dependent upon the particular policies of the colony and the recognition it gave to African interests. Policies varied between colonies, even between those belonging to the same imperial power. They reflected the resources available for exploitation, the power of Europeans settled in the colony and the degree to which Africans were able to influence decisions.
>
> (Colson 1971)

Our cases show this variation, not only between countries, but also within.

Local encounters with colonial (and post-colonial) conservation have been extremely varied in terms of the processes of establishment, the organisations mandated to manage the PAs, post-colonial objectives of management and if, and how the PAs have been funded. Africans experienced colonialism through the societies in which they lived. The exigencies of colonial rule often included the systematic extraction of male labour, the alienation of customary lands and efforts to incorporate local production systems in the global economy. Regroupement is an example of a colonial policy that was not about conservation but labour, which leaves its imprint on the people today, limiting access to their customary territories, reducing livelihood opportunities and negatively impacting their view of conservation. These labour demands followed in the wake of the last slave raids, periodic disease epidemics, and severe droughts and famine each leaving their imprint on societies and the ecosystems in which they lived (Walters et al. 2019; Hymas et al. 2021). Change, adaptation, mobility and conflict were already endemic characteristics of African societies before empire. The encounter with colonial forest conservation merely intensified these features, at the same time as it created new opportunities for Africans (Bernault 2019). It resulted in what Sara Berry describes as "an era of intensified contestation over custom, power, and property" (Berry 1993). The social memories of these often-negative experiences are frequently recalled in African societies which thrive based on oral histories rather than written records (Vansina 1985; Hawkins 2002).

The results of this chapter can also inform those projects which are also exercises of territorialisation in conservation frontiers. PA expansion projects need to consider at what cost and for whom will expansion occur. Do proposed PAs continue a legacy of colonial dispossession or do they inspire new collaborations with communities to conserve nature, together, in a diversity of ways? Ultimately, what legacy of community empowerment or dispossession will this current wave of PA expansion make on Central African communities?

Notes

1 This was only acknowledged by the World Conservation Monitoring Centre in their Annual Report on PAs: A Review of Global Conservation Progress in 2007.

2 This was amply illustrated by President Theodore Roosevelt and his son Kermet, who in 1909 conducted a year-long hunting safari in eastern Africa including present-day Garamba National Park in the Democratic Republic of Congo. The two men killed 512 animals including 17 lions, 11 elephants and 20 rhinoceros (Wardell 2020). Roosevelt propagated the "wilderness myth" in his best-selling book published a year later, and African hunters were labelled "poachers".

3 In 2012 an estimated 90 per cent of ICCN's costs were concentrated in four PAs: PNVirunga, PNGaramba, PNKahuzi-Biega, and the Reserve de Faune de Okapi to the detriment of all other protected areas. ICCN's personnel in 2012 was estimated to be 3,671, the majority of whom were deployed in the four PAs. ICCN's annual costs in 2011 were estimated to be US$ 32,6m – 85 per cent of which was funded through international partners (Wardell 2020b).

4 Recent legislative reforms in the DRC which may assist in the development of devolved modes of governance by Indigenous Peoples and Local Communities include: Ministerial order CAB/MIN/AF.F.ET. / 259–2002 on the composition, organisation and functioning of the provincial forest advisory councils; Decree 14/018 of 2 August 2014 fixing the modalities for the attribution of concessions to local communities; and Law No. 15/015 on the status of customary chiefs, 25 August 2015 (inc. Articles 26, 35 and 36 to resolve land disputes).

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4 Global China Effects and Domestic Politics of Rosewood in Africa

A Realist Review

Anthony Baidoo, Philippe Méral and Symphorien Ongolo

4.1 Introduction

Rosewood is the most trafficked group of endangered plant species in the world (Zhu, 2017; Adjonou et al., 2020; Zhu, 2022). African Rosewood remains the most traded and internationally sort after endangered wood species for the past decade (Asanzi, 2014; Dumenu and Bandoh, 2016; Zhu, 2017; Kansanga et al., 2021). The explosion in the trade of rosewood is directly linked to the rise of global China, since rosewood furniture is associated with a cultural renaissance in a new paradigm of the Chinese economic revolution (Zhu, 2022).

In the same vein, rosewood is also an endemic and threatened plant species in arid and semi-arid zones of Africa and is highly exploited for timber, animal feeding, and various medicinal uses (Dumenu and Bandoh, 2016; Kossi et al., 2019). Rosewood is a wide range of hardwood species mostly found in the tropical areas of Southeast Asia, Africa, Central and South America. It comprises specific species of the genera *Dalbergia* ("true rosewood") and *Pterocarpus* (substitute rosewood), e.g. *Pterocarpus erinaceus, Pterocarpus soyauxii Taubb*, (padouk), *Pterocarpus chrysothrix* (called Mukula in Zambia and Congo) etc. (Dumenu and Bandoh, 2016; Cerutti et al., 2018). *Dalbergia* species have been the main target in the trade. As a result, increasing demand has reduced its availability. This phenomenon has shifted attention now to the *Pterocarpus* genus as a replacement (Winfield et al., 2016).

Rosewood refers to different meanings to different people in terms of the benefits derived, as its uses depend on ecological zones, sociolinguistic groups, gender, and profession (Abdul-Rahaman et al., 2016; Zhu, 2017; Ouinsavi et al., 2021). Locally, rosewood is a utility species as it has diverse uses in Africa – sap called kilo is used as a dye in tanning and cloth-making, as a legume it harbours rhizobia that return nitrogen to the soil, making it fertile; foliage is a nutritious fodder for farm animals. The tree has highly traditional medicinal uses including the reduction of fever and cough suppression (Abdul-Rahaman et al., 2016; Adjonou et al., 2020). Because of its diverse uses, the species is subject to growing anthropogenic pressure (Ouinsavi et al., 2021). To the Chinese, it represents the

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identity of culture and the preservation of aged old mid-Ming to early-Qing dynasties' pride since the late 16th to 18th centuries (Zhu, 2017).

Africa has been the centre stage for most of this illegal rosewood trafficking across the globe (Adjonou et al., 2020; Kansanga et al., 2021). This illegal African rosewood trade has emerged because of the collapse of rosewood stocks in Southeast Asia making Sub-Saharan African countries the target (Singh, 2014; Kraisoraphong, 2018; Nhung, 2020). Rosewood is a subject of large-scale international traffic between Africa and Asia, which is the greatest threat to the species (Kossi et al., 2019). The thriving rosewood trade, especially in the African sub-region, has sparked several debates across the globe.

The value placed on rosewood by China especially has resulted in a boom in trade in various African regions where rosewood is abundant (Asanzi, 2014; Zhu, 2017; Kansanga et al., 2021). China's rosewood imports from Africa have increased by 700 per cent since 2010 (Treanor, 2015). African rosewood provides a more affordable and abundant source of raw material compared to the high prices and limited resources of traditional species in Southeast Asia (Wenbin and Xiufang, 2013). The African rosewood is an economically viable commodity and as a result is highly trafficked globally (Lawson, 2015).

There is a raging debate about the conservation of rosewood (Zhu, 2017; Zhu, 2022) as this has been a contention between China and Western countries, especially in Madagascar. Western countries are much more interested in environmental sustainability and therefore concentrate on the conservation of the rosewood; the Chinese are interested in the extraction of the rosewood to meet their demand. Rural dwellers in Madagascar sometimes marvel at why the Chinese would pay so much money to buy rosewood (Zhu and Klein, 2022). The rosewood debate revolves around illegal felling and trade of rosewood, the benefit of rosewood to local people, and the laws to regulate rosewood in the face of sustainability and proper regulation of rosewood trade along its value chain (Asanzi, 2014; Dumenu and Bandoh, 2016; Zhu, 2017; Kansanga et al., 2021; Ouinsavi et al., 2021; Zhu and Klein, 2022).

Due to the explosive demand for rosewood, especially for the *Pterocarpus erinaceus* (African rosewood) in African countries (Winfield et al., 2016), the species' natural populations are declining and tending towards extinction in several countries in Africa. The first affected countries were Benin, Guinea Bissau, Ivory Coast, Gambia, Ghana, and Nigeria (Ouinsavi et al., 2021).

Madagascar is known for its relative abundance of rosewood globally as rosewood trafficking activities have been extensively documented (Zhu, 2017; Zhu, 2020; Zhu, 2022). This is partly the case because pressure on natural resources in Madagascar's parks and reserves – each of which has its complexities regarding management issues comes from various groups, ranging from impoverished subsistence farmers to cunningly organized international timber dealers (Schuurman and Lowry, 2009).

The threat to rosewood is linked to the quality of its wood, which has a high commercial value, its fodder importance in ruminant breeding, and its various traditional uses in the treatment of several diseases and symptoms in animals and humans (Ouinsavi et al., 2021).

As a way to halt the rate at which the species is being depleted, selected species in the *Dalbergia* and *Pterocarpus* genera were listed on various Appendices of the Convention on International Trade of Endangered Species of Wild Fauna and Flora, CITES (CITES, 2016).

Using the realist synthesis review approach and inspiration from the network theory, this review contributes to the rosewood debate by shedding light on the power relations among key actors in the rosewood conundrum in Africa. Based on empirical research and key informant engagement through zoom interview – as well as an email exchange with experts in the Ghana rosewood case – this review provides additional first-hand information that inadequate technical training for the customs officers contributes to the illegal trafficking of rosewood, since these officers are not well equipped to identify the rosewood and flag it out when necessary. It also reveals how different actors in the Ghanaian rosewood trade chain took advantage of the rosewood business to make financial gains instead of setting up a proper regulatory framework to manage the rosewood business sustainably.

4.2 Method: a realist synthesis approach

The realist synthesis review (RSR) was selected as a methodological framework of this paper because, in comparison to the more common systematic review, it allows for the analysis of what works, for whom, in what circumstances, and why (Pawson, 2013; Pawson and Tilley, 1997). In this review, the focus was to find out key patterns of the state of the rosewood trade in most African countries, the challenges that the rosewood trade faced, and the actors and their relationships in the rosewood business and trade. In addition, to consider the rosewood regulatory laws; whether they have been effective or not, and what accounted for their successes or failures within the special context of forest governance in African countries.

RSR presents an explanatory model that is more accountable to the complexity of the social sciences (Pawson et al., 2004; Barletti, 2020). This chapter describes the application of the realist approach to synthesizing evidence from research publications examining the rosewood trade in the African sub-region and various local to international arrangements and regulations in the exploitation and trade of rosewood in Africa (McLain, 2018).

Realist synthesis helps to clarify how, where, and why illegal rosewood trade continues to thrive in various African countries and the factors which drive them. A realist synthesis focuses on outcomes and the social and political issues which lead to them (McLain, 2018; Barletti, 2020).

Realist synthesis operates on the assumption that policy interventions do not produce outcomes in and of themselves. Rather it is the mechanisms that underlie interventions that result in the outcome (Durham and Bains, 2015). In a realist review, there is no finite set of relevant articles that can be defined and then found, as the process is iterative. Realist reviews mostly employ the use of snowball sampling, i.e. references and citation tracking yield the majority of relevant articles rather than protocol-driven search strategies (Pawson, 2004; Kastner, 2011).

This review benefits from a model of searching called "berry-picking" which asserts that typical search queries are not static but evolve, gather information in bits and pieces rather than in one grand best-retrieved search, and use a wide variety of search techniques and sources beyond common bibliography databases (Kastner, 2011). The review was based on research from peer-reviewed journals retrieved from Google Scholar based on the input of selected keywords such as "China Africa Rosewood", "African rosewood", "Illegal rosewood trade", "illegal rosewood logging" etc. Reference tracking from initially retrieved papers enabled us to secure additional papers which were relevant for this review. Rosewood information from conservation NGOs complements data from peer-reviewed journals.

In realist reviews, searching continues in a cyclical and iterative process that is not designed to be exhausted. According to Pawson (2004), the test of saturation can be applied iteratively, by asking at each stage of searching whether the latest sample of literature has added anything new to the understanding of the purpose of the review and whether further searching is likely to add anything new (Glaser and Strauss, 1967).

Based on this, 30 publications were selected and decided on as they provided the information relevant to this African rosewood review. There is no one prescribed approach to doing a realist synthesis, rather the reviewer must be sympathetic to the philosophy of realism in the issue being explored (Pawson, 2004; Rycroft-Malone, 2012).

The African rosewood trade and its related issues are not an intervention with underlying theories. However, the trade passes as a social phenomenon with diverse implications (Pawson, 2004). It has theory leanings such as network theory, political ecology, political economy, theory of access, conservation, etc. Hence, the realist review fits perfectly in unravelling the complexity of governance issues regarding actors, power, interest, and institutional arrangements.

In seeking an understanding of the power and relations among rosewood actors in Africa, the review took inspiration from network theory. Using the idea from Cook and Emerson's (1978) experimental study of the exercise of power in an exchange network, the different bargaining power of five major actors in the African rosewood trade is explained.

To supplement the secondary data, representatives from the national office of Ghana's Forestry Commission and Civic Response Ghana, a leading natural resource and environmental (NRE) governance policy advocacy organization working to entrench resource rights, were interviewed to pick their thoughts on the Ghana China Rosewood trade.

Specifically, we sought to answer the following questions: Who are the key actors governing the rosewood sector in Africa and what different bargaining power strategies do they have? What are the regulatory procedures for rosewood in Africa? How does rosewood contribute (or not) to livelihoods in Africa? Who are the dominant and marginalized actors in the African rosewood trade system?

4.3 Findings: African rosewood by Chinese effects

Box 4.1 Global China and rosewood

China's rise as a global economic power since the beginning of the 21st century continues to elicit concerns in the Western world. Lee (2017) coined the term "global China" to mean China's economic expansion and globalizing strategy in other domains. China has been a global force for centuries, yet the unprecedented expansion of trade activities of China in the 21st century is what scholars and the media often refer to as global China. China is a key player in global governance issues due to the sheer size of the country and the deliberate efforts being made by the Chinese to extend their influence across the globe (Wang and Rosenau, 2009). China uses several strategies in its quest to maintain businesses and production in Africa. This sometimes includes diversifying support for political figures to eventually gain their business support as demonstrated by Lee (2017) in Zambia. China has traded globally on the side of caution, respecting their five principles of peaceful coexistence; namely, mutual respect's sovereignty and territorial integrity, mutual non-aggression, mutual non-interference in each other's internal affairs, equality and mutual benefit, and peaceful coexistence. China, therefore, does not deploy authorizing sanctions and military interventions, which have been the Western response to some international trade partners' political misconduct and human rights abuse. In these instances of trade sanctions from the West, China has mostly emerged as the best trade alternative to these sanctioned countries (Zhu, 2022). Lee (2017) distinguishes carefully between the Chinese state capital and global private capital in terms of their business objectives, labour practices, management ethos, and political engagement with the Zambian state and society.

Lee (2017) concludes that the Chinese capital in Africa is indeed different in objectives and orientation. She argues that while global private capital (mainly Western) is often oriented towards "profit maximization", Chinese state capital on the other hand is oriented towards "profit optimization". That is, China invests state capital in Zambia to realize "state-defined interest" including the long-term sustainability of the state firms rather than just the short-term goals of making a profit. Zhu (2022) recounts her experience of how she witnessed first-hand in Madagascar, the transformation that China's trade of the endangered rosewood species in its northeastern region brought in the lives of the community members in the region. As she rightly puts it

> Any new houses that were constructed or new motorbikes that buzzed on the streets and there were many – were said to be effects of rosewood. New metal roofs and solar panels out in the countryside were also attributed to the booming trade.
>
> (Zhu, 2022 p.6)

There is, therefore, markedly a direct spillover effect of the rise of China on the rest of the world, with Africa being one of the most affected.

As China seeks to redefine its modernity, it lays strong emphasis on its cultural past. With a strong connection of rosewood to the historic past of China based on the value placed on it, rosewood falls directly within China's agenda of recapturing its past glory and forging a new path of progress and dominance. Rosewood furniture is therefore in high demand, spurring an aggressive and sporadic trade from regions in the world where rosewood is available (Zhu, 2022). China's global rise should not only be viewed from the standpoint of being a threat to endangered species but also as a deviation from Western conservation approaches (Zhu, 2022). Madagascar is a bastion of rosewood and according to Zhu (2022), the Malagasy people view rosewood as a contention between China and the West (the USA and Europe).

Rosewood actors in Africa and their interests

Identification of the relationship between the main rosewood actors in Africa is based on Cook and Emerson's (1978) experimental study of the exercise of power in exchange networks. Following their lead, we, therefore, substitute the five major rosewood actors in Africa; namely, the forestry institutions, private investors including Chinese, community members/leaders, politicians, and civil society organizations as subjects to occupy the nodes in the network. Based on Cook and Emerson (1978), substituting the five main rosewood actors in the exercise of power in an exchange network (Figure 4.1) in which actors are supposed to make pairwise deals based on the experiment with those they are directly connected to. For example, politicians can make a deal with either community members/leaders or civil society organizations, but not both. According to Cook and Emerson, a set of 36 pairwise deals, in which every actor has an equal opportunity to pair based on their position in the network, will show that Chinese investors and politicians will have high bargaining power. (This is confirmed by the Ghana rosewood case where, after a Chinese initiated the rosewood trade, it continued to thrive on the demand of the Chinese. In the same Ghana case, the role of politicians in regulating the rosewood trade through the placing and lifting of bans and

Figure 4.1 A five-rosewood actor exchange network. Nodes represent actors; lines represent exchange relations.
Source: Authors

sometimes their direct involvement in the trade by using others is also revealed. There are also cases of how some politicians brought some Chinese to Ghana to trade in rosewood.) In comparison, forestry institutions, community members/leaders, and civil society organizations have low power. Of special interest is the situation of community members/leaders as an actor, which is more central than, and has as many trading partners as, Chinese investors and politicians. However, Chinese investors and politicians are stronger because each has partners (forestry institutions and civil society organizations) that are in weak positions (no alternative bargaining partners). Having only strong actors to bargain with makes community members/leaders weak. In this way, an actor's power becomes a function of the powers of all the other actors in the network, and results in a situation in which an actor's power can be affected by changes in the network far away from the actor. These interpretations are subject to the review that revealed how actors have unequal bargaining power based on the influence they have in engaging different other actors. There are, therefore, dominant actors and marginalized actors.

Box 4.2 Steps of official timber export processes in Ghana

As a concrete example, an expert email online interview with one of the lead officers at the Timber Industry Development Division of the Ghana Forestry Commission further revealed the following steps in the processes of timber export in Ghana:

a It begins with registering a limited liability company with the Registrar's General Department (RGD). The nature of business must include the export of timber and timber products.
b This is followed by registration with the Forestry Commission as an exporter of timber and timber products. Documents required include certificates issued by RGD.
c Registered Exporter then closes a sales contract with an overseas buyer who is also registered with the Forestry Commission as an Importer of timber and timber products from Ghana. Both exporter and buyer are issued with registration certificates, which are valid for a year and renewed after the expiration date.
d The sales contract is submitted by both parties for vetting and approval at the Forestry Commission before the commencement of the production processes at the Mill.
e Processed timber products at the Mills are subsequently inspected by Forestry Commission Timber Inspectors to ensure conformity of the terms and conditions of the sales contract.
f Exporters then apply for export permit to export wood goods. Regarding the role of the customs in the export of timber and the technical expertise in identifying timber this was his response: "*Customs do not have the technical expertise to determine the type of timber species and*

> *the product being exported. The Export Permit issued by the Forestry Commission triggers the release by Customs to load the consignment on board the vessel via the UNIPASS at the Port of exit*". (National Officer at Timber Industry Development Division (TIDD), Ghana; email interview on 10 March 2022.)

This lack of technical ability may partly facilitate the illegal rosewood trade as the customs officers are unable to double-check the wood before final export and rely solely on export permits issued by the forestry commission of Ghana. It will therefore be necessary that customs officers be trained to identify the various types of wood to aid tracking and flagging the illegal rosewood trade.

In a related development, an interview with a representative from Civic Response Ghana, a leading natural resource and environmental governance policy advocacy organization showed that over the years rosewood has not been part of the Ghana wood-tracking system. He mentioned, however, that because of Ghana's preparations for the Forest Law Enforcement, Governance and Trade (FLEGT) licence, rosewood has now been added to the wood-tracking system.

Brief description of major rosewood actors in Africa

Rosewood actors are broadly categorized into domestic and foreign actors. The latter include multilateral or international actors such as CITES and transnational private actors such as conservation NGOs and Chinese investors. The domestic rosewood sector consists of the various individuals, groups, and institutions that are involved in the rosewood from its identification and felling, to its being sawn, parked onto tracks or vessels, and transported through cities to the harbours where they are finally shipped outside of the respective African country to an Asian import country, mostly China. Throughout the rosewood value chain, there are designated mandatory institutions which are supposed to do due diligence to ensure proper compliance with wood regulations in the various African countries, but most of these officials are compromised. This explains why several rosewood bans have not been adhered to (Dumenu, 2019; Kansanga et al., 2021).

Domestic actors can be grouped into sub-national and national actors (Figure 4.2). National actors are individuals or institutions mandated by state or country laws and regulations to provide services tailored to ensure the sustainable management of forest resources, which include rosewood, e.g. Forestry Commission/Departments. These formal institutions are mostly at both the national, subdivision and district level.

Subnational institutions on the other hand are the individuals or groups along the rosewood value chain, which provide services as a means of economic survival, as exploitation of the rosewood situation to gain financially or working to ensure sustainable extraction of rosewood.

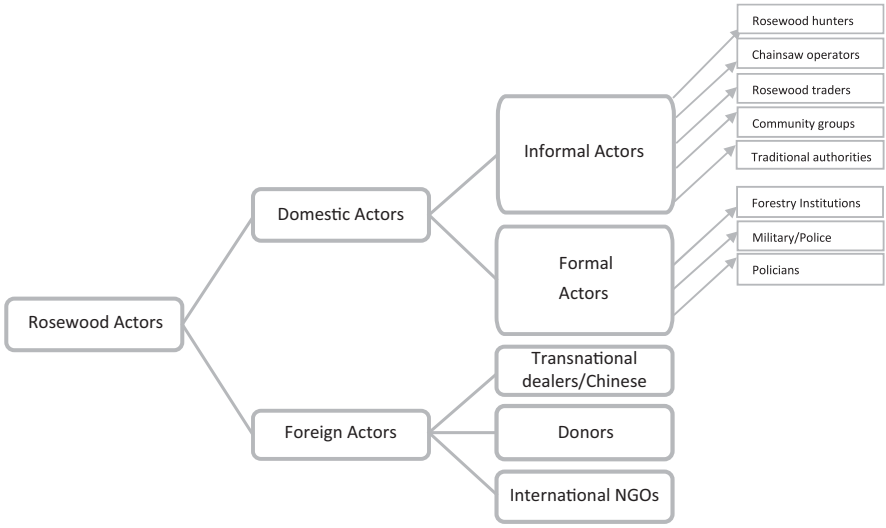

Figure 4.2 Main Rosewood actors in Africa.
Source: Author's Creation

Examples of key domestic actors in the African rosewood conundrum

Rosewood hunters: these are individuals in the various rosewood export countries who – by their proximity to the forest where the rosewood is located – know where these resources are. They can help identify them in their respective locations.

Chainsaw operators/cutters: they are mostly local nationals responsible for felling the rosewood from the forest. According to Cerutti et al. (2018), cutters are typically farmers who take up illegal logging as an additional livelihood activity. Cutters are mostly price takers with little negotiation capacity as they sell rosewood to traders. In Zambia, before the rosewood regulatory changes around 2014, cutters used to sell rosewood directly to Chinese dealers. After the regulatory changes, cutters now had to deal with Zambian nationals who became intermediaries and had to buy the rosewood at a cheaper price compared to what the Chinese used to provide to the cutters.

Rosewood traders: these are groups of mostly local nationals. They serve as intermediaries between the Chinese by buying rosewood from the cutters and later selling them to the Chinese.

Community groups: these groups have emerged either as a network to collaborate with transnational rosewood dealers or to fight the illegal extraction of rosewood.

Traditional authorities: most traditional leaders in rosewood-abundant communities in Africa are neck-deep in the rosewood trade, either through the release of lands for the felling of rosewood in their communities or cooperation with transnational rosewood dealers in the extraction of rosewood. In some African countries, the regulations give formal access rights to rosewood to traditional authorities. They, therefore, control formal access rights, drawing on traditional

authority among rural populations as the custodians of customary land. Taking advantage of the boom in rosewood trade, these traditional authorities act as financiers, traders, and mobilizers of cutters from local communities.

Local government officials, e.g. assembly members in Ghana (Kansanga et al., 2021): The spate of illegal logging in most African countries sometimes moves the local government officials – as evident in the Ghana case – to organize the youth in the rosewood communities as a third force in its desire to put the issue under control. This they do by organizing the youth in the communities to resist these illegal rosewood operators.

Forestry institutions: in most African countries, there is a legally mandated specific forestry institution, commission or department responsible for regulating forestry activities to ensure the sustainable utilization of forest resources and proper management of the forest. In the rosewood state of affairs, the forestry institution is responsible for providing permits before the rosewood can be felled. These forestry institutions mostly have national officers and district officers who are rather close to the forest. Mostly rosewood felling permits are issued at the national offices without any recourse to the existence of the district officers, which renders them ineffective in monitoring felling activities, since they are mostly not directly involved in the pre-inspection and issuance of rosewood felling permits. In the Ghana rosewood case, other rosewood actors sometimes accuse some forestry institutions of encouraging rosewood activities for monetary gains instead of paying attention to their legally mandated duty of being a regulator.

Military/police and forest guards: in most forest-rich countries, military and police work in collaboration with forestry institutions to patrol forests and combat poaching and illegal logging activities. In the cases of Ghana and Cameroon, contrary to military-aided forest patrols in forests, including in protected areas, Ahmed and Oruonye (2017) report the forest has not been seriously patrolled in Nigeria for the past decade due to a lack of logistics and employment of forest guards. They further argue that state governments have rather diverted forestry funds to other areas, making forest encroachment the order of the day.

Politicians: in the context of co-management of resources between the state and local communities, as in forest governance in Ghana, governments tend to hide behind regulations to create opportunities for resource extraction for a few political party elites through selective enforcement of logging regulations (Johnson, 2019). These political party favourites are giving salvage permits to fell rosewood as a direct way to make money (Dumenu, 2019).

Major foreign rosewood actors

Transnational rosewood dealers are dominated by Asian investors including the Chinese: About 80 per cent of rosewood from Africa is exported to China. The increasing craving for rosewood furniture in China fuels the trade of rosewood across the globe. Africa has been a major supplier of rosewood to China. This makes China a major foreign actor in the African rosewood trade. Many scholars have identified two models the Chinese use in securing rosewood. In the

first model, Chinese investors participate all along the rosewood value chain. In this arrangement, Chinese nationals have direct or indirect access to the forest, make agreements with local chiefs, supply the local people with equipment, cash flow, and operating equipment, and ultimately purchase logs from them. This model is more profitable for the Chinese since middlemen could be avoided, which makes profit higher for them. In the second model, the Chinese buyers participate at a distance from the harvesting places, usually the cities, and rather source the rosewood from a constellation of domestic traders who directly purchase them from the local partners (Innes, 2010; Zhu, 2022).

Donors, transnational non-governmental organizations (NGOs) and multilateral agencies: donors in the rosewood sector are international organizations that have specially allocated funds to work towards the sustainable management and conservation of natural resources across the globe, e.g. World Bank, German cooperation (GIZ & KfW), UKAid and the European Union Commission. These funds are mostly released to international NGOs who submit detailed proposals on plans to achieve the vision of the donors regarding the conservation or sustainable management of natural resources. As these NGOs make a good case for this pursuit, funds are released for the said purpose. There are also multilateral agencies such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) which play a key role in regulating the trade of rosewood. Although, all these actors in the rosewood value chain play a critical role in the trade. Some of the actors are dominant as they wield more power and resources and dictate the pace of the rosewood trade. Some of the dominant actors are politicians, Chinese, state and traditional authorities. Through their influence, coercion capacities, and financial muscle they determine the pace of the rosewood trade. Marginalized actors, on the other hand, are mostly at the mercy of the dominant actors, even though they work so hard. The financial benefits which mostly accrue to them are not commensurate with their rights and efforts. Examples of marginalized actors are the cutters, rosewood hunters, and forest-dependent people in general.

Political disorder and power at work in the African rosewood sector

Political instability in many forest-rich countries in Africa has been an exacerbated factor of informality and illegality in the rosewood sector. This is particularly the case in Madagascar (Zhu, 2017) since the 2009 coup d'état which resulted in indiscriminate logging of rosewood. Across time and along the chain, cronyism, stakes, and elite capture have left little space for environmental concerns regarding the sustainability of rosewood production or any other species. Indeed, there is every indication of the close ties between forests, lands, and political-economic issues, which have various territorial and social implications (Ongolo et al., 2021). According to a study done by Cerutti et al., (2018) in Zambia, power hierarchies at all levels of the state and across borders try to benefit from rosewood as quickly as possible, ultimately hampering the establishment of sustainable rosewood business.

In investigating the Ghana case of why illegal rosewood trade continues to fester even in the face of the ban on rosewood activities, Kansanga et al. (2021) observed that politicians, traditional chiefs, and forestry officials, are key players in creating the success or failure conditions for the ban of rosewood trade. Based on the study, powerful local community actors liaise with Chinese rosewood dealers in illegal logging arrangements. The Chinese negotiate with these community leaders and hand them lucrative bribe offers to pave the way for them to extract the rosewood, sometimes at the blind side of the state authorities. In Nigeria, rosewood can be compared with a rush for gold in which the activity is "well organized in a coordinated network that has defied all existing forestry regulations" (Ahmed et al., 2016). EIA (2018) reports how in Nigeria, approximately 3,000 questionable CITES permits were officially issued by the Nigerian authorities for traffickers to smuggle over 1.5 million logs to the Chinese market – the equivalent of three Empire State buildings.

In Ghana, the thriving of illegal rosewood logging also hinges on the abuse of salvage permits. The gap between rosewood salvaging companies and officials of the Forestry Commission officers within those specified localities during the identification of salvageable logs, provide the opportunity for companies to fell rosewood and later report it as salvageable wood (Kansanga et al., 2021). These salvage permits are issued at the discretion of the top hierarchies of the forestry administrations – mainly appointees of the ruling government. Some chiefs in Ghana claim ownership of forestlands and by extension the trees on those territories. They, therefore, exercise a discretional power (Ribot, 2003) for others to fell the rosewood.

The prevalence of forest crime has been on the increase because of poor governance, corruption, and illegality in the forest sector, particularly in sub-Saharan countries of Africa. Using the forest of Taraba State as a case study, Ahmed (2017) reports how Nigeria's forests have been without patrols for a decade. This sends a signal of how illegalities and forest crimes are likely to thrive in such an environment. Pervading political influence in the rosewood trade across Africa is a central theme running through most of the studies addressing this issue. This creates perverse incentives where rural communities lose out while powerful connections continue to exploit forests for significant profits (Ahmed, 2017; Dumenu, 2019; Ouinsavi et al., 2021).

Dominant perception and livelihood dimensions of rosewood in Africa

Learning from our empirical experiences in Ghana, Cameroon, and Madagascar, a section of Africans in the forest sector holds the belief that rosewood is ubiquitous, i.e. it grows everywhere and grows back at the same time. This belief is mostly a slap in the face of rosewood conservation efforts as it emboldens the indiscriminate logging of rosewoods. In that same vein, conservation processes led or promoted by the West, including northern American and European NGOs, are sometimes viewed as foreign control.

Communities where rosewood is abundant, contend that they have a major stake in the rosewood and need to benefit from the extraction in every possible way. Therefore, in the event of outright neglect in the distribution of the benefit of rosewood extraction in the catchment areas, be it legal or illegal, community members sometimes react with brute force. A case in point is where in February 2019, tensions over the extraction of rosewood escalated as some Ghanaian youth in a community in Upper West Region attempted to prevent illegal chainsaw operators from felling rosewood within their enclave. The altercation resulted in the shooting of two illegal operators, with many sustaining various degrees of injuries (Kansanga et al., 2021). Rural community members in rosewood-rich localities attribute significant livelihood benefits and business opportunities to the rosewood trade, despite decreasing profitability over the years and the risk of criminalization and prosecutions.

In much of Sub-Saharan Africa (SSA), the informal economy takes centre stage. Often defined as unregulated production, distribution, and service provision, informal economic activities across SSA provide crucial cash income and employment for both rural and urban populations. The informal economy provides support for youth and women, especially those who may otherwise be excluded from the formal economy (Cerutti et al., 2018).

For conservation arrangements to yield the needed results, the environmental and economic needs of indigenous communities who live close to the forest resources need to be given good consideration (Zhu, 2017).

Ouinsavi et al. (2021) identified 57 uses of rosewood among different sociolinguistic groups in Benin. Rosewood, therefore, plays a critical role in rural communities.

Livelihood analysis in political ecology has demonstrated how unequal resource access tends to encourage the vulnerable into illegal rosewood logging as it is viewed as the means of survival and a lucrative business venture (Kansanga et al., 2021). Sometimes, the collaboration of local community members with Chinese nationals in illegal rosewood extraction in the face of bans is seen as a survival strategy in these communities that cannot boast of any alternative employment aside from agriculture. As a result, youth especially those who may not be interested in agriculture easily fall for these rosewood business networks (Ahmed et al., 2016; Kansanga et al., 2021). This is, for instance, the case in Nigeria where illegal logging of rosewood employs youth in Taraba State, as they seek a decent life and escape from poverty. This trade persists in the area because of the widespread benefit it provides to some members of the affected communities. (Ahmed et al., 2016). In Zambia (Cerutti et al., 2018), a significant number of farmers have become rosewood loggers due to better financial offers in the rosewood business. Local community members continue to form a network with Chinese traders to facilitate the illegal rosewood trade.

The issue of wood regulatory laws in the African rosewood sector

Rosewood is subject to general legislation and regulation governing land tenure, forestry, and timber trade in the relevant range states. There is a boom in the rosewood trade, notably due to the insatiable demand for rosewood by the

Chinese. This has resulted in the indiscriminate felling of rosewood in Africa (Nigeria, Ghana, Gambia, Madagascar, Cote D'Ivoire, Senegal, Togo, Burkina Faso, Sierra Leone, and Mali). In most African countries, there are imposed felling and export bans seeking more control over the overwhelming tide of exploitation, yet China customs report significant imports of rosewood logs from these countries (Lawson, 2015; Dumenu, 2019).

Findings from a study done by Kansanga et al. (2021) revealed that the Ghana government use regulations as a conduit to create opportunities for resource extraction for a few political party elites through selective enforcement of logging regulations. Rosewood felling bans to curtail the pillaging removal of rosewood in most African forests have not been effective mostly due to the following reasons: systematic lack of enforcement and monitoring, hierarchical and systemic corruption, lack of accountability, and less transparency. In this vein, the issuance of salvage permits remains one of the ways of rosewood exploitation as the political class has abused it. According to regulations 37 and 38 of the Ghana Timber Resources Management Regulations (LI 1649) 1998, salvage permits should only be granted under the following conditions: (1) Salvage of trees from an area of land undergoing development such as road construction, expansion of human settlement, or cultivation of farms; (2) Salvage of abandoned trees (marked or unmarked). This provision has been grossly overlooked as most of the harvested rosewood in Ghana in the regime of bans was obtained using abused and misapplied salvage permits (Dumenu, 2019; Kansanga et al., 2021).

Over the political instability period, the government of Madagascar seized illegal rosewoods and kept them at warehouses dotted across the nation (Wilmé et al., 2020). These seized rosewoods have come to be technically referred to as stockpiles. Until 2021, there were issues both at national and international levels with these stockpiles regarding their right quantities and management (Nijman et al., 2021). In Zambia, there is intentional legal ambiguity created by the widespread use of mouth-to-ear messages of placing and lifting bans on rosewood harvesting and trade to enable national elites connected to power to continue profiting from rosewood trade (Cerutti et al., 2018).

In the line with attempts to create synergies against illegal wildlife trafficking initiated by the international criminal police organizations (Interpol), there is a need for formalized transnational collaborations in the fight against illegal rosewood investments and trade in Africa and China where most of the rosewood is exported.

Cerutti et al. (2018) argue that the following four factors are driving the ineffective implementation of the regulatory system resulting in a huge gap between policies' aims and their results on the ground. The four factors are: (i) rent-seeking behaviours at higher levels by politicians and people with close association with political power, (ii) rent-seeking behaviours at lower levels by officials and traditional authorities, (iii) severely constrained capacity of the forestry departments to monitor and enforce regulations on the ground, (iv) insufficient understanding by regulators of the market forces and operators' behaviour.

The failure of the controls rolled out in African countries to halt illegal and unsustainable harvesting is evidenced by the major seizures, which are regularly

announced in the media. In addition to this, is the discrepancy between African and Chinese statistics for wood exports and imports.

Box 4.3 Discrepancies and inconsistencies between African export and Chinese import wood

In 2018, data from Global Trade Information Services (GTIS) indicated that the total global trade volume of logs and lumber was 992.92 million m3. This was an all-time high and a growth of 13.69 per cent since 2017. The import value of logs and lumber by volume amounted to 476.34 million m3, but exports amounted to 516.58 million m3, pointing to a gap of 40.24 million (Liu et al., 2020) m3. The data above is indicative of a trade discrepancy. In related work, Blundell et al. (2005), in comparing data from the convention on International Trade in Endangered Species of Wild Fauna (CITES) and US customs data observed that discrepancies ranged from a CITES-reported volume 376 per cent greater than that reported by customs (live coral imports, 2000) to a customs' report 5202 per cent greater than CITES (conch exports, 2000). There are sometimes observed discrepancies and inconsistencies in global data as churned out by databases. These inconsistencies are often a result of systematic biases (Zhao et al., 2020) emanating from measurement gaps caused by professional and statistical standards adopted by partners. Liu et al. (2020) grouped the factors that contribute to the discrepancies into intentional and unintentional causes. The unintentional factors are shipment issues, statistical/measurement errors, and government regulations/policies. The intentional factors are misreporting and misclassification.

In the face of the China-Africa rosewood trade, it has been observed that there are mostly discrepancies in reported data between some African countries' outlets and that of China outlets. Dumenu (2019) commented on Ghana as a case in point that China's import data showed that, only sawn rosewood and round logs were imported from Ghana for a certain period. Interestingly, Ghana's export data within the same period showed that lumber, plywood, sliced/rotary veneer, and kitchen parts were exported to China. In 2014–2015, Nigerian authorities consistently declared zero log exports, while Chinese authorities registered the equivalent of US$350 million worth of imported logs from Nigeria (EIA, 2017). These discrepancies and inconsistencies strongly indicate that large quantities of potentially illegally traded rosewood are undeclared casting which affects the credibility of available rosewood data. About the discrepancies in the volume of traded rosewood reported to CITES, by the Ghanaian and Chinese authorities. Dumenu (2019) observed that three factors might account for this negative phenomenon. These factors are: (i) significant under-reporting of export volumes by forestry and/or customs officials; (ii) substantial undeclared or under-declared export volumes by exporting companies; (iii) existence of a large volume of illegally sourced rosewood within Ghana.

A study done by Cerutti et al., (2018) showed that domestic African solutions regarding regulations to streamline the trade of rosewood in African countries like Zambia are bound to fail where commodities can be grabbed before national laws even realize that something is wrong. According to the same study, international agencies (e.g. Interpol), laws, regulations, agencies (e.g. customs), and conventions (e.g. CITES) have not been successful or effective in regulating the rosewood trade in Africa. Study data reveals that what is necessary first and foremost is a better regional, supranational integration of Sub-Saharan countries where such commodities can be found and harvested.

The study suggests that until that is done, various African countries will keep perfecting their laws, only to find that implementation is useless because the resources are already harvested, and fragile forest ecosystems are irreparably damaged.

Rosewood in Africa-China transnational trade

The domestic demand for rosewood timber is now inconsequential compared with international demand, which presents by far the greatest threat to the species.

Dumenu (2019) revealed that the rosewood business rather boomed after the restrictions of the Convention on International Trade in Endangered Species (CITES), making the comparison before and during the CITES restrictions. Using export, import, and seizure of data over a period. Findings from the study conducted in Ghana showed that while the ban was operative, exploitation has rather increased by 129 per cent and the incidence of illegal trade shot up by 120 per cent in the CITES designation period (2016–2018) compared with the pre-CITES period (2010–2015).

Box 4.4 On the motivations and effects of CITES bans on rosewood

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement aimed at preventing the exploitation of and regulating the trade of wildlife and plant species. In 2022, there were 184 signatory parties to CITES[1] globally and managing authorities in designated countries feed trade data to centralized database systems. China joined the CITES as a contracting party in April 1981. CITES authorities in respective countries are expected to make two findings before they award an export permit: (1) their national Management Authorities must verify that the shipment was legally obtained; and (2) their Scientific Authority must verify that the shipment's harvest was "non-detrimental" to the survival of the species, that is, the harvest does not jeopardize the ability of the species to maintain its role in the ecosystem (Blundell, 2007). It is the sovereign responsibility of each country to develop appropriate systems for legal and non-detriment findings of the species. As a result, certain countries use less restrictive and generally insufficient regulations to promote trade, to the detriment of the species and CITES itself (Blundell, 2007). CITES is used

as a tool to monitor the illegal trade of some endangered hardwood species and that of animals as well (Siriwat and Nijman, 2018). Species listed on CITES Appendix I are species listed as endangered species and need to be prevented from international commercial trade. Species listed on CITES Appendices II and III are species of sustainability concerns that trade needs to be regulated internationally (Blundell, 2007).

The insatiable demand by the Chinese market makes African rosewood (*Pterocarpus erinaceus*) the most traded tropical hardwood in the world (Lawson, 2015). As a way to regulate the overwhelming spate of rosewood exploitation, especially in the African subregion, the species was listed on CITES Appendix III and later up-listed to Appendix II. According to Dumenu (2019) even though the listing and up-listing of rosewood on CITES Appendices III and II are expected to contribute to sustainable exploitation and trade of the species, that conclusion cannot be made yet. Using the Ghana rosewood case, and analysis of the export and import data on rosewood, results from the study indicated that since the listing and up-listing of African rosewood on CITES Appendices, it appears that the designation is yet to contribute notably to sustainable trade of the species in Ghana since illegal logging and its associated trade has not significantly reduced. This is indicative of the huge discrepancies and inconsistencies in export and import volumes officially reported by Ghana and China in their respective timber trade statistics and to CITES.

The International Union for Conservation of Nature (IUCN) has listed rosewood as an endangered species. Experience has shown that the listing of rosewood in Appendix III of CITES does not always allow for addressing the scale of regional issues related to the unsustainable and illegal exploitation of timber resources for international trade (CITES, 2016.

China was listed as the first among the top ten countries and territories for source and destination of shipment with the weight of rosewood seized from 2005 to 2015 having obtained about 5,232 tons of rosewood (World WISE). With 4,276 tons weight of rosewood, reported in import data, from 2006 to 2013, China was first among the top ten countries (CITES Trade data). China single-handedly produced 44 per cent of the value of world tropical hardwood furniture in 2016, valued at about US$ 20 billion (UNODC, 2016).

The price of rosewood in China has increased up to 500 per cent since 2005, and with this heightened demand for rosewood in China, the country now looks to Africa for fresh supply (Wenbin and Xiufang, 2013). Rosewood is a cultural icon in China as it has transformed into ornate classical furniture (Zhu, 2017). The cultural symbol of rosewood in China has been harnessed into flourishing economic potential. It is speculated that there is a $26 billion rosewood industry in China. This rosewood economy is partly cushioning the Chinese economy and supporting the livelihoods of these rosewood industry players (Zhu, 2020). The over-heightened demand for rosewood in China has led to increased illegal exploitation in many producer countries in Asia and Africa (Treanor, 2015).

The Chinese investors use various strategies to secure the rosewood from African countries and they now deploy sophisticated technologies for logging the rosewood – highly powered chainsaws with silencers, loaders, and square-edged lumber machines. These machines support mass felling and rapid evacuation of illegally logged rosewood. It is also difficult to hear the sound of these machines from a distance, which makes particularly difficult the work of military, police, and forest control operations (Kansanga et al., 2021).

Transnational dealers navigate regulatory processes by paying bribes to key actors in national regulatory institutions with the responsibility of implementing the rosewood ban to enable the transportation and export of rosewood. Complex phenomena of rosewood smuggling at the regional level have also been recorded. National regulatory frameworks and police operations carried out within national territories often prove powerless against regional and international trade dynamics (CITES, 2015).

4.4 Conclusion

In this review, we have examined current research leanings and dispositions regarding rosewood in Africa. This review cast a wider net on the current trends of the China-Africa rosewood trade in the era of global China. The review has revealed that there are various actors in the African rosewood conundrum. These actors have different or conflicting interests and play different roles along the rosewood value chain. Some of these actors are dominant while others are marginalized. The dominant ones have the backing of state laws or financial capital, play a key role in decision-making, and wield more power. These dominant actors dictate the pace of the trade while the marginalized actors are mostly at the mercy of the dominant ones and barely survive in terms of the modest financial rewards they obtain from the rosewood trade. With inspiration from network theory and specifically the work of Cook and Emerson (1978), the review has shown that Chinese foreign actors and African politicians are major rosewood actors in Africa. These actors have more bargaining powers in the trade as they can influence diverse actors to gain more financial advantage in the rosewood trade.

It is clear from the review that various regulatory processes set in motion by different African states to contain and manage the spike in rosewood extraction, mostly due to the Chinese trade demand, have not been successful. It is observed in various African states that this phenomenon has been depicted by the various lifting and placing of bans on the trade and felling of rosewood.

In most cases, rosewood bans have not been effective because those who are supposed to enforce them either have been compromised or are too engrossed in the same activities and they are unable to extricate themselves and come clean to do what is needed as required of them. In this case, the individual interests and private agenda of actors have dominated the collective interest of the state, rendering the laws and regulations powerless and ineffective.

The review has also further revealed how relevant rosewood is to local communities and their domestic lives; providing varied therapeutic benefits, serving as construction material, leaves of trees serving as fodder for animals, etc.

Listing of rosewood to Appendice II and further up-listing to Appendice III has still not been able to contain the situation as the China-Africa trade continues to persist. This is evident in the recorded data and accessed data between the Chinese customs and the various African rosewood trade data outlets. It has been observed from the review that these recorded data have not been too accurate, as the figures sometimes do not tally between the Chinese recorded data and their African trade counterparts in the rosewood trade.

According to the review, there is a need for a regional and a global approach in dealing with the rosewood trade and its associated challenges instead of the various droplets of country-specific approaches, which have been largely ineffective. The dynamics of global China in Africa rosewood trade continue changing; this warrants continued research into how the actors continue to play their roles in sustaining this trade and how they access the rosewood cutting through various regulations and institutional arrangements. Both international and local trade regulations need to be assessed in line with how they continue to promote the trade of rosewood in the African subregion. It is also important for research to be tailored to how the various and potential benefits local communities expect from rosewood can be made more sustainable without compromising on the regeneration capacity of the rosewood species.

Note

1 https://cites.org/eng/disc/parties/index.php

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5 Governing Independent Forest Monitoring from Theory to Empirical Evidence in the Congo Basin

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5.1. Introduction

Tropical forests are host to the world's most important territorial biodiversity and play a significant role in mitigating global climate change and contributing to soil and water conservation (Mulata et al., 2017). In addition, these forests provide many other vital resources and habitats for forest-dependent people such as provision of arable lands, non-timber forest products, wood fuel, medicine, religious and cultural sites. As a result of climate change and biodiversity concerns, tropical deforestation, in particular how to combat illegal extraction, is now a major priority on the global policy agenda (Burgess et al., 2012). The Glasgow Leaders' Declaration on Forests and Land Use at COP 26 (UK COP26, 2021a), reiterated the urgency of protecting these forests and halting the damaging land use, as one of the most important actions required to fight climate change (Humphreys, 2008) while securing the livelihoods of the 1.6 billion people globally. The Congo Basin hosts the second-largest tropical rainforest in the world which is threatened by industrial logging, mining, and agriculture. Despite decades of international, regional, and domestic policy initiatives, ongoing resource deterioration continues to vex practitioners, as well as scholars of environmental governance and regulation (Cashore and Stone, 2014). Researchers have argued that the state-controlled model of forestry characterised by weak governance (Karsenty et al., 2008) and imperfect monitoring of forests and related land uses by bureaucrats and politicians with responsibility to control forest extraction is to blame (Newell, 2008). In the future, if global policy initiatives like the global finance pledge and the Congo Basin Fund (UK COP26, 2021b) are going to help, understanding why illegal extraction is often sanctioned or facilitated remains central to countering tropical deforestation (Cashore and Stone, 2014).

The failure of the exclusive or unilateral state-controlled model of forest management led to calls for new governance models, which include stronger roles for markets and networks in addressing the problems of forest illegality. These new models include forest certification, legality verification/assurance systems, Forest Law Enforcement, Governance and Trade (FLEGT) licences and IFM among

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others (Bäckstrand et al., 2010; Mbzibain and Ongolo, 2019). Others predicted the withdrawal of the state or the "hollowing out of the state", arguing that a stronger role of the private sector and civil society would lead to better forest and environmental outcomes, but this has not borne out in practice (Pulhin and Dressler, 2009) as evidenced by the continuous increase in forest illegality globally and in the Congo Basin (CB). Paradoxically, Carodenuto and Ramcilovic-Suominen (2014) argue that the problem of illegality remains difficult to resolve because of the complexity of actors involved and complicated political economy issues.

Box 5.1 Brief history of independent forest monitoring in the Congo Basin

Independent forest monitoring (IFM) entails a third-party assessment of the conformity of forest management and forestry activities with the legislative and regulatory standards in force in the forestry sector of the country. Early IFM initiatives were centred on a formal service contract between an official "host institution" and an international non-governmental organisation (NGO). Field investigations tended to look at forest operations more than fraud or systemic problems, and the monitor's terms of reference typically included observing how the state forest law officials conducted their own work. The majority of current initiatives are led by national or local civil society organisations (CSOs) or environmental associations and do not start from a partnership with an official host institution. It's common to have many monitors in a single country, and monitoring compliance with the social obligations of concessionaires is increasingly included in the scope of work. IFM was introduced in the CB under pressure from international donors in a context characterised by corruption, poor legal compliance (Fomété and Cerutti, 2008), and systemic mistrust between donors and recipient governments in forest management.

Source: adapted from Mbzibain and Ongolo (2019)

As shown in Box 5.1, Global Witness introduced IFM to the Congo Basin in 2000, followed by other international NGOs, expanding its scope to the Republic of Congo and Democratic Republic of Congo (DRC) by 2012. In other countries such as the Central African Republic (CAR) and Gabon, IFM has been introduced primarily through FLEGT voluntary partnership agreements (FLEGT VPAs) with the European Union. The EU 2003 Action Plan recognised from the beginning the need for independent monitoring of the systems the VPA was designed to establish stating that "*transparency is also helped by the involvement of independent monitoring and auditing of systems to verify the legality of timber in producing countries. Independent monitoring makes verification systems more credible and less prone to corruption*" (European Commission, 2003). The EU saw IFM mainly as a tool to ensure the effectiveness and credibility of the licensing scheme by introducing a third party to monitor and report on its implementation (EU, 2005).

The note stressed that the role of the independent monitor did not include reporting on forest crime, but rather that it was "observation and reporting on verification of legality of forest operations" (Brack and Leger, 2013). International advocacy NGOs argued that in a context of weak governance where corruption is rife and political support for the elimination of illegal logging is minimal, IFM needed to extend to all areas of forest management including detection of forest crimes, auditing of government performance, policy development, and implementation (Brown and Tucker, 2006). The retreat of international NGOs from this space around 2013, led to the emergence of various forms of IFM implemented by local NGOs. There are two main types of IFM, mandated and non-mandated IFM or external IFM, monitoring forest management related issues beyond forest concessions including, social agreements, benefit sharing, rights, procurement processes, and so on.

Under mandated IFM, a national civil society organisation negotiates a contract with the government to implement forest monitoring in support of the official government control function carried out by national forest control brigades (Congo, DRC, and CAR). With non-mandated or external IFM, a civil society organisation operates without an agreement or mandate from the government and therefore has greater autonomy in setting monitoring goals. For a more detailed description of advantages and disadvantages of both types, see Brack and Leger (2013). In all countries, mandated IFM organisations now operate alongside non-mandated IFM organisations with varying levels of collaboration between the organisations.

Figure 5.1 shows the evolution of both mandated and non-mandated IFM in Congo Basin countries starting in 2000 to 2017, when mandated IFM was officially lunched in CAR led by a national NGO.

5.2. Governance and political economy analysis framework

In this chapter, we focus on independent forest monitoring as a new governance mode and discuss the underlying factors affecting its effectiveness through a governance and political economy analysis (GPEA) perspective (Fritz et al., 2009). Political economy analysis (PEA) is a powerful tool which "*focuses on how power and resources are distributed and contested in different contexts, and the implications for development outcomes. It gets beneath the formal structures to reveal the underlying interests, incentives and institutions that enable or frustrate change*" (DFID, 2009). Others propose unpacking the extent to which context and structural factors, bargaining processes, stakeholders and their interests and incentives facilitate or impede change (Whites, 2017). The application of PEA to forest governance initiatives is obviously not new (McDermott and Sotirov, 2018). Forestry can be at best characterised as a branch in which markets and politics are tightly entangled (Deegen, 2019; Deegen et al., 2019). As Wagner (2019) posits, modern forestry is replete with interactions among commercial and political entities and is hence ripe for exploration by examining it through political economy lenses. This approach is well suited to contexts such as those in the Congo Basin

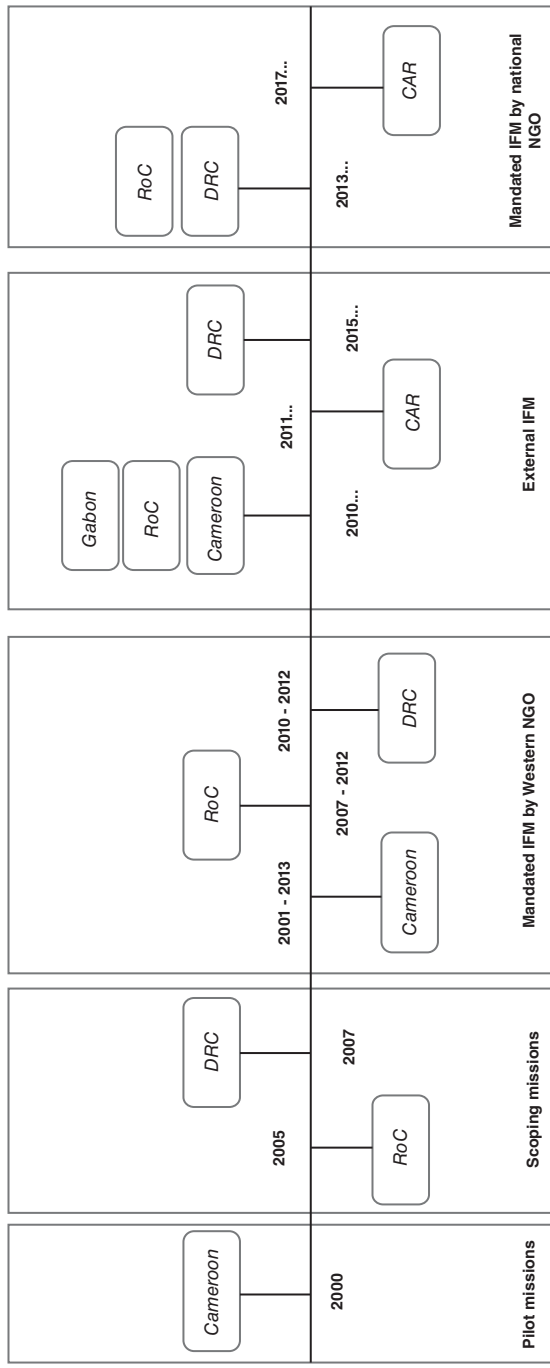

Figure 5.1 IFM Timeline in the Congo Basin
Source: Wete & Moumpen, 2021

which are characterised by weak state structures and intertwined power and business privileges (Newell, 2008).

According to Dkamela et al. (2014), a PEA lens can enable a deeper understanding of the factors likely to facilitate or hinder attempts to mitigate the main drivers of deforestation and forest degradation. With the very strong role donors have played (and continue to play) in the promotion of IFM, PEA could also highlight the tensions that can arise between values and objectives of donors and the need to build on local institutions and engage with the interests of politically powerful actors (DEVCO, 2013). While acknowledging the diversity of political economy theories, one of our contributions in this chapter is by applying the GPEA framework to IFM. Drawing from Fritz et al. (2009), DFID (2009), and Devco (2013), "*The framework emphasises that the analysis focuses on particular problems, challenges, or opportunities … analysing why reforms have repeatedly stalled or have failed and what could be done differently to move forward*". Fritz et al. (2009) propose that implementing a governance and political economy analysis of an issue or sector of interest requires identifying the problem, opportunity, or vulnerability to be addressed, mapping out the institutional arrangements and the political economy drivers. In line with Fritz et al., we emphasise the role *institutional variables* (laws and regulations, as well as informal rules) and *political economy drivers* following analysis of the successes and challenges facing IFM. The analysis of the drivers focuses on actors and stakeholders, their interests, and the ways in which they interact with formal and informal institutions in order to understand and explain their motivations.

Regarding the *problem analysis*, in light of the emergence of different forms of IFM and national and local actors involved, the question of effectiveness becomes increasingly important because of concerns from donors, practitioners, and policy makers interested in the subject. We first address what IFM has achieved so far through a legitimacy perspective (Kronsell and Bäckstrand, 2010) and then address the challenges faced by IFM organisations in their role. Kronsell and Bäckstrand identify two forms of legitimacy – democratic legitimacy to do with elections, hierarchical forms, and administrative rationality, and normative legitimacy derived from norms and values such as such as accountability, transparency, inclusion, and deliberation. We focus on normative legitimacy which has two dimensions relevant for this analysis: input (or procedural) legitimacy and output legitimacy. Input (procedural) legitimacy derives from procedural logic and explores how transparent, fair, inclusive, accountable, and voice-based spaces are provided by IFM. Output legitimacy focuses on the outcomes of IFM in terms contributions to policy, institutional, compliance, and environmental solutions to wicked problems[1].

In analysing *institutional structures*, we focus on the formal and informal rules, which influence behaviour of actors through coercive, normative, and mimetic pressures (Spenser and Gomez, 2004). Coercive pressures manifest themselves through regulation, legislation, and industry standards and guidelines (Majid et al., 2020). Mimetic pressures influence organisational/individual behaviour through the need to imitate best practices or benchmark best performing actors (Majid et al., 2020). It is argued that organisations will follow leading organisations or those

with whom they share similarities, which have secured and demonstrated the benefits from adopting a particular behaviour (Alziady and Enayah, 2019). Normative pressures influence behaviour through widely shared knowledge about how particular behaviours are categorised and interpreted within society (Kostova and Roth, 2002). These pressures manifest themselves through social pressures on organisations and their members to conform to certain norms resulting from increased professionalisation and business standards. Key components of these pressures include educational, advisory, and training systems, which provide the skills and information required to adopt positive environmental behaviours (Spenser and Gomez, 2004). Different from coercive pressures, mimetic and normative pressures do not have authority to enforce compliance or non-compliance.

Finally, as part of the *political economy* drivers, we focus on the identification of stakeholders, to map their roles and interests and the interactions between actors. *Actors or stakeholders* comprise individuals as well as organised groups or groups with shared or divergent interests, business associations, non-governmental organizations (NGOs), traditional associations, and government and private sector actors in a particular region. In this specific regard, we build on stakeholder's typology from Mitchel, Agle, and Wood (1997) who distinguish between three attributes (power, legitimacy, and urgency) to determine eight qualitative classes of stakeholders.

The following section presents the results and discussions drawing on the conceptual framework. First, we present the effectiveness of IFM as a forest governance tool, drawing on the concepts of input and output legitimacy followed by the problems faced. The next section addresses the institutional environment characterised by the coercive, mimetic, and normative pressures, which influence the behaviour of actors and stakeholders. The results and discussion section ends with an analysis of the actors, their roles, and interests and how they interact with each other.

5.3. Results and discussion

Contribution of IFM to improving forest governance

IFM sits at the heart of deliberative processes aimed at increasing transparency and accountability within the forest sector in several ways. While IFM implementation predates FLEGT-VPA processes, such as Cameroon; in the rest of the Congo basin, IFM has been strongly linked to the FLEGT-VPA process. All the VPAs contain commitments to transparency, in the form of an annex listing the information, which should be made public (Brack and Léger, 2013). IFM offers the opportunity for civil society and marginalised indigenous peoples and local communities to participate in forest, law enforcement, governance, and trade by generating evidence of non-compliance with forest sector rules by stakeholders. In Cameroon for instance, a network of local NGOs organised under the SNOIE brand partnered with Rainforest Foundation UK to implement a real time community monitoring system that enabled communities to identify and alert NGOs and authorities of perceived illegalities within their communities. As a result of the

use of quality management systems and certification practices (as part of SNOIE), as well as a deliberative approach, this reportedly led to increased joint missions with forest administration, fines, and sanctions imposed on private companies and government officials engaged in alleged illegalities. In DRC, the creation of a national network of external monitoring organisations increased participation, the level of information, and transparency in the forest sector through regular joint field missions with the forestry administration and organisation of communication outreach activities to inform the public and policy makers about forest illegality (CIDT, 2021a).

There is no doubt that increasing transparency and information about the forest sector does not necessarily result in increased compliance, environmental outcomes, or influence improvements to current policies. To achieve these additional benefits, IFM organisations have to go beyond dissemination of information to engaging with other external actors. For instance in Gabon, IFM provides the space for communities to voice their concerns regarding access to benefits from forest exploitation. Using IFM reports, the local NGO organisation, Brainforest, brought cases to court against forest exploitation companies and won. For the first time, companies were held accountable for their actions (CIDT, 2021b). The companies were ordered to pay everything owed to the communities from 2014 to 2018 – a total of USD 215,970. In the Republic of Congo, the independent member (IM) organisation CAGDF worked out the overall indebtedness of all forestry companies established on Congolese territory in 2018. It was revealed in the report that up to 13 million USD in taxes had not been collected, which is 50 per cent of what the state was supposed to collect. As for fines, 1.8 million USD has been paid to the state, a meagre 21 per cent of the amount owed. By drawing attention and calling for accountability, in the months that followed, the CAGDF team noted a considerable effort by government officials to improve the collection of monies owed (CIDT, 2021c). Similarly in CAR, for the first time, IFM organisations organised joint missions with the forest administration leading to historical cases of illegality revealed and companies sanctioned (CIDT, 2021d). These cases support the view by Gibson et al. (2005) that regardless of levels of social capital, formal organisation or forest dependence, regular monitoring and sanctioning could contribute to better forest outcomes.

Challenges faced by IFM

As shown in Figure 5.1, independent monitoring of forest activities by national civil society organisations is at very different stages of development in the Congo Basin. In Cameroon, official mandated IFM projects ended in 2013 and since then CS has struggled to monitor the sector, due to the limited number of actors and largely due to lack of resources. In the DRC, Observatoire de la Gouvernance Forestière (OGF) took on the role of mandated forest monitors from resource extraction monitoring (REM) in 2014, but its effectiveness has been limited by the government's failure to take recommendations seriously. In Gabon, two local NGOs, Brainforest and Conservation Justice have been at the forefront of IFM.

There remains a significant lack of appreciation and acceptance of IFM amongst decision-makers in the country. As in other countries, the IFM in CAR is characterised by significantly weak technical capacity and limited uptake of IFM findings by forest authorities. In all of the five Congo Basin countries, findings are not readily taken into account by the private sector, lawmakers, anti-corruption committees, and the justice system. Many donors and practitioners are concerned that NGO IFM network initiatives in the Congo Basin are producing disappointing results. To some authors, civil society has not been particularly effective in assuming their role (Mbzibain and Ongolo, 2019).

Vallee et al. (2022) reveal further government delays in the publication of mandated IFM reports, conflicts of interests within government agencies, which exacerbate political resistance and access to information. They further argue that the IFM's lack of visibility in the market limits its potential to influence market actors. While local IFM organisations continue to develop technical capacity, their organisational viability remains a concern due to lack of leadership, sustainable funding, credibility and limited adoption of modern technologies and quality management systems (Mbzibain and Ongolo, 2019). The levels of sanction and enforcement of recommendations from IFM across the Congo Basin remain extremely low and far between. As IFM organisations have more control over input/procedural contributions than output effectiveness; whereby, they must leverage other actors to achieve these additional gains, IFM organisations demonstrate limited capacity to manage fluid relationships with state and other IFM stakeholders for lack of advocacy and influencing strategies (Mbzibain and Nkuintchua, 2021).

Recently, Bollen (2020) identified a disconnect between local NGOs implementing IFM and wider civil society advocacy networks. The explosion of approaches and areas of intervention of IFM in the Congo Basin have further fragmented efforts leading to little coordination amongst civil society actors (EU, 2020). According to the Foreign Commonwealth & Development Office (FCDO), lack of coordination between international capacity building NGOs maybe a factor (FGMC, 2021) while some international non-governmental organisation (INGO) actors argue that too much focus has been placed on the technical aspects of IFM to the detriment of addressing the underlying reasons behind limited adoption[2]. They opine that local NGOs may not be the best adapted to carry out IFM, suggesting that they are best suited for local advocacy while IFM is better implemented by international organisations. Between these actors, there is little agreement of what constitutes effective IFM. McDermott and Sotirov (2018) have shown that legality verification mechanisms are more likely to be adopted/respected where there is stronger civil society.

Coercion, mimetic, and normative pressures affecting IFM

In the Congo Basin, IFM operates within dense institutional and regulatory pressures resulting from government commitments to sustainable forest management. Partly driven by donor conditionality under the "good governance" agenda, Congo basin countries also sought to align with the implementation of Rio 1992 conference principles, which had significant influence in the development of forest

policies in the Congo Basin. A key tenet of these forest policies includes the need for stronger participation from non-state actors (Government of Cameroon, 1993; Government of Congo, 2014; Government of the DRC, 2020) while decentralisation of forest management was seen as a determining tool to boost local communities and citizens' participation in forest. IFM was thus structured and promoted as a tool for participatory forest management and for forest governance improvement (Young, 2007; Hoare et al., 2020).

CB states have participated in several international mechanisms on climate, forest governance, and nature conservation since the 1990s when the Kyoto Protocol was adopted. This is the case of the FLEGT VPA between the EU and three CB countries between 2010 and 2011[3]. FLEGT VPA emerged from the global Forest Law Enforcement and Governance movement led by the World Bank (WB) in the early 2000s to which Asian, African, and European states joined in 2001 and 2003 (Andong and Ongolo, 2020). CB countries are also party to the United Nations Framework Convention on Climate Change (UNFCCC) and most have developed their Nationally Determined Contributions (NDC) and REDD+ strategies to stem deforestation and forest degradation. All these policy engagements promote the role of civil society to improve transparency as part of monitoring, verification, and reporting systems. However, because of perceived fatigue of international processes caused by bottlenecks and delays in delivering key results, the role of civil society is undermined by forestry administrations (Carodenuto and Ramcilovic-Suominen, 2014).

For instance, the VPAs recognised the role of IFM as a transparency and legality assurance system (TLAS) tool (Brack and Léger, 2013). As an example, the Annexes IX of the EU-Republic of Congo and of the EU-CAR FLEGT VPAs identify civil society led IFM as tool to strengthen legal compliance and CSO participation in forest management. In Cameroon's FLEGT VPA, IFM is recognised in Annex VI as an information source to the work of Independent Auditor of the LAS. In CAR and DRC, the FLEGT VPAs have either been in a state of stagnation or have stopped completely. In other countries, years of investments have not delivered any operational TLAS or licensing system. In the absence of these systems, there is limited uptake of IFM findings by forest authorities and the private sector, and the very role of civil society in monitoring is still contested. Other VPA implementation agencies such as the joint implementation (JICS) and monitoring committees have largely been ceremonial without any enforcement powers. Though all JICs have the responsibility of considering complaints from VPA actors, the performance of these mechanisms remains to be seen (Satyal, 2018).

In addition, without an effective licensing or TLAS systems, IFM cannot contribute effectively to national law enforcement, thus limiting its potential. What emerges is the fact that local governments appear to be willing to allow local IFM organisations to operate because of IFM's historical focus on government mechanisms or procedures and the need to demonstrate to external actors that they are open to third-party monitoring (Cashore and Stone, 2014). Where IFM reports have been critical of government action and exposed government illegality and hence challenged sovereignty positions, governments in the Congo Basin have

tended to engage on rivalrous relationships with these organisations (Mbzibain and Nkuintchua, 2021). NGOs are accused of being instrumentalised by external activist organisations and donors (Brown and Tucker, 2006). This is not surprising according to Brown and Tucker (2006) who argue that even if NGOs try to prove their independence, this is likely to be disregarded in contexts where decision-making is highly politicised or commercial pressures present an overwhelming constraint (Brown and Tucker, 2006). In the Congo Basin it is clear that monitoring operations have "teeth" only because of global/external policy engagements otherwise, they are extremely politically vulnerable (Brown, 2006).

McDermott and Sotirov (2018) and Cashore and Stone (2014) suggest that adoption/respect of legality verification is most likely where there are market incentives and interdependencies between market economies. The lack of market premium for legality compliance is reported to have a negative effect on the development of legality systems such as FLEGT licences and forest certification. The ineffectiveness of the EU Timber Regulation (EUTR) as a key tool in the fight against the sale of illegal timber has also led timber importing companies in Europe to operate illegally with total impunity (ATIBT, 2020a). The recent effort by the government of Cameroon to mandate the use of legal timber in public procurement (FAO, 2021) could provide an economic incentive for legality. Ministries of Forestry and Fauna (MINFOF), Public Works (MINTP) and Public Procurement (MINAMP) recently issued a joint decree[4] making the purchase of legal timber mandatory in public procurement. All timber used in public works and supplies must now conform to a set of legal criteria and carry a certificate of legality and origin. IFM organisations could play a stronger role in identifying gaps and weaknesses in procurement processes and hence utilise the mandate to push for better respect of national legislation. The failure both to develop functional TLAS and effective EUTR enforcement is compounded by many other issues including the existence of weak judiciary, undemocratic governance, and corruption in timber producer countries (Mbzibain and Ongolo, 2019; Woolfrey, 2021) and lack of knowledge and enforcement capacity in EU member states (ATIBT, 2020a).

In Ghana and Indonesia, research identifies that the level of democratic governance and application of decentralised forest management is positively related to compliance with legality verification systems and their adoption (Lund et al., 2012). In the Congo Basin context, decentralisation is mainly shaped through the transfer of forest resources and benefits management to municipalities and local communities. As a result of these decentralisation principles CSOs, dependent communities and citizens are able to assert their right to monitor the legal compliance of forest decisions and activities, as well as to stop or denounce any attempt to obstruct their access to local development opportunities embedded in the decentralisation mechanisms. Researchers have argued that decentralisation of forest sector management has not succeeded because forest administrations have used it to reposition themselves and maintain control over forest resources (Ribot et al., 2006). This situation creates grey areas in terms of responsibility for forest control and law enforcement. For instance, IFM reports submitted to local forestry administrations are hardly acted upon. Evidence from Cameroon actually suggests that local forestry administrations may be using IFM reports to extort

payments from companies as opposed to sanctioning them for alleged illegalities (Mbzibain and Ongolo, 2019). According to recent evidence from Cameroon, officials collect over € 6 million in informal taxes each year with no intention to promote transparency, equity or accountability (Cerutti et al., 2013; Ongolo and Karsenty, 2015). The stranglehold of the ministries of forests in this direction means that there is no interest to include traditional law enforcement agencies such as the police and judiciary. This situation perpetuates a vicious cycle of corruption and creates unintended effects from the viewpoint of IM organisations. In order to address these issues, IFM organisations have begun to engage with the judiciary with some success in Gabon and Cameroon. However, as Fritz et al. (2009) argue, countries with weak judiciaries will be unable to apply anti-corruption measures.

In addition to the coercive and regulatory pressures, IFM organisations operate in national contexts where mimetic pressures are arguably absent. Mimetic pressures influence organisational/individual behaviour through the need to imitate best practices or benchmark best performing actors (Majid et al., 2020). While timber associations such as the AITBT – a trade association representing the private tropical sector – appreciate the contribution of IFM to sustainable forest management, only a few companies are willing to state in public the benefits of IFM action to their organisation. For instance, a local company representative in CAR stated that the increased presence of IFM organisations in the field had pushed them to modify their practices, strengthening the implementation of social obligations and corporate social responsibility engagements[5]. With very few of these case studies shared among companies, it is unlikely that this behaviour will be imitated by other similar companies without regulatory enforcement. At the level of IFM organisations, mimetic pressures have led to significant improvements in the technical development and professionalisation of IFM in the region. With donor funding, a national civil society organisation (FODER Cameroon) introduced quality management systems and certification in the practice of IFM in the Congo Basin (Mbzibain and Nkuintchua, 2021). This is now being replicated throughout the Congo Basin including in the Republic of Congo and DRC. Civil society organisations and technical partners such as the Field Legality Advisory Group, FODER, and the Centre for International Development and Training of the University of Wolverhampton have started to develop standards and benchmarks for effective IFM. It is expected that as IFM organisations adopt these practices and increase their impact on the field, this could subsequently lead to better organisational outcomes in terms of recognition, funding, and acceptance but also their contribution to environmental outcomes.

In terms of normative pressures, trade associations and syndicates have a role to play in promoting good forest governance and possibly making IFM more effective. National timber trade associations in Cameroon (GFBC, 2021), the forest-timber interprofessional (GBFC, 2020); Union Des Forestiers Et Industriels Du Bois Du Gabon and the federation of timber processing companies (FIB) in DRC all have commitments to fight forest illegality in their countries, and to strengthen the ability of their members to act legally while representing their interests (ATIBT, 2022a, b). However, there is little evidence that they can sanction their

members when they are accused of illegalities. For instance, in DRC, FIB was keen to reject the report of Global Witness (Business & Human Rights Resource Centre, 2019a) on IFCO and COTREFOR (Business & Human Rights Resource Centre, 2019b), which claimed that these companies were selling illegal timber to the EU and Asian markets. In support, government officials argued that these companies were acting in all legality (Business & Human Rights Resource Centre, 2019c). The claims by the government official are that the directorate in charge of control and internal verification that regularly monitors forestry activities in DRC are not supported by mandated and non-mandated forest monitoring reports (CIDT, 2021a). This is not surprising in this context where political and economic interests are strongly intertwined (Majambu et al., 2021). The assumption here is that if national trade associations can rein in their members and strengthen their ability to respect the law, then they would be more accepting of IFM recommendations and will act on these to improve their practices. IFM organisations could tap into recent efforts by the GBFC in Cameroon, to strengthen the forest-timber interprofession while facilitating the ability of small and medium-sized enterprises to access legal timber through stronger partnership links with industrial timber companies. With funding support from the Food and Agriculture Organisation of the United Nations (FAO) – FAO-EU FLEGT programme – GBFC has been able to facilitate agreements with the Cameroonian Federation of Associations and Professionals in Secondary Wood Processing (Fecaprobois) and the Cooperative of Professionals in Secondary Wood Processing (Coop-CA Extraboicam). As more private sector actors understand their role and act to reduce forest illegality, it could create a stronger normative environment for citizens and consumers to demand legal timber for their products.

Normative pressures also emerge from the relationship between timber producers and their customers and clients. It is therefore expected that where the consumers are better informed about environmental impacts of timber-producing companies and their activities on the environment and indigenous communities, they would vote with their money through rejection of illegal products. While there is increasing evidence of the impact of increased environmental knowledge and awareness of consumers' behaviour in the West, there is scant evidence of this in the Congo Basin, where timber purchasing decisions are made mainly on price rather than on the environmental credentials of suppliers. In part, this is due to the weak purchasing power of households in the Congo Basin, but also to the fact that illegal products are more likely to be more affordable on the local market than legally sourced and processed products. As initiatives such as public procurement policies and those promoted by GBFC, Fecaprobois and Coop-CA EXTRABOICAM take root, more consumer demand pressures could help enhance the role of IFM if IM organisations are able to communicate their results to consumers, but IM organisations have so far ignored the domestic consumers in their actions. Actions to engage with competent authorities and western consumer markets have been scant (Nyirenda and Mbzibain, 2020).

Overall, this section shows that IFM organisations operate in a context of weak and fragmented regulatory, normative, and cognitive institutional environment, which

has limited its ability to achieve its full potential in terms of input and output legitimacy.

IFM and actors' interests in the Congo Basin

IFM in the Congo Basin countries has involved governmental agencies, forest companies, civil society organisations, local communities, technical and financial partners. Three attributes (power, legitimacy, and urgency) proposed by Mitchell et al. (1997) provide the basis to investigate who the actors of IFM in Cameroon are and thus understand their power relations in the policy arena. The IFM arena is a dynamic structure within which actors may shift from a category of stakeholder to another depending on structural or conjunctural circumstances (Kengoum, 2022). Table 5.1 and Table 5.2 highlight the roles and interests of stakeholders in

Table 5.1 Mapping of self-defined roles and interests in IFM by civil society actors of the IFM governance network

Category of actor	*Self-defined role*	*Interests and actions*
National NGOs	Watchdog, citizen control Advocacy for community rights Representation of forest-dependent communities Technical assistance to communities	Monitoring forest law enforcement and compliance of actors with national legislation, environment, and social norms
Transparency international	Advocacy	Organisation of verification missions and engagement with law enforcement agencies nationally and internationally
Communities	Informants Rights defenders	Improved benefits from forests Protection of livelihoods Preservation of resources
Media	Communication of IFM findings and studies	Increased transparency in forests
IFM coordination	Network management Facilitate network meetings Coordination with external actors	Rule setting, internal audits, and commissioning of external audits Effectiveness and efficiency of IFM function Visibility of IFM functions and network
Technical and financial partners	Technical and financial assistance	Objective, credible, and relevant information Credibility of national actors Improved forest governance including strengthened participation, transparency Viability of network functions

Source: Mbzibain and Ongolo (2019)

Table 5.2 Mapping of roles and interests of national and decentralised state authorities regarding IFM in Cameroon

Category of actor and thematic focus	*Role*	*Interests in IFM goals*
MINFOF – Forestry	Sovereign role – legal/forest owner Forest control and enforcement Coordination and facilitation of national level governance processes Traceability systems Attribution of rights Tax distribution and investments	Increased credibility of forest control function Increased transparency in the forest sector Increased incomes from forests Reduced forest illegality and related trade
MINADER – Agriculture and Rural Development	Formal administration in charge of agricultural development including granting of forest areas for agribusiness	Monitoring of allocated permits for agricultural development
MINJUSTICE – Justice and Law Enforcement	Application of national legal and penal code	Access to information about forest sector
MINAS – Social Affaires	Enforcement of social obligations of companies and community rights	Access to credible information in area of interest and enforcement of failures
MINEPDED – Environment	Environmental protection and conservation	Access to credible information in area of interest and enforcement of failures
MINTSS – Social Security	Workers' rights and working conditions in forest companies	Access to credible information in area of interest and enforcement of failures
CONSUPE – Fighting Forest Crime	Forest-related financial crimes	Access to credible financial information on illegal forest exploitation activities.
National Human Rights Commission (NHRC) – human rights	Human rights of whistle-blowers, CSOs, and forest local communities	Access credible information in relation to IFM stakeholders' rights violation.
Parliamentary Inquiry Commissions – accountability	Investigate administration and private corporate activities	Access all information they need in the area of interest of the ongoing investigation
Local councils and territorial administration – forestry and land use planning	Decentralised forest control Management of special forest development funds Local oversight of forest rights holders	Increased revenues from forests Local development
Independent auditor of the VPA – forest governance	Audit of the VPA system	Source of information and third-party verification Objective, credible and relevant information
CONAC – national anti-corruption agency – corruption	Fight against corruption	Access to credible information

Source: adapted from Mbzibain and Ongolo (2019) and Kengoum and Wete (2022)

Cameroon. Table 5.1 identifies the roles and interests of civil society actors involved in IFM.

Table 5.2 focuses on the roles and interests of state (national and local level) authorities regarding independent forest monitoring in Cameroon. State agencies generally act as "*dormant stakeholders*" as far as IFM is concerned given their statutory and sovereign role. They possess the power to impose but they don't have the legitimate relationship or an urgent claim regarding the IFM. However, when needed, they can move into "*dominant stakeholders*" by raising the law to justify their legitimacy to act when they feel their interests are threatened. A state agency can use the law resources to protect its constituencies as observed in Cameroon where in a communique signed on 7 June 2015, the forestry administration formalised their collaboration with CSO organisations upon the signature of an MoU based on the submission of a set of documents, including a Letter of Intent. In DRC, Congo, and CAR where local IFM organisations are authorised by governments, they can only implement field missions with the authorisation from government. The same applies in the publication of IFM reports (Nyirenda and Mbzibain, 2020). In DRC for instance in 2018, the local NGO OGF could not carry out field missions for over eight months because of a disagreement with government on the lifting of a moratorium on forest concessions in the country. In CAR and Congo, governments hold on to reports for long periods of time, to the extent that the recommendations become redundant when the reports are ultimately published.

The primary objective of domestic and industrial timber producing companies in the Congo Basin is to maximise their profits and dividends to their shareholders. Private forest companies rely on administrative authorities to access rights to forests. Cerrutti and Tacconi (2006) report these are often through discretionary practices. Companies pay bribes to local authorities to appear powerful in front of local communities when it comes to avoiding complying with their external social obligations (Kengoum and Wete Soh, 2022). In some cases, they become "dangerous stakeholders", by using violence against local communities when it comes to important stakes. Timber producing companies' associations are key actors at all levels, representing and defending their interests on a national and regional level.

Most of the time, local communities whose livelihoods are threatened by poor governance are in the position of "dependent stakeholders" since they lack power but have urgent and legitimate claims they must rely on other actors to satisfy. This is most visible when it comes to claiming their rights to access resources or finances from the exploitation of forests in their area such as forests royalties. In some other cases, they are rather "*demanding stakeholders*". As such they have urgent claims, but have neither legitimacy nor power to act. This happened in the case of riparian communities of the SOCAPALM in Cameroon. Their lands granted to the agro industry could not be claimed even though they were in an emergency situation of needing more land for their population that almost doubled after the two decades presence of SOCAPALM (Tene, 2022). Local communities also show that they are capable of bringing shifts into the paradigm, and adapt to new circumstances such as the use of technologies for IFM, and organise themselves into a

coherent network such as the SYNAPARCAM to challenge an important private sector company such as SOCAPALM. Moreover, with the support of CSOs, local communities have developed strategies to negotiate the realisation of their commitments by forest companies, by using non jurisdictional procedures. More specifically they implement community advocacy, relying on several categories of actors to achieve their objective (Beloune and Kengoum, 2022).

Civil society organisations involved in IFM in Congo Basin countries seem to fall into the category of "*discretionary stakeholders*" as they have the attribute of legitimacy, but lack power to directly influence the control of natural resources management, and cannot claim urgency since they are not directly the ones impacted by issues of IFM. In most cases they are not in a position of power nor in that of emergency. However, they benefit the legitimacy in front of States agencies, local communities, and the private companies since they are recognised by all other actors as representing certain interests. In Cameroon, the provisions of the article 11 of the 1996 environmental law are similar with those of article 134 of the DRC 2002 forest code, providing the legal framework for local communities and civil society actors to protect and defend their rights to forests and environmental resources. In all Congo Basin countries, IFM has always been implemented by CSOs organised into networks with facilitators such as FODER and FLAG in Cameroon, the RENOI-RDC in the DRC, Brainforest in Gabon, CIEDD in Central African Republic. The CSOs have shown innovation by developing new approaches to independent monitoring such as the SNOIE (Mbzibain and Ongolo, 2019), that involves actors from different categories to implement forest monitoring activities in support of the states' efforts.

Several international organisations provide their technical and financial support to national organisations involved in the IFM. Over the past decade, the most important actors in the governance of IFM in the Congo Basin countries have been the Centre for International Development and Training of the University of Wolverhampton, World Resources Institute, Rainforest Foundation UK, and Environmental Investigation Agency with the majority of funding from the FAO, EU, and FCDO. Without the technical and financial support from these actors, IFM in the Congo Basin could arguably be non-extant. For this reason, IFM remains a potentially weak forest governance mechanism given its dependence on external support. This obviously provides disapproving actors in the region with the opportunity to challenge and question the autonomy and mandate of IFM.

Relationships between actors

The types and manifestations of the relationships and interactions identified here are broadly in line with literature on relationships between local NGOs, state agencies, communities, INGOs, and donors[6].

Only recently have forest governance scholars begun to investigate the role of relationships in the implementation of IFM in the Congo Basin. Applying a governance analytical framework, Mbzibain and Ongolo (2019) characterised relationships in terms of cooperation, complementarity, rivalry, and substitution between IFM NGOs and the state in Cameroon. Mbzibain and Nkuinchua

(2021) examined the dynamics of NGO-state relationships in monitoring forest and wildlife in the Congo Basin, finding that the most recurrent relationships between IFM organisations and the state were complementary and competitive. Both actors utilised instrumentalisation strategies to influence or dominate the other based on their perceived power positions. Finally, cooperation was the least reported relationship between NGOs and the state. Complementary relationships are identified when NGOs and state share resources and tools in the fight against forest illegality. In the Congo Basin, this manifests itself through the issuing of IFM mandates to local NGOs and organisation of joint verification missions on the ground. In CAR, local NGOs fund training and joint control missions and by so doing, helping to re-establish the power of the state and presence on the ground. Regrettably, because of weak coercive pressures and strong power and financial interests of state and harmonious relationships with some illegal private sector actors, rivalrous and competitive relationships emerge. These play out through ignoring IFM reports, weak sanctions, and application of blame-avoidance tactics to undermine the legitimacy, independence, and mandate of IFM organisations. In these scenarios, both actors engage in co-optation/instrumentalisation games to influence each other. In DRC, this includes refusal to issue mission orders and the requirement to have MoUs in Cameroon in order to have more control. NGOs for their part leverage advocacy, activist international NGOs, and media outreach to draw attention and put pressure on the state. The very limited existence of cooperation relationships identified in the Republic of Congo and CAR for instance, reveal a situation of closeness with state and perceived lack of interest from IFM organisations to anger government or challenge sovereign position. Recent disagreements between MINFOF in Cameroon and the EU/GIZ over progress made with Cameroon's TLAS suggests a disconnect in priorities, interests, and motivations. These are issues identified by Carodenuto and Ramcilovic-Suominen (2014) as barriers to the implementation of the VPA in Cameroon. In fact, Cook et al. (2019) find that donor support to NGOs could rather reduce the responsiveness of local government.

The relationship between IFM organisations and the private sector remains elusive in the Congo Basin. IFM organisations have done little to engage with the private sector to create any winning relationships. As Mbzibain and Ongolo reveal, in Cameroon, private sector actors see IFM organisations as an additional burden they have to deal with. Consequently, they never provide access to concessions or forest exploitation and marketing information that could allow INGOs to assess their compliance with the rules in force. IM organisations increasingly rely on whistle-blowers, investigative tactics and modern technologies, such as drones and remote sensing to undertake their monitoring function. Information sharing between IM organisations and international capacity building and advocacy agencies such as Greenpeace and Global Witness have helped to name and shame, and shed light on the activities of companies involved in illegal activities in the Congo Basin (Business & Human Rights Resource Centre, 2019b). Considering the interactions between and among organisations, their networks and communities, international NGOs and donors, complex relationships are identified.

Table 5.3 An overview of actors' relationships and associated approaches in monitoring forest governance processes in the Congo Basin

Actor	*Dominant relationship*	*Approaches*
Other IM organisations	Cooperation; complementarity, rivalry	• Creation of IFM networks and coordination in SNOIE Congo and Cameroon and RENOI DRC • Joint organisation of field missions • Joint funding bids • Expertise sharing and south-south collaboration • Competition between larger more established urban-based and rural-based NGOs for funding, recognition, and positioning • Duplication of efforts – development of parallel online platforms and applications
Local communities	Complementarity, downward accountability, representation	• Awareness-raising activities of IM organisations • Set up of community alert schemes such as Forest Link • Legal support to communities to take companies to court
Civil society networks	Complementarity	• Submission of IFM reports and analysis for advocacy • Funding of RENOI and PAOI networks and field missions by individual IM organisations
INGOs	Complementarity; rivalry, upward accountability, dependence	• Joint implementation of field activities, project consortia and expertise sharing within SNOIE Congo and Cameroon • Competition for funding and positioning with donors • Agenda setting • Reporting • Dependence on funding from INGOs – sub-grantees/implementing partners • Limited cooperation and coordination of support to local IM organisations • Access to technology and transparency platforms
Donors	Dependence, upward accountability, loyalty	• Dependence on intermittent funding • Implementing partners • Donors question the effectiveness of IFM organisations • Reporting

5.4. Conclusion

In this chapter we reviewed the role of IFM using an input and output legitimacy lens and revealed that while IFM could be praised for strong contribution to various forest policy processes – such as promoting participation, voice, transparency

and representation – its contribution to output dimensions such as accountability, compliance and institutional effectiveness were more limited. We argued that this was the result of weak, coercive, mimetic, and normative institutional environments in the Congo Basin and the political economy games of actors, interests, and motivations and interactions. With this analysis, IM organisations can reassess their position in the Congo Basin's policy soup, form alliances and relationships with private sector associations and networks, improve communication with citizens, clients, and consumer markets, and exert normative pressure on actors. They should strengthen their relationship management capacities, quality management systems certification, financial autonomy while leveraging the opportunities provided by local civil society networks, technical and advocacy INGOs to achieve impact and boomerang effects from their functions. By leveraging non-traditional forest law enforcement agencies such as the judiciary, and by advocating for enhanced institutional arrangement to address the issue of important power asymmetry between CSOs, state agencies and private companies, the initial gains in accountability and compliance effectiveness reported in Cameroon, CAR, and Gabon could be further strengthened and scaled up regionally.

More than 20 years after its introduction in the Congo Basin countries, independent forest monitoring remains a work in progress as a tool of environmental democracy necessary and the rule of law. Actors outside the administration as well as stakeholders in forest management, IFM organisations have a certain sphere of power and influence from the *res communis* of the management of forest lands and resources (Wete and Bintsoe, 2022). Set up to bring a technical support to strengthen the state role in ensuring legal compliance in forest activity, IFM in the CB gradually emancipated from its initial role to become a citizens' tool to control and influence forest public action (Kengoum and Wete, 2022; Mbzibain and Nkuintchua, 2021) in line with Magdalijns' classification of control of the administration action (Magdalijns, 2004). The citizen's control of public action finds its basis both in the Montesquieu separation of powers principle (Montesquieu, 1748), whose objective is to limit arbitrariness and abuses, and in the right to participate in environmental issues stipulated by international agreements on environment and the protection of human rights.

Notes

1 In policy making a wicked problem is a problem that is difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognise.
2 Personal communication with international activist NGO staff.
3 EU signed a FLEGT VPA with Cameroon, Republic of Congo, and Central Africa Republic respectively on October 6, 2010, May 17, 2010, and November 28, 2011.
4 https://pfbc-cbfp.org/files/docs/news/12-decembre/Arr%C3%AAt%C3%A9%20conjoint%20162%20151220%20Clause%20bois%20l%C3%A9gal%281%29.pdf
5 Meeting notes with authors and members of the Joint VPA implementation committee in Bangui, CAR (2019) to discuss the impact and contribution of IFM to forest governance processes in the country.

6 Igoe, J. (2003) Scaling up civil society: Donor money, NGOs and the pastoralist land rights movement in Tanzania, Development and Change, 34(5), 863–885.

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6 "Arab Spring" Transformations and the Contestation of State Authority in Forestland Use

A Power-Based Case Study in Tunisia

Ameni Hasnaoui, Symphorien Ongolo, Foued Hasnaoui, Kamel Aloui, Fida Mouelhi and Max Krott

6.1 Introduction

State forest ownership and government-led forest management have been introduced in several colonies since the 16th and 17th centuries. New postcolonial governments, especially in Africa, America and Southeast Asia, deprived native peoples of their rights and granted authority to public agencies over almost all natural forests (White and Martin 2002). Globally, forest ownership is still dominated by the state, and the proportion of private and other types of ownership is around 10 per cent and 4 per cent, respectively (FAO 2020; Agrawal et al. 2008). In Tunisia, almost all forests are owned and managed by the state (Chriha and Sghari 2013; Aini and Bedhief 2010). The current state of land property heritage in Tunisia results from a social and historical process that can be traced back to the 16th century. The local communities were autonomous and powerful until the early stages of the Ottoman empire invasion and occupation (Henia 1996). Following this invasion, the Ottoman regime aimed to bring more land under the central authority of the empire, which progressively took the form of a 'state domain'.

With the arrival of French colonisation in 1881, multiple land property regimes overlapped in Tunisia, including 'indigenous' customary right, the Arabic and Ottoman land tenure regimes. Colonial authorities used this variety of regimes to allocate the best lands (arable areas) under traditional legal status to the French settlers. After independence in 1956, the Tunisian postcolonial state started a process of bringing back the colonial expropriated lands to the new independent state property domain. This process was followed by a total nationalisation of expropriated lands in 1964. Later, this process of nationalisation was extended to the Tunisian lands that had traditional legal status in the pre-colonial era. This allowed the postcolonial state to accumulate an important patrimony of arable lands that was approximately 800,000 ha, (Elloumi 2013; Mares and Lahmayer 2019). Between 1979 and 1982, part of state-owned arable land was transferred back to private owners. Gharbi (1998) states that, of 4.8 M ha of arable land, only

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500,000 ha is state-owned, which represents nearly 10 per cent. These lands remain underused despite being the most productive (where the French settlers were installed) (Gharbi 1998).

Before 2011, the state-owned agricultural lands were often rented in the long term by private users who were close to the old regime (Elloumi 2013). Forests covering 1.2 million ha were almost entirely controlled by the forest administration. The Tunisian forest code (2011) grants users rights to nearly 730,000 forest inhabitants living inside, or within a five-kilometre radius of, the forests. However, the law does not allow forest people to make any commercial or industrial use of forest products (Tounsi and Ben Mimoun 2012). Following social protests against the oppressive regime in Tunisia, which started late in 2010, the revolution occurred in January 2011, marking the start of a series of protests in the Arab world called "the Arab Spring". Since this revolution in 2011, the regulation capacity over the access to forests and agricultural lands for specific land uses in Tunisia has dropped dramatically, while forest people have gained more power. The main observations after the revolution showed that the lands, either agricultural land or forests, that were under extensive state control are considerably affected by illegal logging and fencing of forestlands. This shows that these people are struggling in order to gain back their power and control over the access to lands, as it was many centuries ago. The legal frameworks that have been developed since the 16th century to support the state's power over the access and use of forestland resources have not stopped the increasing grassroots efforts to reclaim the access and property rights of local communities (Elloumi 2013). The notion of forestland is defined as "a continuum from land sparsely covered by trees to a dense forest ecosystem with anthropogenic pressure aimed at converting or using the land for: agriculture, hunting, infrastructure, ecotourism, natural resource extraction, carbon storage, biodiversity conservation and forest restauration" (Ongolo et al. 2021).

By means of a case study from the northwest of Tunisia, this chapter aims to: (i) scrutinise the power relations between two main categories of actors: state bureaucracies in charge of forestland policy in Tunisia and non-state entities (forest people and private users); (ii) identify potential power shifts over two decades of forestland governance that may have been affected by the 2011 revolution; (iii) understand the root causes of these shifts and the related policy changes. The case study area is characterised by the existence of different overlapping land uses (e.g., forest stands, agriculture, grazing lands) resulting in competing interests regarding the use of available resources. By considering this overlap, we use the concept 'forestland' in this study to address all these different categories of lands.

From a conceptual angle, the actor-centred power theory (Krott et al. 2014) was used as a core theoretical framework for this research.

6.2 Conceptual and theoretical framework

The notion of 'land use' refers to "the arrangements, activities and inputs by people to produce, change or maintain a certain land cover type" indicating the influence of the actions of people in their environment on the dynamics of land

cover (Di Gregorio and Jansen 1998). Kayden (2000) considers that land use planning is made by state officials who should comprehensively analyse and make recommendations for a sustainable future use of specific land areas. Public regulation of land use includes four main aspects: the "type, density, effect and the aesthetic impact of use" (Salsich Jr. and Tryniecki 2015). The state derives its regulatory authority from the police power. The power employed by the state to regulate land use encounters resistance by other actors who want to have access to these lands and who make use of different power elements to achieve this. Having access to natural resources, whether legally or illegally, is an essential need for the livelihood of many forest-dependent people, especially in developing countries (Sunderlin et al. 2005). In other words, there are different forms of access to resources and not all of them are legally authorised by a "politico-legal institution" (Sikor and Lund 2009). The notion of 'access', with regard to natural resources governance, was briefly defined by Ribot and Peluso (2003) as "the ability to derive benefits from a thing". Access to resources is seen as consisting of specific bundles of power within webs of power that allow different actors to "gain, control and maintain" this access (Ribot and Peluso 2003). Furthermore, the attempts to gain, control and maintain access are seen to be struggles within social relations, and this allows one to consider "the bundle of powers as relational" (Peluso and Ribot 2020). In the theory of access, those who control and those who attempt to gain and maintain access have different types of relations. These relations can comprise "competition conflict and negotiation" (Peluso and Ribot 2020). According to these authors, controlling access is mediation of the access of others but also their exclusion. Gaining and maintaining access is only possible when there exist relations with those who control.

At least since the works by Max Weber, the concept of power has been extensively scrutinised in academic literature. Despite the proliferation of works related to this concept, there is no consensual definition of power. A constellation of proposals and interpretations regarding the concept of power exist in the literature, depending on social context and disciplines. These definitions include those from a political science perspective (Dahl 1957; Allison and Zelikow 1971; Wight 2002; Scott 2010), political philosophy (Foucault 1991) and sociology (Crozier and Friedberg 1980). On the one hand, some definitions of power consider it as a 'possession', which cannot be shared, and which should have a specific function and place. This perception of power was supported in particular by the development of the theories of sovereignty and legitimate authority (Holeindre 2014). On the other hand, power is seen as being a 'social relation' between actors (Revault d'Allonnes 2014). Foucault perceives power as a relation or practice in which the behaviour of an actor can be changed by another actor without any apparent coercion (Foucault 1991). Weber considers that power is not limited to the capacity but to the execution of this capacity. He defines power as the option of imposing one's will within a social relation despite resistance and regardless of the means on which this option relies. In the same vein, the state, according to Weber, has the exclusive legitimacy to use coercion and force in order to enforce the law while imposing a 'general interest' over self-interest (Weber 1978[1922]).

From a more empirical angle and based on their works in forest policy domain, Krott et al. (2014) developed further the definition of power and its fundamental elements in the frame of an 'actor-centred power' approach (ACP). According to the authors, power can be empirically defined as "a social relationship in which actor A alters the behaviour of actor B without recognising B's will". In such a relationship, the relation between A and B can be summarised as follows: Actor A acts as a 'potentate' (the actor who is altering the behaviour of the other actor) who forces actor B to react as a 'subordinate'. Many power theories consider that behaviour and outcomes are both part of the essence of power. ACP considers that achieving a certain outcome in a power relationship does not only depend on the behaviour of actors but also depends on other technical and natural factors. The outcome is the objective of the actor for which he/she will struggle to enforce his position within a certain social relationship by forcing the other actor (s) to change their activities. The effective achievement of these objectives is influenced additionally by ecological, economic, and social factors. It might even happen that if the potentate has a wrong understanding of ecological factors, he/she may force a behaviour that causes an outcome opposite to what he/she expected. Power is seen as an important social factor but not the only factor shaping outcomes. The three fundamental power elements defined by the ACP are: coercion, (dis)incentives, and dominant information.

(a) Coercion

Coercion's aim is "altering the behaviour of a subordinate by force". The force can be linked to physical actions that are declared or anticipated. For example, this might be prohibiting the physical access to forestland resources above ground (wood, wildlife, arable land) and below ground (mining, oil) and fencing a certain area, or restricting its access through the deployment of armed forest rangers. In this case, the subordinate can try to resist by crossing/destroying the fencing or accessing the forestland in the absence of the forest rangers. Resistance to the potentate's coercion can also include the use of violence (e.g., armed rebellion, wildlife poaching, and illegal logging). In a way similar to real force, the threat of force is also considered a form of power in this kind of social relationship. These threats are often used by the forest administration to force people to comply with laws in case of disobedience and are, in most cases, enough to implement a certain political process. The subordinate's belief regarding the potentate's source of power determines the extent of the threat's effect. This belief builds on the degree of visibility of the potentate's sources of force. To threaten, the potentate can make use of the subordinate's belief even if the actual power resources are weaker in practice than are perceived. Furthermore, some of the threats are observable within public or closed discourses in the political processes. As an example, forest law contains different sanctions that comprise physical force, such as incarceration. The state has the power of sanctions, which includes physical force. Forest administrations can threaten with these sanctions to influence the behaviour of subordinates.

(b) Incentives and disincentives

The use of (dis)incentives aims at "altering the behaviour of the subordinate by means of disadvantages or advantages". An example of disadvantages are the penalties employed by state bureaucracies of forest police vis-à-vis illegal logging operators, or facilities offered to certified wood in government procurement and public markets. The potentate in this case does not follow the will of the subordinate. Instead, the latter is strongly encouraged to change his/her behaviour and comply with the rules of the potentates in order to avoid penalties or to benefit from specific advantages. Using disadvantages to alter the behaviour of the subordinate is closely linked to the coercion of the potentate in order to force the subordinate to consider the risk of losing a benefit by not changing his/her behaviour to meet the potentate's interest. Being forced to pay a penalty is coercion, whereas the amount of the penalty is a disincentive.

There are material and immaterial (dis)incentives. Material incentives can be implemented by providing money, equipment (e.g., machines, tools), or vital resources (e.g., food, water). Immaterial incentives can be implemented by offering social and psychological advantages, such as those based on moral demands, education, or healthcare. The same sources can also be used as disincentives such as cutting some subsidies or acknowledging that certain actions are disturbing the social conventions.

(c) Dominant information

Krott et al. (2014) defined dominant information use as a situation in which a powerful actor such as the potentate aims at "altering the behaviour of subordinate by means of unverified information". ACP differentiates between 'shared information', which considers the availability of a certain level of the information for the other actor and 'dominant information', which limits the capacity of the subordinate to verify it. In the latter case the potentate provides information omitting some of the facts. Based on this partial information the subordinate makes wrong decisions and behaves in a manner not in accordance with his will. The inability to verify the provided information in such a situation can be (i) unavoidable if the subordinate is obliged to accept the information as is, simply due to a lack of means of verification. For example, forest-dependent people are rarely able to check the reliability and exhaustiveness of the information provided by forest industries regarding forest management as the basis for benefit-sharing of forest revenues. It can also be (ii) voluntary when the subordinate trusts the 'good will' of the potentate and the ideologies that he represents.

Based on the theoretical framework described above, we developed three hypotheses:

H1: The major political crises, such as the revolution of 2011, can significantly change the power relations between state and non-state entities involved in the governance of specific land uses.

H2: In a post-revolutionary context, the use of coercion by state bureaucracies in regulating forestland use cannot be efficient without combining coercive measures with other core elements of power, such as incentives and dominant information.

H3: A loss of power using dominant information by state bureaucracies in a post-crisis situation does not necessarily lead to a better sharing of that information among non-state actors involved in the governance of forestlands.

6.3 Methodological approach: analysing power processes in practice

Presentation of the study area

The selected study area is located in the northwest of Tunisia, Governorate of Jendouba in the city of Tabarka. It covers a total area of 12,437 ha[1], which includes three forest series within the forest of Mekna (Mekna I, Mekna II, and Mekna III). Forest series are the units dividing the forest of Mekna and are allocated to different local forest administrations for easier management. Every forest series has its own management plan, and is made of several parcels. Currently, these forest series have no valid management plans. The most recent plans were made in 1983 and covered the period from 1984 to 2007. However, these management plans are the only official source from which we can get information related to forest ownership, forest area, and species.

All the area selected is under a forest regime which is defined in the forest law as being a set of specific regulations applicable to the forests, the lands suitable for forestry, national parks, and natural reserves etc., to ensure the protection, conservation, and sustainable use of the resources, as well as to grant the legal users' rights.

Justification of the choice of the study area

The study area has several specificities that allow the observation of different dynamics in terms of forestland access and use. In the following paragraphs we present the main motivation for the selection of the three forest series in Mekna.

Forest ownership: Except for a negligible area that is mentioned in the management plans as being privately owned land, the area studied falls under the most common forestland ownership category in Tunisia: state ownership. The law defined different legal categories of state ownership, all of which are represented in the case study area. The main two categories of state ownership are: (i) State forest domain, which includes forestlands that are registered (with titles) or those which are just claimed to be state-owned (requisition), in addition to lands dedicated to reforestation activities; (ii) State private domain, which includes lands that are managed based on the law of state agricultural property management. When they are under the forest regime, the forest service intervenes only to control, but not to manage (Table 6.A and 6.B – Annex 6.2). Choosing a study area that is almost entirely state-owned allows one to better analyse the state's power to regulate different types of land use, as well as any possible resistance from the forest people living in these areas.

The effect of existing infrastructure: Studies have shown that the development of road networks contributes to a facilitation of the access to forests and thus to an increase deforestation, as well as to wildlife and carbon storage vulnerability (Mayaux et al. 2013; Kleinschroth et al. 2019). The dense road network of the study area and its closeness to the city of Tabarka were additional factors that motivated us to focus on it. Furthermore, the creation of a water dam in 2003, on state-owned land, required a suitable solution not to affect the livelihoods of inhabitants who were living in the area and from the existing resources. This allowed the observation of more dynamics in terms of land access and use, especially with regard to the decisions concerning relocation of these people to other regions.

Data collection and analysis

Empirical data was collected from April 2019 to February 2020. It consists mainly of (i) *document analysis* (e.g., management plans, annual reports, statistics of the local administration, forest laws and strategy) and (ii) *cartography of land use* in the study area, showing the evolution of forestland use (e.g., forest cover change, logging, forestland conversions to urbanisation and agriculture). Our diachronic analysis covered the period from 2000 to 2019 for a comprehensive overview of the land use dynamics before and after the Tunisian revolution of 2011. The initial reasoning was to elaborate the maps for the sequences of nearly five years (for the years 2000, 2005, 2009, 2014, 2019) covering equally the periods of pre- and post-revolution. However, due to the poor quality of available images from the years 2005 and 2009, we chose the year 2010 instead of 2009. (iii) *face-to-face, phone and email interviews* with selected experts in the governance of forestlands in Tunisia and the study area included former civil servants and researchers. These interviews allowed us to clarify and complete the missing data and aspects that were unclear, related to the forest management in the study area. In the course of the study there was a high number of phone interviews. The table in Annex 6.1 shows only a selection of key interviews. In addition to this first round of interviews, *80 semi-structured interviews* (Annex 6.1) with local 'forest people' (forest-dependent people) took place in the area where the forest services recorded the highest numbers of offences. Our empirical data reveals that the number of inhabitants in 2014 was about 9,700 inhabitants. However, this number has considerably decreased due to the construction of the water dam in the study area. Inhabitants were required to leave their houses (Interview 7).

6.4 Results: contesting state domination in a post-revolution society

As we pointed out in the conceptual and analytical framework, the qualitative power evaluation presented in the results section is based on actor-centred power

theory, which defines three main categories of power elements (coercion, (dis) incentives and dominant information).

In its focus on the dynamics of forestland use change in the study area, this evaluation applies a scale of three grades:

- *strong power* (++), if a power element used by an actor is clearly mentioned in the law, identified in practice and/or clearly mentioned in documents;
- *no power* (0), if there is no evidence and no use of this power element by the actors; and
- *intermediate power* (+), between (0) and (++), if an increase or decrease in the use of power elements between the pre- and post-revolution periods is identified and/or if there is little use of a certain power element by a specific category of actors. As an example, in the case of deforestation the results show that the use of dominant information by the state before the revolution was strong (++), because only the state had very good information on forest use. Since the revolution, the quality of the state's information has decreased. However, there is no data with which to measure exactly the quantity of the information. Thus, the grade assigned to describe this decrease is (+).

The two main categories of actors considered in this evaluation are state and non-state actors' groups. In Tunisia, the Ministry of Agriculture and Water Resources manages most of the use of forests, water, and agricultural resources. Under the Ministry there are different General Directorates that manage forest, agriculture, and water resources; they are represented at regional and local levels. Thus, the state actors are mainly the Ministry of Agriculture and the related directorates. Nonetheless, this does not exclude the intervention of other ministries, like the Ministry of the Interior, the Ministry of State Property and Land Affairs, the Ministry of Environment, in decision-making.

Regarding non-state actors, forest people, who comprise farmers and private logging companies/individuals, are the main actors intervening in the study area.

Regulating deforestation in the pre- and post-revolution contexts

This section focuses on an analysis of the power of state and non-state actors related to forest protection activities. Overall, a shift in power sets has led to a change in the existing regulatory effect. The state lost the effectiveness of its coercion measures and dominant information, while non-state actors gained more power regarding both elements (Table 6.1).

(a) The state's regulation of forestland use

Forest area has decreased in the study area over the selected period by nearly 1,500 ha (Figure 6.1). However, the areas for different land uses, revealed that the

Table 6.1 Change in power resources of state bureaucracies and non-state actors in the governance of forestland use in Northwest-Tunisia before and after the 2011 revolution.

Land use	*Time period*	*Regulation by power sets*				
		Actors	*Power elements*			
Defor-estation			*Coercion*	*Incentives*	*Disin-centives*	*Dominant informa-tion*
	Before revolution	*State	++	+	0	++
		**Non-state	+	0	+	+
	After revolution	State	+	+	0	+
		Non-state	++	0	++	++
Infra-structure projects	Time period	*Actors*	*Power elements*			
			Coercion	*Incentives*	*Disin-centives*	*Dominant informa-tion*
	Before revolution	State	++	++	0	++
		Non-state	0	0	+	0
	After revolution	State	++	++	0	++
		Non-state	0	0	+	0
Infra-structure projects	Time period	*Actors*	*Power elements*			
			Coercion	*Incentives*	*Disin-centives*	*Dominant informa-tion*
	Before revolution	State	++	+	0	++
		Non-state	+	0	+	0
	After revolution	State	+	+	0	+
		Non-state	++	0	++	0

Notes: 0: no power observed; ++ strong power; +: all other intermediate power between 0 and ++; Opposed actors' power; Change/ shift of power identified after the revolution*State actors: Ministry of Agriculture (regrouping sectorial policies related to forest, agriculture, water dams and hydraulic projects); **Non-state actors (forest-dependent people, which, in addition to dwellers, can include farmers or private logging firms/individuals)

forest loss in the pre-revolution period (nearly 1,000 ha) was much higher than in the post-revolution period (about 500 ha). This means less forest area was lost or converted into other land uses after the revolution than was in the pre-revolution period. In turn, this raises the question whether a more powerful state was involved in forest resource protection after the revolution.

One of the driving factors behind the forest losses before the revolution was the strong investment in infrastructure projects in this town. The state-driven urbanisation

development was much faster between the years 2000 and 2010, where it increased by 79 ha (from 33 ha to 112 ha) of building area, as opposed to the increase after the revolution, of only 43 ha. The pre-revolution development projects included the construction of a regional hospital (officially announced in 2007 and unveiled in 2013), two professional training centres related to tourism services (built in 2005), and the construction of new hotels in the tourist zone of Tabarka. These constructions are located on the state-owned lands and were controlled and planned mostly by the state authorities (erecting public institution buildings, providing tourist services, and developing new housing). After the revolution, the expansion of infrastructure projects slowed down and the new drivers of deforestation were mainly illegal fires and logging.

In addition to the 328 ha of forests lost, due mainly to illegal logging between 2010 and 2019 (Figure 6.1), there were 289 ha altered by wildfire in 2015 and 2017. Overall, before the revolution, forest depletion was regulated mostly by the state bureaucracies involved in planning the projects mentioned, whereas after the revolution the state lost coercion capacity, and therefore forest depletion was mostly beyond its control.

(b) How forest administration deals with illegal logging

Quantitative data of the local forest administration between 2000 and 2018 show that the number of recorded 'illegal' logging instances was significantly higher after the revolution of 2011 than before (Figure 6.2).

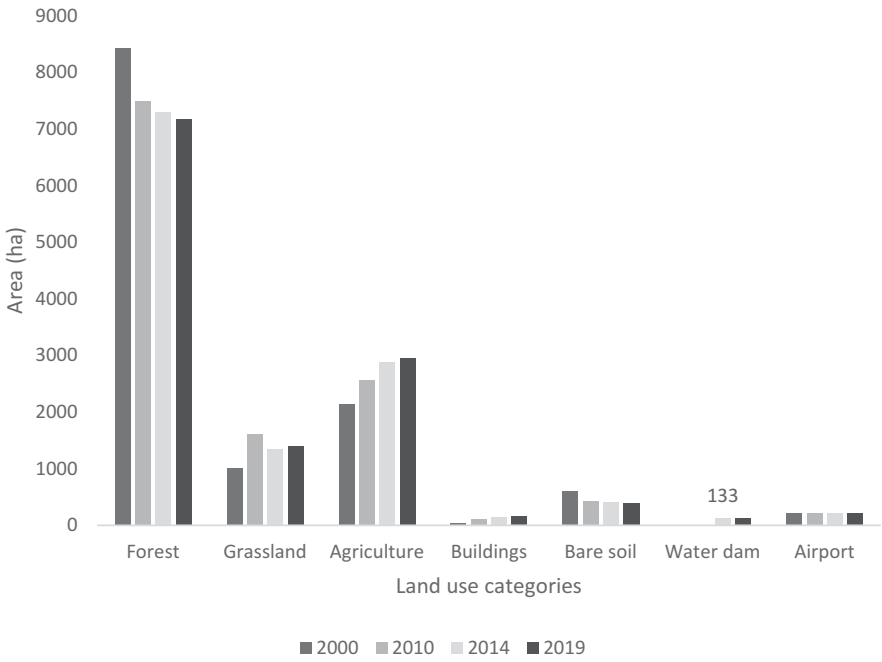

Figure 6.1 Evolution of the change in forestland use between 2000 and 2019
Source: Author's creation

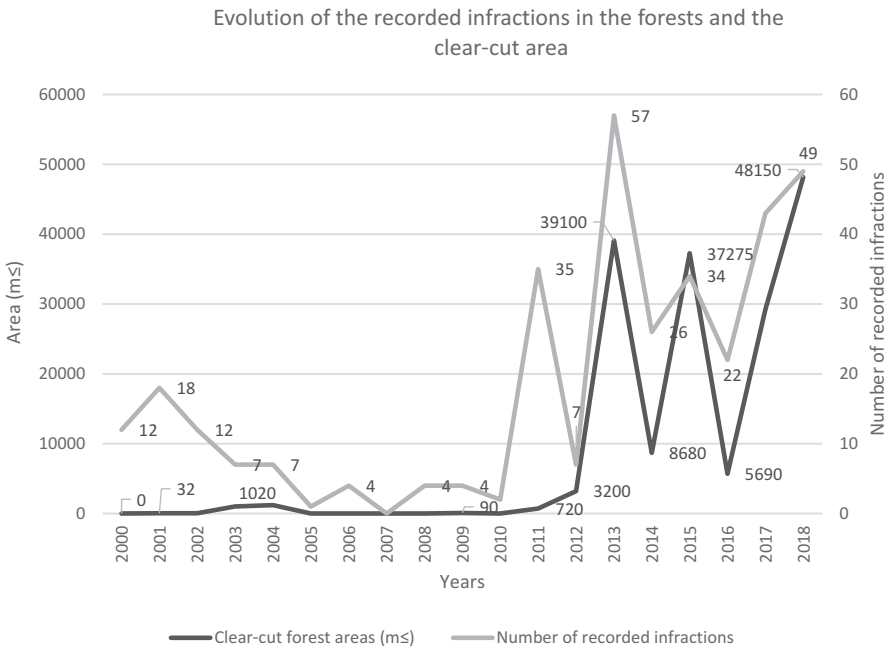

Figure 6.2 Evolution of recorded infractions in the forests and the clear-cut areas between 2000 and 2018
Source: Author's creation

The comparison of recorded infractions shows a substantial change. During the pre-revolution period, illegal logging in most cases was limited to illegal use of forest bush, exploitation of non-timber products (e.g., harvesting pine nuts) or selective cutting of a limited number of trees. In general, the pre-revolution statistics show that the quantity of forest products illegally harvested was limited to the transportation capacity of one person or a small group. After the revolution, a considerable increase in clear cutting happened. The forest area cleared in this period was between 729 m^2 in 2011 and 48,150 m^2 in 2018, which is much higher than the maximum of 1,190 m^2 before the revolution, achieved in 2004. These kinds of infractions in the forest were often mentioned in the administration's statistics, together with a change in land use (e.g., occupying forestland illegally by erecting new constructions). Furthermore, different forest agents in central and local forest administrations confirmed that the recorded areas for 2011 and 2012 do not reflect forest depletion entirely, because the administration faced serious security issues during the revolution period, and this influenced agents' capacity to monitor illegal logging properly (Hasnaoui and Krott 2019).

(c) The access of forest people to forestlands

Before the revolution, the physical presence of forest people on state-owned forestlands was one of the main reasons for the forest services to tolerate some illegal

harvesting or conversion of limited forest areas to agriculture, in order to enable people to survive. After the revolution, the weakened state was forced to show more tolerance, to continue providing contracts as incentives for these people, and to increase their wages despite the limited budget. In addition, the forest administration has recently implemented a project of forest law reforms, made under the pressure of international organisations, to recognise the rights of forest people to formally profit from selling forest products. However, this is only if they adhere to a structure called Agricultural Development Groups.

The use of forest products by forest people was diversified. Forest access focuses mainly on two targets (see Figure 6.3). The first one is peoples' survival, mainly by using firewood, grazing resources and oak acorns (also used to feed animals). The second target is to legitimise their presence in a defined area, or to demark a corresponding territory by fencing, which requires bush collection from the forest. This is their main use of forestland resources. While fencing seems to be an important activity, forest people do not consider land property to be an important issue. Their main concern with the forest services is the confiscation of the extracted forest products. Figure 6.3 shows that the main goal of forest people is to have access to resources for their livelihoods. Acquiring the property of forestland does not seem to be a priority, since for many of them fencing is enough to prove their legitimacy and property rights, especially after the revolution, and it is observed most frequently within state-owned forestlands.

Since the revolution, forest people have been playing a crucial role within the process of forest product sales, despite not benefiting directly from this commercial activity. Before the revolution forest services at national and regional levels had the capacity to limit the area and quantity of forest products to be harvested by private enterprises or individuals. Generally, the sales happen in public auctions organised by the state, and the harvesting process following the sales is controlled by the state forest agents on the field. After the revolution the state's capacity to verify and control activity on the field were weakened (especially at night or in areas with difficult access), while market actors gained more access to illegal

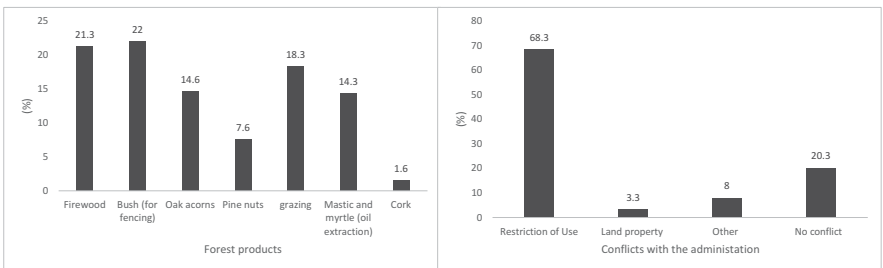

Figure 6.3 Main forms of forest use by forest people (left) and the main conflicts between forest people and the administration (right)
Source: Author's creation

harvesting by trespassing beyond the areas defined by the administration. To be able to successfully hide the illegal logging information, market actors were employing forest people who knew the most about the resources available and the best time to harvest in order to avoid the authorities.

These results allow a better understanding of the shift in actors' power (Table 6.1). Before the revolution, the state relied mainly on a high degree of coercion to control and regulate deforestation, including logging activities. This was done either by issuing permissions to cut or by applying sanctions, while the non-state actors, particularly forest people, exploited forests to survive. After the revolution, the state lost this capacity to sanction the illegal logging, while forest people gained more power to access the forestland resources, especially through fencing of specific areas (coercion) and their conversion into agriculture land. The state continued to provide weak incentives consisting of small contracts in order for forest people to carry out the forestry activities. Despite the increase in wages for forest people, these incentives cannot be considered to be strong, since they are limited to few weeks of work per year (Interview 1). The presence of forest people on the state-owned lands appears to be a source of power vis-à-vis the state. This physical presence of forest people forces the forest administration to take into account the risk of conflict and social movements that could emerge from a potential eviction or strict access prohibition. This power source for forest people is a disincentive for the forest administration. This motivation increased after the revolution, and the state was asked to give more freedom to these people for the use of forest products.

Through the example of illegal logging the results revealed a shift of power in terms of dominant information. In general, information was never shared between state and non-state actors. Before the revolution, the state was able to control illegal logging because forest officers were able to supervise different commercial activities, among other reasons, because they had more personnel available. This allowed the state authorities to keep the upper hand on dominant information regarding the availability, conditions of access, and the use of forest products.

After the revolution, the weakened forest administration was no longer able to maintain dominant information on the quantities of forest products to use, the areas to harvest etc. At the same time, forest people profited from the context of the revolution and gained more confidence to challenge state bureaucracies or to hide their illegal logging activities. In other words, if illegal logging is successfully hidden the state will not be able to apply sanctions, even with an abundance of resources. Therefore, dominant information by land users is blocking the coercive means of the state.

Using incentives to relocate displaced inhabitants

From 2003 to 2019, a water dam was installed within the study area. As summarised in Table 6.1, the state regulated the process of the dam installation by combining strong coercion, incentives, and dominant information.

Since the 2011 revolution the state has been able to maintain this regulatory effect without any change.

This project started quite a long time before the revolution. Tunisian law secures the rights of citizens settled informally on state-owned land to obtain compensation (e.g., land, crop losses) if they are removed in order to install a project of general public interest[3]. In the study area 90 households were successfully resettled outside the project area, which was state-owned land surrounded by forest stands. There is currently an ongoing process of compensation for 25 additional households affected by landslides in the same area (Interview 3).

Before the start of the dam construction, the Ministry of Agriculture, in collaboration with other bureaucracies involved, decided to compensate these people by providing new agricultural lands with property titles and/or financial resources. Those who had agriculture lands exceeding two hectares, or those who were living in poor social conditions and had agricultural land covering 0.5 to 1.9 hectares, were all compensated with a property grant of land in a better location, and with better access to different facilities. Regarding the dwellers' buildings and other property (e.g., trees) state experts evaluated the damage and the state provided money and land for construction. Households perceived this deal positively, and the Ministry of Agriculture was able to implement the construction of the dam easily, without facing claims (Interviews 2 and 3).

The state authorities mentioned above made use of strong coercion supported by the land ownership. These authorities were able to physically force inhabitants to move from a specific area to another in order to implement a public-interest project, which is a legal action. However, when relocating these inhabitants, the state provided many incentives, which allowed it to avoid local resistance and conflicts. At the same time, the state, through the Ministry of Agriculture, has strong dominant information, based on the technical expertise of its sectoral bureaucracies, to evaluate the compensations and also to justify the choice of the project's area.

For non-state actors, the power sources related to these kinds of project are quite limited as compared to the sources for state actors. Only their physical presence is a disincentive for the state. As an example, this disincentive compels the forest administration to explore regularly alternative solutions for local communities when planning infrastructural projects, which cannot be implemented without land expropriation, and displacements and relocation of forest-dependent people. While forest protection activities show a considerable shift in the balance of power sets between state and non-state actors, this infrastructure project, which is clearly planned and based on compensation, has not revealed any change in terms of actors' power since the revolution.

Access and control of state-owned agricultural lands

Results show a weakening of the state's coercion and dominant information, while the non-state actors gained a reinforcement of their coercion and

disincentive power (Table 6.1). Thus, the regulation has been disturbed since the revolution. The forestland areas that were changed to agricultural use increased since the early 2000s, from 2,143 ha to 2,955 ha in 2019 (Figure 6.1). However, in this time interval there were two different forestland cover changes: (i) agriculture in the south replaced grassland in most cases; (ii) The fragmentation of agricultural lands in the north, which were invaded by forest and grassland. This northern agricultural land has been a state-owned farm for a long time. It was owned by French settlers before the independence of Tunisia (Interview 5). This farm covers a total area of 352 ha and today it is facing management issues and is almost abandoned (Interviews 4, 5, and 7). After the revolution the situation of this land remained unclear. Currently it is managed by a limited number of staff, with poor capacity of control over the whole farm (Interviews 4 and 7). The abandoned land offers a good opportunity for people living around this farm to access some parts of it, by fencing selected areas for private agricultural use. The weak management and lack of maintenance has led to the growth of grasslands and forest vegetation inside the farm. The forest landscape fragmentation is a consequence of surrendering and mismanagement of forestland, which facilitated the access for other, new actors, and of the growth of new forested areas and grasslands where there was no more activity. In February 2020, it was announced that this state-owned farm would be allocated to a specific type of private agriculture structures called "companies of agricultural valorisation and development"[4].

The only power shift related to agriculture in this land use happened in terms of coercion (Table 6.1). Before the revolution the state was able to limit the access to these agricultural lands. After the revolution the weakened state became unable to limit physical access, while local inhabitants started informally fencing small areas for their private interests. This explains the described increase of coercion through the increase in fencing activities. The state bureaucracies also lost their capacity to govern through the use of dominant information regarding these areas. Since the farm was abandoned, the limited number of workers precludes control both of productivity and the of the actual situation regarding the progress of informal fencing. Nevertheless, it has not led to an increase in the dominant information of local inhabitants, since they are not able to hide from the state authorities the physical fencing, their activities and information about the farm's productivity or situation.

Regardless of the efficiency of the state management, the land property substantially supports the state's incentive power. The large share of forests and agriculture lands owned by the state allows different authorities to keep their power to provide incentives, like compensations before and after the revolution, in order to regulate the different forms of land use. However, this incentive power cannot be considered to be strong. With the exception of projects of public interest that require relocating inhabitants, the state has no clear strategy for the use of these agricultural lands to support local communities.

6.5 Discussion and conclusion

The results allow us to test the hypotheses. The first hypothesis, that "*The major political crises such as the revolution of 2011 can significantly change the power relations between state and non-state entities*" was analysed regarding the three land use issues. It was confirmed only in the case two of these land uses (deforestation and agriculture) but not in the case of the infrastructure project. One of the main causes of power stability regarding the infrastructure project is the sufficiency of state-owned land and resources kept by the state after the revolution, which can be used for compensations. In addition, the state maintained expertise and the legal basis for coercion. In the other two land uses (agriculture and deforestation), and despite the unchanged legal bases, the effect of the threat of implementing the law to affect people decreased considerably after the revolution. In addition, people gained coercion by means of active use and land fencing. Furthermore, in the context of the revolution, the costs caused by the forest people's resistance increased for the state (e.g., worsening the state's image, protests to increase wages).

The case of the effective regulation of infrastructure project confirms the second hypothesis, that "*In a post-revolutionary context, the use of coercion by state bureaucracies in regulating forestland use cannot be efficient without combining coercive measures with other core elements of power*". The issue of the infrastructure project clearly shows that efficient regulation is built on strong coercion combined with incentives and dominant information. In the other two land uses, there were no strong state incentives and no dominant state information that could strengthen weak coercion.

The third hypothesis states that "*in a post-crisis situation, a loss of power through dominant information by state bureaucracies does not necessarily lead to a better sharing of that information among non-state actors*". In the issue of state-owned agriculture land, the state has lost its dominant information since the revolution. Nevertheless, the non-state actors have not gained more shared information. The issue of deforestation also shows a loss of dominant information by the state, while the non-state actors gained dominant information by hiding their illegal access to forest products.

Based on actor-centred power, this research allowed us better to explain the actor's power behind the access to forestland resources in a post-revolutionary context using a case study from Northwest Tunisia. The actor-centred power approach differentiates clearly between the power of potentates and subordinates. Potentates are actors who are able to alter the behaviour of the subordinates within a social relationship (Krott et al. 2014).

In contrast with the existing empirical cases, our case study made visible the power elements of the potentate and those of the subordinate, and compared the possible changes. By using this approach, we were able to identify power losses for the state and to differentiate them from power gains for non-state actors. The governance effect is a sum of the state's power and the resisting power of non-state actors. The advantage of our approach is that we were able to show the

substantive power gains of non-state actors after the revolution, based on coercion, as well as disincentives and dominant information.

Regarding actors' categorisation, Maryudi and Sahide (2017) focused on differentiating between state actors. Within the same bureaucracy there are conflicting interests. Considering them as a single unit might lead to imprecise power relation analyses. Furthermore, inaccurate categorisation might result in ignoring powerful actors in the analysis (Maryudi and Sahide 2017). In our study we approached the actors' identification according to the actor-centred power concept of potentate and subordinate, and we examined additional factors. Within this social relationship between state and non-state actors, we consider that each actor makes use of its own power set. We selected a specific area as an empirical case study and we identified different dynamics of land use through different data sources (e.g., maps, interviews, field observations, document analysis). This approach allowed us to identify and focus on the main intervening actors, and we regrouped them into two main categories: state and non-state actors. State bureaucracies seek to dominate the non-state actors, like the local population, while these non-state actors attempt to resist this domination. The observations related to the access forms selected showed that different state institutions at national and local levels have the same main objective of controlling access, while the non-state actors, mainly forest people and private users, have been struggling to gain more access to forestlands and to maintain it.

Prabowo et al. (2016) consider that the interests and power of actors may change over time. To capture these dynamics and possible shift of power balance, it is important to consider a long time period to apply the actor-centred power approach. Covering the period from 2000 to 2019 provided sufficient hindsight about a power shift related to the revolution of 2011. According to our observations, the main power shift that happened in the course of the revolution was due to the state's loss of coercion power and to non-state actors' specific gains in power.

Coercion, shared information, and dominant information

Coercion, as defined in actor-centred power theory (Krott et al. 2014), builds on the use of force as a source of power. This theory endorses Max Weber's perception of the state, through its different administrations, as the main actor dominating the use of political force. In addition, the rights of control and sanctions provided to the state by the law are considered to be a support for the coercion power element. Based on the results of this study, the main requirement to properly use coercive power is the existence of shared information among the potentate and the subordinates. In other words, state coercion works properly only as long as state and non-state actors have the same knowledge about (i) the existing resources, (ii) how much of this can be used, when and where, (iii) the possible sanctions that the non-state actors risk when they commit infractions such as illegal logging. Once non-state actors acquire the power of dominant information, the sharing of information between the two categories ceases to exist, which affects the coercive capacities of the state despite the existence of a legal

framework supporting the use of coercion. Below, we explain these interactions between shared information, dominant information, and coercion through the example of hidden illegal logging, which we consider to be dominant information power.

Krott et al. (2014) defined dominant information as being a source of power for an actor A (potentate) when it is not verified by an actor B (subordinate), who might additionally trust the provided information and makes use of it without checking its validity. This can be voluntary if the subordinate forfeits verification and criticises his own ideologies, or if the subordinates trust the 'good will' of the actor providing the information. Subordinates can also be forced to accept information and not verify it because of a lack of means or specific methods. The actor-centered power theory illustrates these different types of dominant information through examples that focus mainly on expertise, knowledge, and ideologies. The same theory categorises hidden illegal logging as a form of coercion. By hiding illegal logging the subordinates are hindering the coercive capacity of forest authorities (guards) to stop it physically. In contrast, the current study observes that hidden illegal logging encompasses the use of dominant information in addition to coercion. For example, the collaboration between the private forest users and forest people detailed in the results' section increases the knowledge and the possibility for more access to resources, but also the possibility of hiding information from the state. On the other hand, the lack of personnel in the administration, needed to control all the activities in the field, reduces the access of the state to information about harvested quantities, which in turn forces the authorities to accept the information provided. Additionally, the state has no other choice but to accept the illegal logging happening at night or in areas they cannot reach, because of limited means of control. We consider this example to be empirical evidence of the relevance of considering hidden illegal logging to be a source of dominant information employed by forest users, in addition to coercion. Furthermore, a better regulation of illegal logging, or any other forest-related activity, by coercion works only if the state associates coercion with either shared information or its own dominant information. If a non-state actor becomes able to hide information about illegal logging, this equal sharing of information is extinguished and instead turns into dominant information used as power source. In this case, the state regulation is lost due to a loss of information. Overall, dominant information destroys shared information that supports the coercive power of the state.

Ways to keep stable power sets: associating coercion with incentives

The state-owned agriculture and forests in Tunisia are a major advantage for the state. In addition to the forests, the state owns currently around 500,000 ha of agricultural land[5] and is unable to manage them efficiently due to a lack of resources. Nevertheless, this land ownership has been one of the main

supports for the state's power of coercion since its independence. The use of force by the state has been associated with the power of financial sanctions (disincentives) for any illegal physical access to the state-owned resources. This power set, used by the state before the revolution to implement different policies, has shown its limits. This orientation of the Tunisian state resulted in an unstable balance of power and in permanent resistance from forest users, who wait for any unusual event that may destabilise the authorities, such as the revolution, to gain more access to resources. In another example, in Indonesia, the weakened capacity of the state to enforce law and to provide incentives formed a main factor that contributed to an empowerment of farmers in terms of access to forestlands (Maryudi et al. 2016).

The example of the relocation of households away from the dam site is an example of how the state can use incentives as an alternative power element that can be much more efficient in implementing the relocation decision. Instead of forcing people to move or simply expropriating their assets, allocating compensation lands with better access to the city was enough motivation for them to move from the project area without challenging the state authorities. Using incentives instead of the exclusive use of sanctions can ease the existing conflicts between the administration and forest users, especially if based on a clear legal framework that regulates the provision of these kinds of incentives. It can also encourage the citizens to have a more caring relation in regard to natural resources. Implementing the law while providing incentives proved that it can bring more stability into the power balance.

To conclude, the use of an empirical, actor-centred power approach (Krott et al. 2014) in a post-revolution political context, allowed us to identify possible interactions between the defined power elements in regard to an effective regulation of conflicts. The actors make use of different power sets that vary according to the land use case. The main contribution of this chapter consists of showing that coercion, which is considered to be the main power source for the state, cannot be effectively used without the existence of shared information or without monopolising the use of dominant information. Furthermore, by observing the power sets' evolution over time in the pre- and post-revolution periods, we noticed that the main shifts of power from the state to non-state actors occurred when the state relied on its coercive capacities before the revolution. In the case study scrutinised in this chapter, combining coercion with incentives resulted in a stronger effect on the regulation of conflicts by state bureaucracies. In the same vein, this research also shows the importance of considering the actors' power in the studies of land use change in areas of limited statehood.

Notes

1 www.mehat.gov.tn/fileadmin/user_upload/Communiques_et_Avis/RevueCPRduPMR2vers21032018corrigee22Juin.pdf
2 www.apia.com.tn/actualites/detail/112
3 www.onagri.tn/uploads/lettre/lettre28-12-2016-5.pdf

ANNEX 6.1

Table 6.2 A. Main interviews revealing key information for the study

Date	*Interview number*	*Type of interview*	*Position of the interviewee*	*Institution*
15.01.2020	Interview 1	Phone	Retired civil servant	General directorate of forests
12.02.2020	Interview 2	Phone	Responsible for implementation of the water dam in the study area	Ministry of Agriculture
14.02.2020	Interview 3	Email	Responsible for implementation of the water dam in the study area	Ministry of Agriculture
24.02.2020	Interview 4	Phone	Lecturer of forest ecology	Silvo-Pastoral Institute of Tabarka (Tunisia)
24.02.2020	Interview 5	Email	Lecturer of forest ecology	Silvo-Pastoral Institute of Tabarka (Tunisia)
25.02.2020	Interview 6	Phone	Retired civil servant	General directorate of forests
26.02.2020	Interview 7	Phone	Local inhabitant	-
28.02.2020	Interview 8	Phone	State representative at the locality level	Delegation of Tabarka

Table 6.3 B. Interviews with forest people

Forest series	*Dates of interviews*	*Type of interview*	*N. of interviewees*
Mekna 1	27.04.2019	Face to face	28
	29.04.2019		
Mekna 2	22.04.2019	Face to face	30
	24.04.2019		
	03.05.2019		
Mekna 3	06.05.2019	Face to face	23
	07.05.2019		

ANNEX 6.2

Table 6.4 A. Different forms of state ownership of forests

State ownership Category	*Explanation/included sub-categories*
State forest domain	• The forestlands registered as state forest domain • Forestlands or lands dedicated to be reforested (acquired by agreement with owner or by expropriation decisions) • Forestlands that are not registered but are claimed/presumed to be state-owned (requisition)
State private domain	-Includes forests that are registered under the private state domain and not forest state domain. They are considered as agriculture lands and are under the law of state agricultural property management. Certain parts can be rented to private users for agricultural use. When these lands are under forest regime, the forest service intervenes in the control but not the management.

Table 6.5 B. Different forms of state ownership of forests in the study area

Forest series	*Existing categories of state forest ownership*	*Available details in the management plans*
Forest series Mekna I	State forest domain (requisition) State private domain	Requisition (around 85 per cent) Private state domain (about 15 per cent)
Forest series Mekna II	State forest domain (Requisition) State private domain State forest domain (registered)	Old management card shows that the dominant categories of ownership are Requisition and state forest domain
Forest series Mekna III	State private domain	100 per cent of the forest area

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7 Biodiversity Governance and Regional Insurgencies in the Democratic Republic of Congo

Eliezer Majambu, Sylvia Kavira Muyisa and Symphorien Ongolo

7.1 Introduction

The creation or expansion of protected areas has become a key issue in international politics since the debate surrounding ecological matters in global biodiversity governance spheres began to intensify (Humphreys, 2012; Rodary & Milian, 2016). The role played by transnational actors in various sustainability processes – biodiversity conservation, carbon storage and climate change mitigation – has led many states, to some degree voluntarily, to opt to enlarge these biodiversity conservation areas, often under pressure from international donors and civil society organisations. In 2020, the 15th International Union for Conservation of Nature (IUCN) World Congress, organised in Marseille, France, put back on the international agenda ambitions for further commitments from states to protect at least 30 per cent of their national territory in order to tackle the biodiversity crisis (IUCN, 2021).

In the Central Africa region, the Congo Basin is home to an impressively diverse forest ecosystems and biodiversity that is often native to the area. DRC alone has around 60 per cent of forestland and the natural resources associated with it (Mayaux et al., 2013). A significant proportion of this forestland (see the definition put forward by Ongolo et al., 2021) is administered or simply designated as a protected area for biodiversity conservation. The majority of these protected areas date from the colonial period when the creation of these vast spaces imposed a range of significant restrictions on the populations, including limiting their access to forestlands which they often viewed as part of their ancestral heritage (Rodary, et al. 2003). In the majority of cases, protected areas in the Congo Basin, especially for those with a relatively effective management, are managed directly or with the help of a patchwork of transnational non-governmental organisations (NGOs) working in biodiversity conservation. Funding and support in the form of human resources and logistics provided by these transnational NGOs (sometimes in collaboration with a handful of local organisations) accentuates the weakness of the state or creates the illusion of compensating for its absence in extremely isolated regions.

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In 2020, DRC protected areas accounted for 15 per cent of the national territory. The creation and management of these protected areas have often engendered or triggered multiple, complex rivalries and conflicts between different categories of actors (Hardin, 2011; Coquery-Vidrovitch, 2017). Once limited to rivalries between indigenous populations and colonial administrators and their local intermediaries, these conflicts have intensified with the rise in the number of actors interacting to manage the various natural resources contained on and under the forestlands that are designated protected areas. The tensions and confrontations between the different groups of actors, often with diverging interests, have become more complex and have now transferred from local to national and transnational levels. In this respect, DRC has for several decades been developing as a classic example of a country confronted by a range of internal and transnational security and socio-political crises, whose origin and/or exacerbation are closely linked to natural resources (Mayen Ndiong et al., 2020; Samset, 2002).

Using the Okapi Wildlife Reserve as a case study, this chapter offers an analysis of the power issues linked to governance of protected areas in DRC. The aim here is also to provide an empirical examination of a reality, rarely considered in the scientific literature, in which there are close links between the management of protected areas and the dynamics of privatisation of these forestlands by insurgencies seeking training grounds, rear base camps or continuously renewable sources for supplying war economies.

Since the beginning of the 2000s, the occupation of the Okapi Wildlife Reserve by foreign insurgencies has encouraged the illegal exploitation of natural resources with a high economic value, such as gold, diamonds, iron, cassiterite, wolframite, mercury, magnesium, coltan and wood. Transnational trade routes for these resources almost invariably cross DRC's neighbouring countries of Rwanda, Uganda and the Central African Republic. The dynamics of this plundering of natural resources highlight a deeper issue: that of the willingness and capacity of the states bordering DRC to contribute to the sustainable regional management of protected areas. This also raises a more theoretical question regarding new forms of entrenchment between respect for sovereignty, interference and managing interdependency around the transnational governance of natural resources; whether these resources are considered 'global public goods' (ecosystem services provided by protected areas) or not (subsurface mining resources provided by these spaces).

On an empirical level, the Okapi Wildlife Reserve is used here as a case study for analysing the question of biodiversity governance in DRC in an unstable socio-political and security context, focusing on the roles played by different key actors. To this end, this study focuses particularly on the issues of power associated with governance of the reserve. The decision to do so is justified by the fact that, since its creation in 1992, the Okapi Wildlife Reserve has been one of the protected areas regularly confronted with armed conflicts and over-exploitation of its natural resources by national and foreign actors equally. Our thinking has been guided by the following questions: Who

governs the Okapi Wildlife Reserve and how do the different actors involved in the process of governing this protected area contribute to conserving or eroding its biodiversity?

7.2 Method: case study selection of the Okapi Wildlife Reserve

The Okapi Wildlife Reserve straddles the provinces of Ituri and Haut-Uélé in the northeast of DRC (Figure 7.1). The reserve's lands extend to over 13,726 km² of tropical forest (Brown, 2007; IUCN, 2010). From their headquarters in central Epulu, the reserve's managers have administrative responsibility for biodiversity management in lands from three adjoining provinces: the lands of Mambasa in Ituri, Wamba in Haut-Uélé and Bafwasende in Tshopo (ICCN, 2016).

The Okapi Wildlife Reserve was created by ministerial decree No. 045/CM/ECN/92 on 2 May 1992. The objective was to conserve in situ the okapi (*Okapia Johnstoni*), one of DRC's best known and elusive wild forest animals. Following the 'discovery' of this animal by explorers, a centre of captivity was set up in Epulu. Shortly afterwards, this centre became the administrative headquarters of the Okapi Wildlife Reserve. Created in 1928 by an American anthropologist, Patrick Putnam, the centre served as a station for captive okapi which were despatched to American and European zoos.

As well as drawing on the prior knowledge and research experience of the first two authors, this study uses data from a meticulous review of the literature and conservation policy documents relating to the Okapi Wildlife Reserve. This section

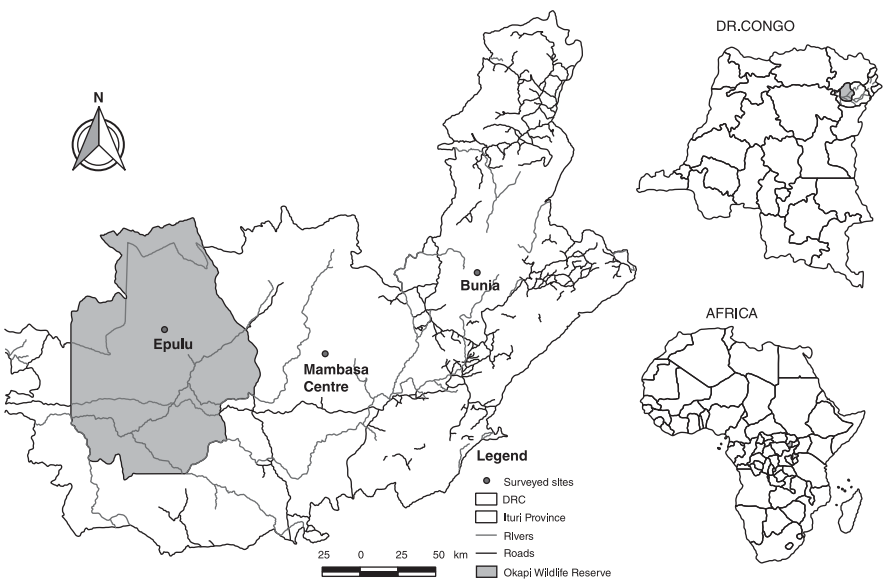

Figure 7.1 Location of the Okapi Wildlife Reserve
Source: Author's creation

deals with analysing the handful of social science studies that focus on the reserve and with understanding the various expert reports on governance of natural resources in the reserve. These data were then supplemented with qualitative interviews (Table 7.1) conducted with a sample of nineteen key actors who have been involved – in some cases for several years – in the governance of the protected area. The actors were selected on a geographical basis as follows: Bunia (8), central Mambasa (7) and Epulu (4). Of the total sample, 63.2 per cent were men and 36.8 per cent women. The interviews conducted between October and November 2021 were designed to improve understanding of, for example, the recent dynamics of governance of the Okapi Wildlife Reserve, the strengthening/weakening of the positions of the key actors involved, their role, the plurality of interests at play, the potential conflicts and the types of natural resources exploited in the reserve.

The qualitative data collected were processed according to the principles of inductive qualitative analysis (Blais and Martineau, 2006; Thomas, 2006). According to these principles, the following procedure is essential for processing qualitative data from interviews: an initial reading of the raw data, identifying segments of texts relating to the study's objectives, labelling the segments identified to create categories, reducing redundant categories and integrating the text segments selected into the theoretical and analytical phase. The categories created are codified to ensure and reinforce anonymity of the interviewees.

Table 7.1 List of interviewees

Actors and their affiliation		*Number*	*Code attributed*
State	Administrator of Mambasa territory, sector and sub-sector heads (Central Mambasa and Epulu); site manager, eco-wardens (Institut Congolais de la Conservation de la Nature, ICCN), provincial agriculture inspection body (IPAGRI), national forest fund (Fond Forestier National)	10	State Actors (SA) 10–2021; 11–2021
Members of civil society	Provincial coordinator of the network of indigenous peoples (Réseau des peuples autochtones, REPALEF-Central Mambasa), sub-sector representative of indigenous people (Epulu), members of the local community	4	Civil society members (CSM) 10–2021; 11–2021
Economic operators	Operators/transporters or exporters belonging to the federation of Congolese businesses (Fédération des Entreprises congolaises, FEC) or members of the national federation of artisans and small and medium enterprises (Fédération Nationale des Artisans, Petites et moyennes entreprises du Congo, FENAPEC)	5	E.O-10–2021; E.O-11–2021
Total		**19**	

7.3 Building biodiversity policies under political disorder

The interviews conducted as part of this study revealed that the reasons the Okapi Wildlife Reserve was created by the Congolese (Zairean at the time) government were more to do with strategic positioning at an international level (SA-11–2021; CSM-11–2021). At the beginning of the 1990s, the Congolese president, Mobutu, had lost all credibility among his international partners due to abuses of power and strong internal challenges to his authority. This situation was becoming increasingly unsustainable in the face of the pro-democracy tide in countries of the South following the fall of the Berlin Wall. Like several authoritarian leaders whose methods of governing were judged oppressive and incompatible with democracy, Mobutu's regime found itself isolated both diplomatically and economically at an international level (Stiglitz, 2002). As a result of the high level of nepotism and corruption in the management of natural resources in DRC, this loss of political and economic credibility was accompanied by the discrediting of the Mobutu government's capacity to tackle growing environmental concerns against the backdrop of preparations for the Rio Earth Summit (Majambu et al., 2021).

In an attempt to reverse its marginalisation in international spheres and its loss of credibility on environmental issues, the Mobutu regime made a series of attempts to rehabilitate its image including by creating the Okapi Wildlife Reserve four weeks before the Rio Summit and by signing up to the Biodiversity Convention. International conservation organisations, including the IUCN, doubtless played an important role in encouraging the creation of the reserve. But for Mobutu, creating the Okapi Wildlife Reserve as part of the momentum engendered by an international conference like Rio Earth Summit in 1992 represented a means to attract the attention of the international community including donors to DRC on the one hand and a way of showing his willingness (proven to varying degrees) to take account of environmental concerns and biodiversity conservation in his country on the other. As with other protected areas in DRC, the Okapi Wildlife Reserve was created without a prior consultation process or effective participation by local populations, despite the demands of the populations who view natural spaces as part of their ancestral socio-cultural heritage (CSM-10–2021; SA-11–2021). The interviews conducted in the area as part of this study, or during prior expert research, reveal that the lands that house the reserve once belonged to the indigenous populations, notably the Mbuti and the Efe, and to other Bantu communities (ICCN, 2016; SA-10–2021; CSM-11–2021). The often-divisive overlaying of interests represents a real threat to this nature reserve whose official aim was to protect not only the iconic fauna of the okapi but also all the impressive biological diversity to be found there.

Biodiversity governance hampered by a disputed reserve

The lack of legitimacy surrounding the Okapi Wildlife Reserve among certain actors and the defiance of local populations regarding the disputed existence of this protected area undermine the biodiversity conservation initiatives in the reserve. This

nature reserve has often escaped relatively unscathed from more intensive deforestation and the plundering of natural resources in the province of Ituri. But empirical studies supported by remote sensing analysis conducted in 2021 have underlined the growing tendency to destroy and exploit the natural resources in the Okapi Wildlife Reserve.[1] In particular, the research reveals that for the period 2002 to 2020, the reserve lost 0.53 per cent of its primary forest. In 2020, this loss of forest cover reached around 20,800 hectares, equivalent to 17.1 mega tonnes of carbon emissions.[2] The most recent deforestation activities are concentrated in the southern part of the protected area where the conversion of forestlands to other uses proliferates along main highway No. 4, linking the cities of Kisangani in the province of Tshopo and Bunia in Ituri, as well as along riverbanks.[3]

For some actors interviewed during this study, the general causes of deforestation in the Okapi Wildlife Reserve are mining, forestry, agriculture and poaching. Gold mining in the Okapi Wildlife Reserve contributes in particular to transforming this space into a key centre for the extractive economies in the hands of myriad local armed, cross-border groups – the FRPI, ADF, CODECO, Maï-Maï, etc. – who sow terror and foment various insurrections in the east of DRC (CSM-10–2021; CSM-11–2021; SA-10–2021). Furthermore, these armed groups regularly use the nature reserve as a training ground for their acts of violence and a rear base camp or withdrawal zone during their frequent confrontations with the regular armies in DRC and the neighbouring countries of Rwanda, Uganda and South Sudan.

In September 2013, an inventory of mining activities inside the Okapi Wildlife Reserve conducted by an expert fact-finding mission recorded the presence of around 30 extraction sites (with illegal camps accommodating gold washers) actively operating within the protected area and 20 sites without encampments. In addition to the installations recorded inside the reserve, other operation sites and encampments bordering the edges of the Okapi Wildlife Reserve were identified in the same expert report (IUCN and UNESCO, 2014). According to the report, all the illegal mining sites had previously been cleared and were then reinstated each time there was a let-up in monitoring activities in the reserve. On each occasion, the sites were re-established, and new sites of illegal gold washing were created with support from some customary authorities and military elites and, in some cases, with the complicity of reserve managers (CSM-11–2021; EO-10–2021).

The presence of mining operations in the Okapi Wildlife Reserve exerts pressure on the wildlife in terms of the trafficking of animal species and the trade in bush meat, fuelled by an increase in poaching. The reserve is facing a drop in the numbers of okapi as well as other species of animals and plants, which are often protected or banned from being traded under the terms of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This is particularly the case for certain species of primates (*Primates Linnaeus*), chimpanzees (*Pan troglodytes*), forest elephants (*Loxondonta cyclotis*) and iconic bird species such as the Congo peacock (*Afropavo congensis*).

The study cited above also reveals that the wildlife population in this area continues to shrink. A comparison of the results of the censuses of large fauna conducted between 1995 and 2006 and between 2007 and 2011 reveals that the abundance

indices of virtually all major animal species have declined (IUCN and UNESCO, 2014). In addition to poaching, this reduction in wildlife is also accentuated by habitat destruction and the uncontrolled exploitation of the Okapi Wildlife Reserve forest ecosystems, which are essential for maintaining the balance of wildlife in this protected area. The principal plant species and types of wood targeted by illegal timber operations in the reserve include *Brachystegia laurentii, Cynometra alexandrii, Gibertiodendron dewevrei, Entandrophragma cylindricum, Entandrophragma candollei, Khaya anthotheca, Milicia excelsa, Chlorophora excelsa* and *Cordia abyssinica*.

The uncontrolled exploitation of these natural resources and the proliferation of war economies and other related informal trade channels represent one of the principal causes of the insecurity orchestrated by the actors who benefit from it and who try by any means to perpetuate and profitably develop their activities. According to some inhabitants of the villages concerned, their involvement in these activities is justified by the fact that their lands were confiscated by the government working together with traditional chiefs:

> The lands that shelter the Okapi Wildlife Reserve constitute our ancestral heritage. Unfortunately, this heritage was sold by our traditional chiefs. It falls to us to reconquer the lost rights to the reserve. Today our right of access to these lands is widely restricted.
>
> (CSM-10–2021)

In the majority of cases, this discontentment stems from a failure to take account of the needs of local populations. For some actors, this is the main source of the worsening insecurity and recurrent conflicts around and within the Okapi Wildlife Reserve (CSM-11–2021). Other actors, in contrast, consider that, even in an ideal context in which all actors participated, there would be little change to the current situation. In the absence of a strong government presence, it is likely that the Okapi Wildlife Reserve will continue to serve as a source of funding for the different insurgencies. These are sometimes exploited by different actors in neighbouring countries or operate in partnership with Asian or American entrepreneurs. One of the local actors encountered during this study thus reckoned that:

> The Okapi Wildlife Reserve is a victim of its riches above and below ground. It is these riches that attract local and foreign insurgencies, which provoke and impose war in order to plunder the natural resources.
>
> (CSM-11–2021)

The reserve's natural resources which in recent years have been overexploited more intensively are ivory, gold and wood. The main regional markets for the consumption of wood and bush meat or the transit of ivory, gold and other minerals are located in Uganda, Rwanda, Kenya, Tanzania and South Sudan (CSM-10–2021; EO-11–2021).

The development of this war economy was facilitated by the liberalisation and opening up of Congolese mining to the private and small-scale 'artisanal' sectors at

the start of the 1980s. For the Mobutu regime, this liberalisation was viewed as an appropriate response to the economic recession caused in particular by the policy of 'Zaireanization' (nationalisation), the drop in the price of minerals on the international market and the undermining of the Congolese economy by the hefty loans taken out for the overly vast construction projects that were subsequently labelled 'white elephants'[4]. This situation led to the gradual collapse of the Kilo-Moto Company (SOKIMO), a public enterprise which held a significant proportion of the mining rights in Ituri (Triest et al., 2009; Vircoulon, 2021).

The privatisation of the mining sector and the financial gains these represent for some local and foreign actors have played a determining role in the proliferation of insurgencies due to easier access to so-called 'artisanal' mining concessions coupled with a virtual absence of state control (Thamba Thamba, 2019; Vircoulon, 2021). The ongoing quest for natural resources unleashes conflicts over access to and exploitation of forestlands. This in turn is leading some populations to quit their traditional lands to settle elsewhere, particularly in the major centres such as the city of Bunia.

A protected area under pressure from recurrent conflicts

The conflicts affecting Ituri province, home to the Okapi Wildlife Reserve, have worsened following the spiralling socio-political and military crises into which DRC has been plunged since the early 1980s. The contentious relations between some village communities, which had lain dormant since the colonial period, were revived by the collapse of the Congolese state, as these communities discovered the means to achieve justice through various cycles of reprisals or expeditions to wreak vengeance. Some of them believed that their erstwhile persecutors had abused their dominant positions to seize ancestral lands which did not belong to them (Omasombo Tshonda, 2016).

In this context, the slow culmination in the process to liberalise the mining sector (Mazalto, 2010; Triest et al., 2009) benefited some community chiefs. In the legal vacuum brought about by this lengthy process, the chiefs found the means to seize important gold mining concessions, formerly exploited by the public company SOKIMO. Others set about creating new parallel mining sites in the Okapi Wildlife Reserve. In many cases, the informal concessions served as capital for accumulating funds to finance armed groups with a view to subsequently taking over political power at various levels of the Congolese system of government (CSM-11–2021).

The reform of the mining sector, which should in principle have helped develop the province of Ituri in particular, on the contrary brought about the gradual collapse of SOKIMO, the principal lever of the local economy (Triest et al., 2009; Vircoulon, 2021). The demise of SOKIMO, the fragile security situation and the background of nepotism operating within the governance of natural resources nationwide thus allowed the local elite – prominent figures, traditional chiefs, politicians and businessmen – to establish control of numerous gold deposits in the Okapi Wildlife Reserve (SA-11–2021; CSM-10–2021;

EO-10–2021). The geographical limits of some mining plots allocated post hoc by the mining registry impinge on the reserve's lands (IUCN and UNESCO, 2014).

In these conflicts, the demarcation of the boundaries of the Okapi Wildlife Reserve is a decisive factor. The local population has not concealed its discontent in this regard, as is highlighted by the following testimony quoted by Schouten, (2015:60):

> The Okapi Wildlife Reserve at first had a boundary 12 km from Epulu. This was negotiated with the local traditional leader – and this area falls under the chieftainship of the Bandaka. Contractual specifications were signed, a school was built in Bafwakoa (the main centre), husbandry projects were run and chief Alimasi obtained a vehicle. The Bandaka agreed to cede their lands. But the subsequent extension of the protected area impinged on the territory of the chieftainship of Bombo (with the main centre Bandegaido), without any contractual specifications being negotiated with the chief of the Bombo at the time (Isiaka). So all the Bombo people are against the present delimitation of the Okapi Wildlife Reserve or, in other words, are against the limiting of activities in the reserve […] It's been our forest for a long time, we cannot accept this. The insecurity in and around the reserve will therefore not be resolved until the demands of the Bombo are satisfied.

This discontent has led some members of the local communities and indigenous peoples to form an armed self-defence group called MAÏ-MAÏ SIMBA. Their initial objective was to claim the restitution of their ancestral lands. The group opted to attain this objective by sabotaging the conservation efforts within the Okapi Wildlife Reserve. In June 2012, the MAÏ-MAÏ SIMBA leader, nicknamed Morgan, and his partisans took control of the reserve. This attack resulted in the deaths of approximately fifteen okapis and, more particularly, of twelve people, two of them eco-wardens (Kûmpel et al., 2015). Following this attack, the influence of the Institut Congolais de Conservation de la nature (ICCN) was reduced, as monitoring patrols were virtually suspended. The eco-wardens were afraid of being shot at by elements of the MAÏ-MAÏ SIMBA group which was considered particularly dangerous. This situation provided an opportunity for several hundred gold washers working illegally to enter the Okapi Wildlife Reserve. This considerably increased the hunting and poaching of okapi and elephants.

In 2015, the ICCN set about rebuilding the infrastructure and facilities destroyed by the insurgents, using funds from UNESCO. Furthermore, it cleared out more than 10,000 miners with the support of the DRC armed forces. This action enabled the ICCN to take back control of around 50 per cent of the reserve, 90 per cent of which had been controlled by the MAÏ-MAÏ SIMBA in 2012. The re-establishing of partial control of the reserve by the ICCN was also made possible by the weakening of the MAÏ-MAÏ SIMBA following the death of their leader in 2014. However, this weakening has not brought an end to the insecurity in and around the Okapi Wildlife Reserve. In addition to the presence of

the MAÏ-MAÏ SIMBA group, now led by one of the sons of the group's founder, the reserve continues to be the target of several other insurgencies seeking resources, such as from poaching and gold mining, to finance their war activities.

With the rapidly proliferating discourse on the threat of extinction faced by some species, including the okapi, efforts are being made by a handful of international organisations in partnership with the ICCN to strengthen the biodiversity conservation policy in the Okapi Wildlife Reserve. However, increasing needs and security challenges far outweigh the combined support of external partners engaged in bolstering conservation in the protected area (IUCN and UNESCO, 2014).

7.4 From ad hoc arrangements to attempts toward a shared governance

In the absence of the considerable resources needed to attain its biodiversity conservation objectives, the Okapi Wildlife Reserve seems to base its method of governance on constant adaptation and even ad hoc arrangements. From 2006, initiatives to support biodiversity conservation in the reserve began to be put in place. These initiatives have been driven mainly in the context of the Central African Regional Programme for the Environment (CARPE), funded by the United States Agency for International Development, USAID (CBPF, 2005). They have involved microzoning which has helped define the boundaries of farming areas, draft a management plan with the cooperation of all actors, clarify the management vision and identify the overall objectives, while taking account of the opinions of local communities and indigenous peoples (Brown et al., 2008; IUCN and UNESCO, 2014). This programme has also facilitated the collection of additional data on the dynamics and evolution of the flora and fauna within the reserve. These data should ultimately establish an inclusive governance framework that will promote the peaceful resolution of the contentious relations between local communities.

The ICCN is supported in this approach by external partners, such as transnational conservation NGOs, who include the Wildlife Conservation Society (WCS) and Gilman International Conservation (GIC), the German KfW Development Bank, the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO), and others. WCS and GIC are working in particular alongside and in support of the ICCN and have been doing so since the early 2000s. They assisted the ICCN with implementing the programme entitled 'Biodiversity conservation in regions of armed conflict: protecting World Heritage Sites in the Democratic Republic of the Congo,' which the NGOs co-funded with the United Nations Fund (UNF) and the development agency of the Belgian Ministry of Foreign Affairs (IUCN and UNESCO, 2014). WCS' commitment to biodiversity conservation in the Okapi Wildlife Reserve led the NGO in December 2018 to sign a ten-year joint management contract for the nature reserve with the ICCN. Management of the reserve was thus switched to a type of 'public-private partnership,' commonly described as

'shared governance' (IUCN, 2014). Recourse to this type of governance structure is often envisaged in the following situations: i) when states do not wish to (or cannot) invest directly in managing protected areas for reasons of political choice or budgetary constraints; ii) during the development phase of a newly created protected area or rehabilitation of a 'paper park'; iii) when a protected area is facing pressure from militarised poaching that requires particular expertise and considerable resources. With the exception of situation ii), the characteristics referred to match the situation of the Okapi Wildlife Reserve.

The activities deployed by WCS in collaboration with the ICCN also benefit from the spin-offs of the Stabilization and Reconstruction Plan (STAREC) of MONUSCO, more especially in the territory of Mambasa. Through the International Security and Stabilization Support Strategy (ISSSS) of this programme the situation was observed to have noticeably improved in February 2022 as regards the coexistence of reserve wardens and local communities. The Sustainable Wildlife Management (SWM) Programme is in addition to these initiatives. Funded by the European Union, the programme aims to compare two approaches to the sustainable management of wildlife based on the rights of communities (WCS et al., 2020). These initiatives nonetheless pose the challenge common to all such one-off interventions, namely maintaining over the long term the momentum created by short-term projects that are essentially funded by external sources and put together to a greater or lesser degree with local actors.

7.5 Conclusion

The Okapi Wildlife Reserve was created in 1992 with the aim of bolstering biodiversity conservation in the province of Ituri over and above its ambition to safeguard the iconic species of the okapi. However, the recurring socio-political and military crises which DRC has regularly confronted since the 1980s have not enabled this objective to be attained. In addition to the persistent socio-political crises and the virtual absence of the Congolese state in Ituri, the lack of communication between managers, local actors and indigenous communities is contributing to an atmosphere of distrust which is undermining and irrevocably reversing efforts at biodiversity conservation in the Okapi Wildlife Reserve. Several arguments are regularly evoked relating to this situation of mistrust to justify the multiple intrusions into the nature reserve by insurgent groups comprising people from local communities living close to the Okapi Wildlife Reserve. This situation reveals that it is difficult to achieve biodiversity conservation objectives in a context of social tensions and armed conflicts. Without the support and adherence of local populations this ambition becomes unattainable and undermines and potentially reverses any efforts at the sustainable management of natural resources in DRC and in Ituri in particular. Participation by local communities and indigenous peoples and respect for their rights are factors which are increasingly highlighted in recent initiatives and biodiversity conservation programmes bordering or within the Okapi Wildlife Reserve. Over and above these socio-political considerations, the biggest challenge to consider when looking to improve biodiversity governance in the nature reserve remains

security. The lack of security is exacerbated by various local and cross-border insurgencies. Added to this major challenge is the need for a greater and more effective government presence in the province of Ituri to better regulate how the benefits associated with the exploitation of natural resources in DRC and at local level in Ituri are accessed, managed and equitably shared.

Notes

1 https://news.mongabay.com/2021/06/deforestation-intensifies-in-northern-drc-protected-areas/ consulted on 05/01/2022.
2 www.globalforestwatch.org consulted on 05/01/2022.
3 https://news.mongabay.com/2021/06/deforestation-intensifies-in-northern-drc-protected-areas/ consulted on 05/01/2022.
4 Quote from La Voix du Zaïre radio: Zaire international business and conference centre, construction of the Inga-Shaba high-voltage line, etc.

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8 Crises, Complexities and Claims in Protected Areas

Landscapes of (In) Coherent Biodiversity Governance and Social-Environmental Injustice in Southwest Cameroon

Samuel Assembe-Mvondo, Julius Chupezi Tieguhong, Grace Wong and Maria Brockhaus

8.1 Introduction

Many indicators converge on the fact that biodiversity is collapsing on a global scale and that the phenomenon is recently accelerating (Bradley et al., 2012; IPBES, 2019). Biodiversity is the guarantor of exceptional goods and services, preserving nature's capacity to provide food, raw materials and medicines, to protect human beings against natural hazards, to store carbon, to recycle waste, and to contribute to the quality of our living environment. The main drivers of biodiversity loss are now well-known, notably anthropogenic activities (Bradley et al., 2012). In relation with anthropogenic extinctions of biodiversity, it is well-established that international markets and financial liberalizations have increased the exposure of forests to global trade and investments, which have aggravated the historical trends of deforestation and biodiversity loss worldwide (Pacheco et al., 2012; Borrini-Feyerabend et al., 2013; Sist et al., 2014).

Faced with the above challenges that have been underestimated for too long, biodiversity conservation policies, strategies and actions have had disappointing results (Pyhälä et al., 2016; Ray et al., 2021). Indeed, conservation policies have lacked coherence, often focusing more on wildlife and/or plant species and ignoring complex social-ecological relations between ecosystems, local communities and the livelihoods of indigenous people as well as their related claims and rights (Springer et al., 2011; Proces et al., 2021). The countries of the Congo Basin (notably Cameroon) are not exempt from these global trends, because they are faced with both the accelerated disappearance of rich forest biodiversity and the conservation policies of colonial inspiration that are ineffective because they are not adapted to the subregional socioeconomic and ecological contexts (Megevand et al., 2013; Pyhälä et al., 2016).

The objective of this chapter is to examine how biodiversity conservation and related public policies and strategies have affected local social-ecological and -economic contexts. To this end, we apply a social and environmental justice lens and illustrate conservation and biodiversity outcomes with a situation analysis of the implementation of forest conservation policies and related community rights from the Southwest region of Cameroon. The following research questions guide the current analysis:

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What impacts have biodiversity conservation policies had over local communities' rights and livelihoods? Have the biodiversity conservation strategies and related public policies succeeded in meeting their stated conservation objectives?

8.2 Analytical framework

We apply an analytical framework that examines the multiple dimensions of environmental justice (Schreckenberg et al., 2016; Martin, 2017), emphasizing the connections between biodiversity conservation policies and social-environmental injustices as related to changes or displacement of local communities' rights and livelihoods. Studies have shown how the loss of rights and lack of recognition of local rights and claims can lead to widening inequalities, poverty and violent conflicts (Martin et al., 2016; Wegerif and Guereña, 2020). Indeed, Stedman-Edwards (1997) and Pascual et al. (2014) have shown that inequalities and inequities work against biodiversity conservation strategies. The minority wealthy who control the resources and enjoy the profits from their use impose the impacts of degradation and decline on those whose livelihoods and culture/identity depend on them (Minfede Koe, 2017; Stedman-Edwards, 1997; Wegerif and Guereña, 2020).

Finally, the concept of environmental justice, which refers to the issue of environmental equity within and outside social groups is also relevant for this analysis (Been, 1993; Kaswan, 1997; Teelucksingh, 2002). These authors also emphasize that the end of environmental justice is to harmonize contrasting social policies, and especially, to obtain equitable distribution of resources (see Figure 8.1 and Table 8.2).

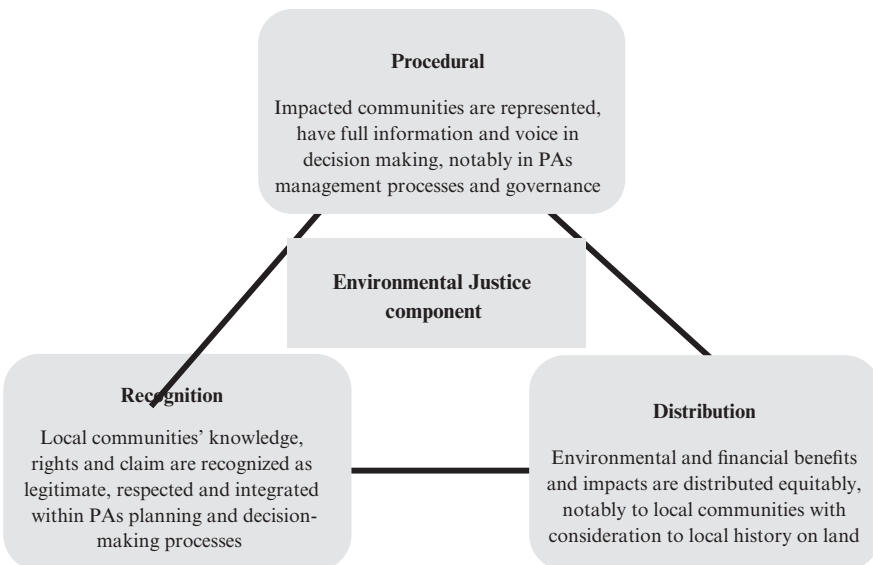

Figure 8.1 Three dimensions of environmental justice, as applied in our study of protected areas *(inspired by* Martin, 2017; Schreckenberg et al., 2016)[1]

8.3 Methods used and Southwest landscape of Cameroon

Methods used

The collection of qualitative and quantitative data for this study took place between the end of 2016 and beginning of 2017 using the following approaches: i) review of international and national legal and policy materials on forest conservation and related local communities' rights; ii) literature review on rights-based approach (RBA) in conservation; iii) a field trip was conducted at grassroots levels, notably by organizing focus-group discussions in 12 villages and interviewing local leaders (village chief and elders) around the Mount Cameroon National Park and the Bakossi National Park; and iv) additional interviews were conducted with local conservation administration, biodiversity conservation NGOs and bilateral aid agencies such as WWF and GIZ staff, plus three experts from local associations.

In light of recent developments of conflict in the research site, notably the starting of armed conflict known as "Anglophone problem in Cameroon", we carried out a review and analysis of recent literature to update our data for better understanding of the situation on the ground (International Crisis Group, 2020; Tabi et al., 2020; IBRD/WB, 2021). Following a situation analysis is incidentally to provide an understanding of how the struggle affects legal, economic and political conditions and their impacts on conservation and human rights.

Biodiversity and the land use plan of Southwest landscape of Cameroon

The region of our study is located in the Southwest coast of Cameroon. This region is covered by four landscapes: Bakossi, Banyang-Mbo, Korup-Oban, and Mount Cameroon, which include the four protected areas of Bakossi National Park, Banyang-Mbo Wildlife Sanctuary, Korup National Park and Mount Cameroon National Park respectively, totaling a surface area of 44, 500 km^2 (WWF, 2015). This gradation gives room to many microhabitats, explaining the high levels of species diversity, albeit in the context of many anthropogenic threats (WWF, 2015). Table 8.1 provides a summary of the main characteristics and threats to the four protected areas (PAs). In this vein, Asaha and Deakin (2016) underlined that the Southwest region of Cameroon has experienced several changes in land use over the last century and such a trend is continuing. Furthermore, other past studies in this region have shown that local communities' rights and related livelihoods issues were in a tricky situation including tribal displacements and attempted mechanisms to ensure resettlement (Schmidt-Soltau, 2003; Tiani and Diaw, 2006; Mbile, 2009; Burgin and Zama, 2014).

Socio-ecological complexity and livelihood production of Southwest landscape

Alongside the conservation areas are large-scale agro-industrial plantations, which constitute parts of German and British colonial legacies. There are two state owned agro-industrial plantations in this landscape: the Cameroon Development

Table 8.1 Main characteristics and threats of the four protected areas (WWF, 2015)

Protected areas	*Date of creation*	*Areas (ha)*	*Key species*	*Threats*
Mount Cameroon National Park	12 December 2009	58 154	Elephants (*Loxodonta cyclotis*), chimpanzees (*Pan troglodytes*), drills (*Mandrillus leucophaeus*), 330 birds' species etc.	- Poaching and unsustainable bush meat hunting; - Growth of extractive and agro-industries; - Large forest clearance and shifting cultivation; - Unsustainable exploitation of timber and non-timber forest products; - Climate change risk; - Poverty and threatened livelihoods; - Armed conflict
Korup National Park	30 October 1986	125 900	Okoune (*Coelocaryon preussii)*, Black afara or framire (*Terminalia ivorensis)*, Palm tree (*Elaeis guinensis)*, Ilomba (*Pycnanthus angolensis)*, Emien (*Alstonia boonei)*, Mepepe (*Albizia zygia)*, African rubber (*Funtumia africana)*, Dabema (*Piptadeniastrum africanum)*, and Evoula (*Vitex grandifolia)*.	- Poaching and unsustainable bush meat hunting; - Growth of extractive and agro-industries; - Large forest clearance and shifting cultivation; - Unsustainable exploitation of timber and non-timber forest products; - Climate change risk; - Poverty and threatened livelihoods; - Armed conflict

Protected areas	*Date of creation*	*Areas (ha)*	*Key species*	*Threats*
Bakossi National Park	28 November 2007	29 320	Drill (*Mandrillus leucophaeus*), Chimpanzee (*Pan troglodytes*), Preuss's red colobus (*Piliocolobus preussi*), Red-eared guenon (*Cercopithecus erythrotis*), Preuss's guenon (*Cercopithecus preussi*), Putty-nosed monkey (*Cercopithecus nictitans*), Mona monkey (*Cercopithecus mona*) and mammals like Blue duikers (*Philantomba monticola*), Red river hog (*Potamochoerus porcus*), Red-fronted duiker (*Cephalophus rufilatus*), Black-fronted duikers (*Cephalophus nigrifrons*), Sitatunga (*Tragelaphus spekii*), and Long tail pangolin (*Manis manis*).	- Poaching and unsustainable bush meat hunting; - Growth of extractive and agro-industries; - Large forest clearance and shifting cultivation; - Unsustainable exploitation of timber and non-timber forest products; - Climate change risk; - Poverty and threatened livelihoods; - Armed conflict
Banyang-Mbo Wildlife Sanctuary	12 March 1996	64 220	Elephants, Chimpanzee (*Pan troglodytes vellerosus*), Drill (*Mandrillus leucophaeus*), and Guenons (*Cercopithecus* spp.).	• Poaching & unsustainable bush meat hunting; • Growth of extractive & agro-industries; • Large forest clearance & shifting cultivation; • Unsustainable exploitation of timber and non-timber forest products; • Climate change risk; • Poverty and threatened livelihoods; - Armed conflict

Corporation (CDC), which produces bananas, palm oil, tea and rubber in a total area of 42 256 ha; and Pamol Plantations, which produces palm oil and rubber in a total area of 11 449 ha. The annexation of Cameroon territory by the Germans induced the development of large-scale plantations by German firms before the First World War (Courade, 1977; Nkongho et al., 2015). After the defeat of the Germans by the British and the French troops in 1916, the industrialization of these plantations began with the creation of Pamol plantations in 1928 and the Cameroon Development Corporation (CDC) in 1947/48 (Meek, 1957).

There are various local communities living within and around the four protected areas. According to Schmidt-Soltau and Boya Meboka (2004), 15 per cent of the estimated 1.5 million inhabitants of the whole Southwest region are directly affected by the land use planned process and related conservation programmes of the four protected areas: i) Korup National Park (with 32 villages) contains eight major ethnic groups among which are: Oroko, Korup, Ejagham, Balong, Bakossi, Upper Bayang, Mbo and Nigerian (MINFOF, 2008); ii) The Mount Cameroon National Park contains three main ethnic groups: Bakweri, Mboko, Balong as well as many immigrants; iii) Bakossi National Park and Banyang-Mbo Wildlife Sanctuary (29 villages) are mainly composed of Bakossi, Mbo, Bakaka and Balong peoples. All the above local communities or primary stakeholders depend heavily on forest resources and agriculture activities for sustaining their livelihoods. Indeed, the main land use is agriculture, consisting of shifting cultivation ('slash-and-burn') for primary subsistence purposes, vegetables gardening to supplement subsistence crops (cassava, plantains, bananas, cocoyam's) and perennial cash crops such as cocoa, coffee and oil palm (Nana and Ngameni, 2014; Asaha and Deakin, 2016). Many studies have suggested that encroachment of protected areas is due to population increase and growing activities such as illegal hunting and farming (Ebua et al., 2011; Nana and Ngameni, 2014). However, what has been less examined is how the land use plan of protected area boundaries and displacement by both biodiversity conservation and commodity production have affected local communities land rights, availability and access rights, which might be underlying causes of "encroachment" (Schmidt-Soltau, 2003; Tiani and Diaw, 2006). Over 38 per cent of the total surface area in the Southwest region is under cultivation (MINADER, 2013). In addition, the harvesting of non-timber forest products (NTFPs) and informal logging have reached unsustainable levels that largely threaten and decimate wildlife populations (Ebua et al., 2011; Bobo et al., 2014). A survey report (Rainforest Foundation, 2016) shows that in the case of Nguti council, 70 per cent of the total populations are farmers; 20 per cent are hunters; five per cent are fishermen and the remaining five per cent conduct other activities. In other words, the livelihood activities of the local communities are also contributing to deforestation and biodiversity decrease.

Since colonial times, the current status of protected areas in the Southwest region of Cameroon is ultimately a consequence of extensive habitat loss, incurred primarily through wide-scale clear-cutting activities to replace forests with agro-industrial commodities, including cocoa, oil palm, banana, rubber, tea, and coffee (Morgan et al., 2011). These developments, in turn, have spurred loss of land,

displacements and movements of growing populations and immigrants into forest areas as well as higher population densities around the main cities (Kumba, Buea, Limbe, Mamfe, etc.). Meanwhile, evidence is clear that the current rate of bushmeat hunting, exacerbated by informal and industrial logging operations, agro-industries activities and building of infrastructure that open access into previously difficult to reach areas, are unsustainable for many taxa (Morgan et al., 2011; Bobo et al., 2014). Hunting and illegal transboundary trade (with Nigeria) in species like the African elephants and gorillas has precipitated marked declines in their populations across the Southwest region of Cameroon (Morgan et al., 2011; Forsac-Tata et al., 2015).

In terms of development indicators in the region, the decline in poverty was quite noticeable between 2001 and 2007, with the poverty rate having fallen from 33.8 per cent at 27.5 per cent (NIS, 2010). This trend could be observed in both urban and rural areas. However, since 2017, there has been armed conflict between the national government and separatists from the English-speaking minority that has killed over 4,000 people and displaced 765,000 of whom 60,000 are refugees in Nigeria (International Crisis Group, 2020). Such a violent situation has negatively impacted on the livelihood portfolios of local communities as well as on biodiversity.

8.4 Results

In the results section, we first present an evolution of the history of conservation policies at the levels of Central Africa with emphasis on Cameroon; outline their different policy objectives and priorities, and consequences on the rights of local populations. Next, we present how local communities have perceived their rights and then document how this has impacted local livelihoods. Finally, we present the changing socio-political situation due to the recent conflict in the English-speaking region of the country.

From the subregional to national conservation policies

The origins of regional collaboration on conservation activities and policy dialogue in the Congo Basin can be traced back to the late 1990s. In 1999, spurred by WWF, Central African heads of states held the first regional summit on forest conservation, which resulted in the Yaoundé Declaration that consists of 12 commitments on forest conservation and sustainable forest management. This framework was later operationalized through the 2005 Brazzaville Treaty that established the Central African Forest Commission (COMIFAC) and the adoption and implementation of its first "Convergence Plan". With support from the European Union, the Network of Protected Areas in Central Africa, known in French as *Réseau des Aires Protégées d'Afrique Centrale* (RAPAC) was created in 2000 and is mostly dedicated to the protected areas (PAs) components of the plan.

However, it should be underlined that conservation policies on biological species and on environmental protection were already known in Africa since the end

of the 19th century. The Convention for the Protection of Fauna and Flora in Africa, held in London at the end of 1933, confirms this interest with more manifestations on the conservation of nature under the Yellowstone- and Yosemite-inspired exclusionary model (Diaw, 2010). In this perspective, many forest reserves were set up in parallel between the 1930s and late 1970s in Cameroon (Gartlan, 1989). All these forest reserves aimed to maintain their capacities for wood production in the face of possible over-exploitation. Therefore, these reserves do not benefit from a very strong conservation status and can be fully subjected to exploitation. As for wildlife reserves, some have kept a very high potential for biodiversity conservation and subsequently changed their missions to become "conservation areas".

From 2000 to 2010, the strengthening of subregional dynamics was put in place, especially from a functional and/or institutional point of view. For instance, regional cooperation adopted a consultation institution like the Congo Basin Forest Partnership (CBFP). In this vein, bilateral and multiparty treaties and agreements were signed in order to improve the effectiveness of conservation policies and, in particular, the management of protected areas. This was the case for cross-border areas such as *Trinational de la Sangha* between Cameroon, Central Africa Republic and Republic of Congo; TRIDOM between Cameroon, Gabon and Republic of Congo, BSB Yamoussa between Cameroon, Chad and Central Africa Republic. Being put in place are protected areas networks embodying the rich biodiversity in each country and the dynamic collaboration between member states. These efforts aimed at strengthening the management efficiency of biodiversity and fighting against poaching that has become more and more transboundary. Despite all these improvements, the networks of protected areas are strongly subjected to ever-increasing pressures, whether it is hunting pressure – including large mammalian poaching for ivory – or more recent and intensifying pressures such as mining projects or oil industry explorations, or even the development of large infrastructure such as dams or major highways (Pyhälä et al., 2016). To reduce the negative impacts, Central African States have put in place some tools of legal and procedural instruments such as environmental impact studies. However, macroeconomic and employment policies based on the exploitation of natural resources are institutionalized in those countries, which are in conflict/competition with land use plans for the conservation of biodiversity and sustainable development policies (Pyhälä et al., 2016). In such a context, protected areas are increasingly faced with strong drivers of deforestation and biodiversity loss.

As pointed out by Mayen Ndiong et al., (2021: 67), within the different Central African countries, each country has its own unique laws governing forest resources and conservation of biodiversity. Governance systems are very fragmented and not transparent because of differing efforts to integrate all stakeholders in decision-making. Local populations are often still remaining in the margin of protected areas governance. In this vein, despite some recent improvements by some governments in Central Africa, the dominant protected areas governance model is still in the hands of state institutions with weak real

involvement of private partners, local communities and indigenous people (Joiris and Bigombé, 2008; Pyhälä et al., 2016; Scholte et al., 2021). Such a trend on poor governance of protected areas is similar to the one observed in the Southwest region of Cameroon. Indeed, Cameroon has signed and ratified most of the major international instruments (except ILO Convention 169) that promoted human rights in the environmental-related sectors. In this connection, one of the most illustrative examples of Cameroon's regional commitments is the African Charter on Human and Peoples' Rights, which states that *"all people shall have the right to a general satisfactory environment favorable to their development"*. [2] Other human rights on environmental commitments have been undertaken by Cameroonian authorities in the framework of COMIFAC.[3] In 2010, the Council of Ministers of the COMIFAC adopted the Sub-regional Guidelines on the Participation of Local Communities and Indigenous Peoples and NGOs in forest conservation and sustainable management in Central Africa. A review of this subregional soft-law instrument highlights a genuine commitment by states to consolidate the benefits and emerging rights that can really improve the wellbeing and livelihoods of local communities and indigenous peoples in connection to forest resources conservation (Assembe-Mvondo, 2013). From this perspective, it is possible to make the following distinctions among the rights mentioned in the guidelines:

- Consolidated rights, which refer to those rights that are already mentioned in the current forest legislation, Post-Rio Conference, the contents of which the COMIFAC Guidelines appear to only improve upon or re-emphasize;
- Re-established rights, those rights that were removed/banned by many statutory legislations after the independence of Central African countries (like Cameroon) despite their resilience in the form of de facto practices (COMIFAC guidelines have explicitly mentioned and provided them with substance);
- Emerging rights, those rights derived from the newly established mechanisms, which have not yet been implemented (for example, REDD+ rights, FLEGT/VPA, FPIC).

Cameroon 1994 Forest Law recognizes the existence and use of traditional forest rights (through community forests and user rights), which are the rights that people traditionally living near or within forest areas may exercise with a view to satisfying their needs for forest products. These rights are freely accessible, as long as the beneficiaries maintain geographic proximity to forest, harm no protected species, and remove forest products only to meet their personal or collective and strictly non-commercial needs. However, the forest law stipulates that these rights may be restricted or even entirely revoked if they become incompatible with sustainable forest management and conservation. Another step forward by the reform is the participation of the population in the conservation and management of the forest. Such a participatory establishment was translated in protected areas through various measures taken: i) Economic operators in leasing hunting zones are obliged to respect the specifications on social projects to be carried out for the benefit of surrounding communities; ii) In addition to such social projects,

communities benefit 50 percent of lease taxes which are annual and per hectare, and share on a pro-rata basis of 40 percent to the councils and 10 percent to communities. Cameroon also instituted rules that allow for consultation of local communities both at the level of creation, demarcation and management of protected areas.

Situation of local communities' rights and claims in the Southwest landscapes

According to Ndi and Batterbury (2017), there is evidence for claims that land acquisition by dominant stakeholders (state, conservation administration, agro-industrial plantations and other stakeholders) are threatening local communities' livelihoods and cultural norms in the Southwest region of Cameroon. During our field visits, a total of seven categories of rights were identified and documented with village communities surrounding the national parks that are being affected by conservation actions in the landscapes of the Southwest of Cameroon. These included:

- Rights linked to tenure security such as rights of ownership of ancestral forest land in PAs;
- Rights linked to participation in decision marking such as rights to participate in the Programme for Sustainable Management of Natural Resource (PSMNR) activities;
- Rights linked to law enforcement such as rights to hunt or fish within and around PAs;
- Rights linked to free, prior and informed consent (FPIC) such as community consultation and agreement;
- Rights linked to cultural and bio-cultural diversity such as rights to use PA for cultural purposes;
- Rights linked to sustainable development and benefit sharing such as rights for communities to receive an agreed proportion of ecotourism fees;
- Rights linked to displacement and restriction to resources access (harvesting timber and NTFPs for own use/construction or sale).

Overall, rights linked to tenure security in terms of owning ancestral forestland in PAs are not recognized by the Cameroonian Laws while those linked to participation in decision-making are recognized by the 1996 Law on Environmental Management. The latter rights are partially respected in the light of consultation of local communities and their involvement in co-management activities. Rights linked to law enforcement have direct connections with poaching activities of local communities and are recognized by the 1994 Forest and Wildlife Law. Such rights are partially respected outside the PAs and agro-forests, which allow hunters to hunt Class C animals for own consumption, as well as permit men, women and children in local communities to harvest NTFPs and fish in regulated ways in PAs and around cocoa farms. Rights linked to displacement and restriction to resources access are recognized by the 1994 Forest and Wildlife Law but are not respected in the PAs. However, around the villages, rights to harvest timber trees in PAs for

own construction purposes are possible with controls and regulation by the public forest and conservation administrations in place. Rights linked to FPIC are not recognized by the 1994 Forest and Wildlife Law and drafted texts are subjected to future approval by the competent government services. Rights linked to cultural and bio-cultural diversity are recognized by the 1994 Forest and Wildlife Law and are being respected in the cases of Nyalle I & II, Menyom, Muahunzum villages to use PAs for cultural purposes. Rights linked to sustainable development and benefit sharing are recognized by the 1994 Forest Law with fulfillment associated with the respect to communities receiving certain proportions of ecotourism fees and proceeds from the commercialization of *Prunus africana* from the PAs.

For each right/claim, further discussions were made with local communities and representatives on whether it was being recognized, respected and/or fulfilled by conservation actors. Among these rights, two (Rights of ownership to ancestral forest land in PAs and Rights linked to FPIC) are not recognized by the available conservation laws while the remaining five are recognized. In terms of the respect of rights, three are not respected and four are partially respected or subject to some level of regulations by the conservation actors. When it comes to the fulfillment of rights, two are not fulfilled while two are fulfilled but the remaining three are only partially fulfilled (Table 8.2).

Update of our analysis relative to armed conflict in the Southwest of Cameroon

Southwest region is one of the two regions of the English-speaking part of Cameroon that is currently facing a civil conflict. The root of the "Anglophone problem" in Cameroon may be traced back to 1961, when the political elites of two territories with different colonial legacies – one French and the other British – agreed on the formation of a federal state (Ngongo, 1987). Contrary to expectations, this did not provide for the equal partnership of both parties, let alone for the preservation of the colonial legacy and identity of each, but turned out to be merely a transitory phase to integration of the English-speaking region (legacy of British indirect rule system) into a strongly *Jacobinist* (legacy of French colonial administration) unitary state (Kaushal, 2020; IPSS, 2020).

Gradually, this created an Anglophone awareness: the feeling of being marginalized by the Francophone-dominated State. In the wake of political liberalization in the early 1990s, Anglophone interests came to be represented first and foremost by various associations and pressure groups that initially demanded a return to the federal State (Konings and Nyamnjoh, 2000). It was only after the persistent refusal of the central government to discuss this scenario that secession became an overt option with mounting popularity. The government's determination to defend the unitary state by all available means, including repression, could have led to an escalation of Anglophone demands past a point of no return. Such a violent situation has negatively worsened the livelihoods opportunities for local communities in the affected regions characterized by: loss of life and growing humanitarian consequences; physical damage to assets; negative impacts on human development outcomes and related economic activities (IBRD/WB, 2021).

Table 8.2 Summary on rights being recognized, respected and/or fulfilled by protected areas management in the Southwest of Cameroon – and the related social-environmental injustices

List of rights	*Legal Recognition*	*Respected*	*Fulfilled*	*Injustice*
Rights linked to tenure security in PAs	Not recognized by the Cameroonian Laws to own ancestral forestland in PAs	Not respected in terms of ownership of ancestral forestland in PA	Not fulfilled	Distributional
Rights linked to participation in decision-marking	Recognized by the 1996 Law on Environmental Management	Partially respected with consultation of local communities and their involvement in co-management activities. But, not involved in decision-making process and planning	Partially fulfilled	Procedural
Rights linked to law enforcement	Recognized by the 1994 Forest and Wildlife Law	Partially respected outside the PA and agro-forest areas to hunt Class C animals for own consumption, respected to harvest NTFPs and fish but regulated in PAs	Partially fulfilled around cocoa farms	Procedural Distributional
Rights linked to displacement and restriction to resources access	Recognized by the 1994 Forest and Wildlife Law	Not respected in the PA, but around the village such as rights to harvest timber trees in the PA for own construction purposes	Partially fulfilled	Distributional Recognition
Rights linked to free, prior and informed consent (FPIC)	Not recognized by the 1994 Forest and Wildlife Law	Not respected	Not fulfilled	Procedural Recognition
Rights linked to cultural and biocultural diversity	Recognized by the 1994 Forest and Wildlife Law	Respected in the cases of Nyalle I & II, Menyom, Maunzum villages to use PAs for cultural purposes	Fulfilled	Recognition
Rights linked to sustainable development and benefit sharing	Recognized by the 1994 Forest and Wildlife Law	Respected for communities to receive an agreed proportion of ecotourism fees and commercialization of *Prunus africana*	Fulfilled	Distributional

Source: Assembe-Mvondo and Tieguhong (2016).

As far as biodiversity resources are concerned, Tabi et al. (2020) revealed that in the absence of forest law enforcement and related technical administrations *apparatus*, many displaced persons find refuge inside forests and subsequently cut down trees and other forest resources for temporal construction, food and hunt wildlife species, notably great apes, elephants and pangolin.

8.5 Discussion

It is clear in this case that the multilevel biodiversity conservation governance in force in the Congo Basin in general, and especially in Cameroon, are overlapping and in conflict with other sectoral policies in relation to the macroeconomic vision of the country (Megevand et al., 2013; IPBES, 2019). Therefore, this conflicting cohabitation between protected areas and the development of agro-industrial plantations generates two main negative impacts in terms of land use conflicts (Oyono et al., 2014). First, the loss of the rich forest biodiversity in the area is now inevitably accelerating despite the conservation strategies put in place by government authorities with the support of international cooperation (Schmidt-Soltau and Boya Meboka, 2004; Pyhälä et al., 2016). This is a main reason for many observers to rightly conclude on the failure of biodiversity governance in the Congo Basin (Pyhälä et al., 2016; Mayen Ndiong et al., 2021). In this sense, both direct and indirect drivers of deforestation interplay in the Southwest landscape. Second, since the colonial periods, the rights of local communities are still restricted by both operational strategies for biodiversity conservation and those connected to the development of agro-industrial plantations (Kofele-Kale, 2007; Njoh, 2013). These facts constitute the first dimension of the crisis of biodiversity policies in Cameroon and Central Africa at large.

In this case, the restrictions on various rights (notably land and forest access) of local communities prevent local actors from enjoying the various socioeconomic opportunities in terms of the expansion of agricultural sector as well as the development of NTFPs value chains, thus contributing to the situation of increasing poverty and inequalities between rural and urban populations (NIS, 2010; Nana et al., 2014; Asaha and Deakin, 2016). Indeed, restricting and in some cases dispossessing local communities of their customary lands, have significantly affected livelihoods, because these communities lose part of their main source of income. Such a situation has caused frustration among the villagers, especially due to the low compensatory and mitigation socioeconomic measures. Therefore, the current army conflict between separatists and Cameroonian army is an aggravating and accelerating circumstance of the phenomenon of rural poverty in this fragile region as confirmed by the assessment made by the World Bank (IBRD/WB, 2021: 35):

> In rural areas, where populations depend on agricultural production, livelihoods have been severely disrupted as insecurity, lockdowns, and ghost town days prevent households from gaining access to fields, purchasing farm inputs,

> or selling crops. Farmers have been forced to flee the conflict, and to either hide in remote bush areas, where they have little or no access to food and basic services, or to relocate to safer urban and semi-urban areas.

In fact, according to Stedman-Edwards (1997), the worst situations of wellbeing can induce biodiversity loss and degradation. Furthermore, the over-exploitation of wildlife and vegetation in conflict zones exacerbates existing constraints to accessibility and availability, threatening both the resource base and the livelihoods of local communities dependent on them (Dudley, 2002). There is evidence that with armed conflict, the increase in the human population and activity in and around the protected areas, corruption, and weak implementation of existing regulations all present challenges and point to the need for broader and more effective conservation measures (Tabi et al., 2020). Therefore, the conservation landscapes of the Southwest of Cameroon cannot logically escape many dimensions of biodiversity conservation strategies in crisis.

As already mentioned, the concept of environmental justice includes both distributive and procedural components (Been, 1993; Kaswan, 1997). In the case of the protected areas in the Southwest of Cameroon, many underlined restrictions on the enjoyment of rights devolved to local communities rather stem from a situation of perpetuation of environmental injustice (Assembe-Mvondo, 2006). Such injustice began during the German colonial period (1884–1914) with agro-industrial plantations, passing through British trustee 1918–1961 (Meek, 1957; Ngongo, 1987; Kofele-Kale, 2007), and the advent of an independent Cameroon sovereign state did not put an end to this unfair land use planning (Ndi and Batterbury, 2017). The local populations as victims (notably Bakweri ethnic group) of violent eviction on their ancestral lands recognized as fertile, have never been compensated by both colonial and postcolonial administrations (Assembe-Mvondo et al., 2022). Hence the situation of socio-environmental injustice that persists there, thus crystalizing the frustrations and resentments from generation to generation against state authorities and related conservation symbols. On the contrary, socio-political and environmental injustices remain alive; compounded by the ongoing armed rebellion of the local political elite and populations against the *Jacobinist* inspired central state (Kaushal, 2020), thus, culminating in an induced biodiversity conservation crisis.

One of the main lessons of this case study is that Cameroon's triple colonial heritage (German, French and British) continues to permeate the postcolonial policies in force in this country (Njoh and Akiwumi, 2012; Momo Lekane and Asuelime, 2017). Of course, the French political and administrative philosophy and principles tends to be dominant. Indeed, the state, its main institutions and sectoral policies (especially conservation and land policies) largely reproduce the colonial legacies of the former colonial masters. Therefore, Cameroonian politico-institutional landscape seems to resist a wind of transformation: *institution stickiness* (Brockhaus and Angelsen, 2012). This fact demonstrates once again a weakness of political delay and policy design on the part of the Cameroonian authorities and elites.

8.6 Conclusion

At the end of this chapter, it becomes clear that the policies and strategies for the conservation of biodiversity in Cameroon and the Congo Basin at large are in the midst of a crisis. This is because of the dichotomy between making it possible to secure biodiversity as well as ensuring that local communities gain their rights and claims to resources that are important for their livelihoods. Indeed, the situation in the Southwest landscape of Cameroon is found wanting and is compounded by the civil war that has raged in the region since 2016, leading to aggravating circumstances of socio-environmental injustices and impoverishment of rural communities.

Therefore, contrary to this conservation model that induces socio-environmental injustices, Martin et al. (2016) advocate an alternative and fair model of conservation that requires the integration of local people's knowledge and cultures. Such an alternative biodiversity conservation model built on the foundations of environmental justice is likely to have positive effects both for the security and sustainability of biodiversity resources and the improvement of the enjoyment of rights and claims by local communities.

Notes

1 This figure was inspired from definitions (texts) by the two following works:
Martin, A. 2017. *Just Conservation: Biodiversity, Wellbeing and Sustainability*. Routledge: London.
Schreckenberg, K., Franks, P., Martin, A., & Lang, B. 2016. Unpacking equity for protected area conservation. Parks, 22 (2), 11–26. https://doi.org/10.2305/IUCN.CH.2016.PARKS-22-2KS.en
2 See the provisions of Article 24.
3 Central Africa Forests Commission (COMIFAC, French Acronym) Member States: Burundi, Cameroon Central Africa Republic (CAR), Chad, Congo (Republic), Democratic Republic of Congo (DRC), Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe.

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9 Linking Institutional Weaknesses to Deforestation Drivers in the Governance of Protected Areas in Madagascar

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9.1 Introduction

Protected Areas – places set aside through legal or other means for the purpose of biodiversity conservation – are the predominant global conservation strategy (Watson et al. 2014). Indeed, the expansion of the global protected area (PA) estate has been one of the major concerns of the contemporary biodiversity conservation movement. Terrestrial PA coverage has grown from approximately 9.4 million ha in 1990 to 20.3 million ha in 2018 (UNEP-WCMC et al. 2018). In 2020, protected areas covered 15.4 per cent of the planet's land surface and 7.7 per cent of the oceans (Protected Planet 2021). Moreover, signatories to the Convention on Biological Diversity (CBD) are expected to continue extending protected area coverage (CBD 2020).

In principle, the expansion of protected areas is prioritised globally, notably because their success in conserving biodiversity depends on their coverage and representation – they can only protect ecosystems and species that occur within them. In practice, the simple establishment of protected areas is not sufficient to conserve their constituent biodiversity, because those PAs must also successfully buffer that biodiversity from processes that threaten their viability (Gaston et al. 2008; Watson et al. 2014; Adams et al. 2019). In other words, protected areas must be effectively managed. However, global targets and legislation such as the CBD still measure protected area progress mainly through the extent of areas and number of those conservation units around the world (Barnes et al. 2018).

While protected areas can be effective in preventing habitat loss and maintaining species (Butchart et al. 2012; Geldmann et al. 2013; Carranza et al. 2014; Coetzee et al. 2014; Beaudrot et al. 2016), many PAs around the world are not effectively managed (Leverington et al. 2010; Watson et al. 2014) and continue to lose biodiversity (e.g. Clark et al. 2013; Laurance et al. 2013; Heino et al. 2015; Brown et al. 2019; Rada et al. 2019). In tropical low-income countries in particular, anthropogenic pressures such as agricultural encroachment including large-scale commercial agriculture and shifting cultivation, illegal hunting, overfishing, uncontrolled natural resource extractions, including illegal logging for timber and

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charcoal production and infrastructure development, represent major challenges for a sustainable management of PAs (Stolton and Dudley 2008; Tranquilli et al. 2014; Schulze et al. 2018). In response, conservation NGOs have increasingly focused on protected areas' effectiveness notably by developing a set of protected area management effectiveness (PAME) as an assessment tool. As an example, the Management Effectiveness Tracking Tool (METT), WWF's Rapid Assessment and Prioritization of Protected Area Management methodology (Ervin 2003) and the IUCN's framework for assessing management effectiveness of protected areas (Hockings et al. 2006) were developed in early 2000s.

While the quantification of PA effectiveness is an important step, a qualitative improvement of the conservation performance of PAs requires a deep understanding of why ineffectiveness occurs (Barnes et al. 2016) and most importantly, what drives the related institutional weaknesses. However, there has been little research into the conditions and processes that influence protected area outcomes. Existing methods such as METT largely focus on management processes and inputs (Geldmann et al. 2018; Lham et al. 2018), yet conservation outcomes are also influenced by external contexts, i.e. the socio-economic and political environment of the surrounding landscapes that largely determines the threats PAs face (Corson 2018; Barnes et al. 2016; Scales 2011).

In this chapter, we use a case study of a recently established but severely threatened protected area in Madagascar to explore the factors impeding its effectiveness. Harbouring unmatched levels of endemic biodiversity twinned with critical threats due to the high dependence of many local residents on natural resources for their subsistence and income, Madagascar is a top global conservation priority (Brooks et al. 2006) and among the top ten countries attracting foreign aid to support conservation (Miller et al. 2013). Hundreds of millions of US dollars have financed projects to promote conservation and development, but the island continues to experience a severe environmental crisis (Waeber et al. 2016; Jones et al. 2019).

Box 9.1 Key actors and interests of the management of protected areas funding in Madagascar

Biodiversity conservation in Madagascar is internationally driven with massive support from multilateral and bilateral donors ranging from banks to philanthropy such as World Bank, AfDB, l'Oréal Foundation, MacArthur Foundation, etc. Since the structural adjustment, these fundings are often received and managed by non-state organisations – for example UN-agencies such as UNEP, UNDP, and NGOs such as WWF, CI, WCS. In the 2000s, conservation NGOs have experienced a massive increase of their financial portfolio to promote biodiversity preservation in Madagascar.

Historically, it was during the colonial period, particularly in the 1920s, that the first protected areas were established in Madagascar. However, the 1980s marked the conservation boom in Madagascar (Kull 2014). In 1991, Madagascar launched the first National Environmental Action Plan (NEAP) in Africa resulting in massive international funding for biodiversity preservation.

International actors such as foreign biologists, international non-governmental organisations such as CI, WWF, WCS, donors such as World Bank and governmental organisations such as USAID have played and continue to play a key role in shaping conservation and development policies in the forest frontier in the country (Corson 2017).

The NEAP has shifted the power relations between state and non-state actors and reinforced issues on power asymmetries in the forest frontier in Madagascar. The 1990s were marked by the decentralisation of forest management to forest-dependent communities through the creation of a new management system known as community-based management from data released in 2014 (Rabemananjara et al. 2016). However, this has led to the issue of local elite capture failing to meet devolution of power to local communities and to promote sustainable forest management for poverty alleviation (Pollini 2014). In the 2000s, a rapid expansion of protected areas was achieved, and by 2020 protected areas covered 7.1 million hectares of national territory to reconcile both conservation and development. Protected areas of 1.7 million ha are mainly national park devoted for biodiversity preservation, but research and recreational activities are permitted. They are managed by a private/public organisation known as Madagascar National Park. Despite the efforts to promote tourism in these parks they are facing financial crisis and depending heavily on donor's support for their management. In 2005, a trust fund known as the Madagascar Biodiversity Fund (FAPBM) was set up to support MNP and National NGOs to support their operating protected area management cost. Protected areas of 5 million ha set for multiple use are managed in delegated management between state and international and national NGOs but remain unclear on how forest-dependent communities can benefit from the multiple-use approach. Up to 467 000 ha have been categorised as orphan sites or paper parks due to the absence of a delegation or proper management by Ministry of Environment and Sustainable Development (MEDD) to support their management. These governance arrangements are aiming to decentralise forest management from a state-centred approach represented by the Ministry of Environment and Sustainable Development (MEDD) to the inclusion of local communities and NGOs. However, it has led to a play of cunning strategy by both actors to advance their specific agenda to expand territories for biodiversity and reinforced state power to dismiss customary land rights.

Most endemic biodiversity is forest dependent (Goodman and Benstead 2005), but deforestation and forest degradation continue at globally high rates (Zinner et al. 2014; Desbureaux and Damania 2018; Vielledent et al. 2018), driven primarily by shifting cultivation (for subsistence and cash crops) especially in poorest communities, illegal mining and logging, and massive demand for firewood and charcoal (Fritz-Vietta et al. 2011; Gardner et al. 2015; Jones et al. 2019). To address these issues, the central government has been rapidly expanding protected area

system since 2003 (Gardner et al. 2018). Paradoxically, there is evidence that many of the newly established PAs have not been effective in slowing or eradicating the principal threat of deforestation and biodiversity loss (Eklund et al. 2016; Desbureaux and Damania 2018; Vieilledent et al. 2020).

In order to better explain the major factors that limit the effectiveness of Madagascar's protected areas in addressing deforestation, we carried out an institutional analysis of one of the country's most threatened PAs, Menabe-Antimena, using the Institutional Analysis and Development (IAD) framework. The IAD framework is widely used to conceptualise and explain complex human-environment interactions, such as common pool resource management, that affect multiple stakeholders (Mannetti et al. 2017; Nigussie et al. 2018). It can be used to unpack the linkages between stakeholder groups and how they interact with the environment (Vatn 2005; Ostrom 2011), enabling the diagnosis of institutional arrangements in order to highlight the theory that drives a specific outcome (Ostrom 2005; Ostrom 2011). In our selected case study in Madagascar, the outcome is the persistence of deforestation and biodiversity loss in Menabe-Antimena protected area.

9.2 Methodological framework

Study area

Menabe-Antimena (Figure 9.1) is an IUCN category V protected area of 209 041 ha, and includes the largest remnant of deciduous dry forest in the west of Madagascar (Zinner et al. 2014). It conserves a range of endemic and locally endemic forest and wetland species, and provides the last remaining habitat for three endangered vertebrates: the flat-tailed tortoise *(Pyxis planicauda)*, Madagascar giant jumping rat *(Hypogeomis antimena)*, and the world's smallest primate, Madame Berthe's mouse lemur (*Microcebus berthae)*. It is therefore recognised as one of the top conservation priorities in Madagascar (Ganzhorn et al. 2001; Waeber et al. 2015).

Rural communities around the PA depend heavily on agriculture, charcoal production and the exploitation of timber and non-timber forest products for subsistence and income, as well as fisheries in coastal areas (Ganzhorn and Sorg 1996; Sandy 2006; Gardner 2011). Although the region is semi-arid and has infertile soils, the rural economy is dominated by small-scale agriculture and in particular a form of shifting cultivation known as *hatsake*, where forests are cleared to produce cash crops according to market demands (Réau 2002; Sandy 2006; Scales 2011; Filou 2019). As a result, the PA suffers the highest deforestation rate in the country (Zinner et al. 2014), and is estimated to have lost 19.3 per cent of its forest cover between 2000 and 2015 (Hudson 2015). Indeed, deforestation doubled in 2010–2017 compared to 2000–2010 (Vieilledent et al. 2020), and at current rates the site is projected to lose 67 per cent of its forest cover by 2025 (Hudson 2015) and 100 per cent by 2050 (Vieilledent et al. 2020). As a result, the PA now comprises a mosaic of forest and low-intensity or abandoned

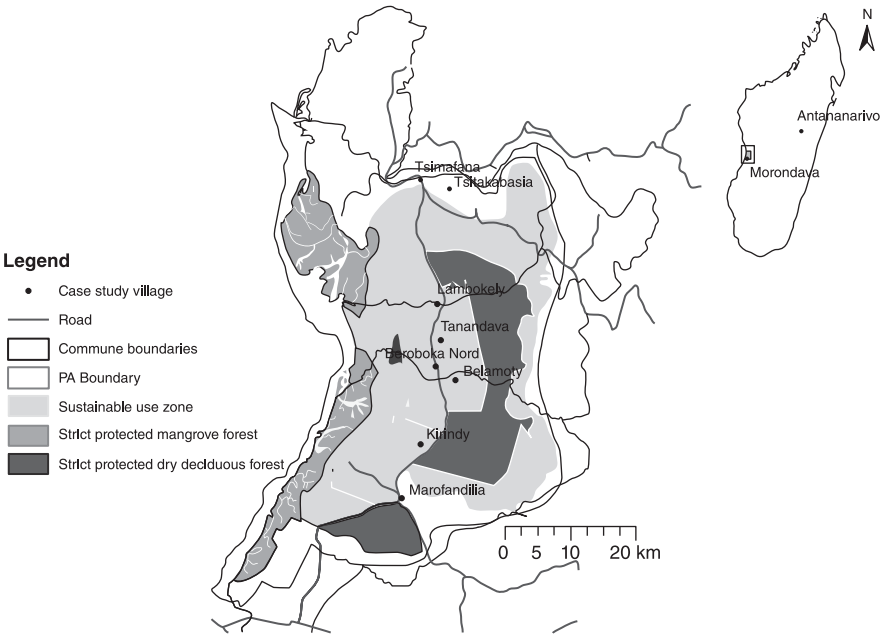

Figure 9.1 Map of Menabe-Antimena protected area showing different protected area zones and the eight villages in which the study was carried out in Madagascar.
Source: Author's creation

agricultural land, of which the latter is essentially of zero value for endemic biodiversity.

The PA was granted temporary protection in 2006 and definitive protection in April 2015, as part of Madagascar's 'Durban Vision' to triple the size of its PA network (Gardner et al. 2018). It is divided into two distinct zones: a strict protected zone in which no extractive resource use is authorised, and a sustainable use zone in which different uses are permitted but regulated Figure 9.1 (Fanamby 2014). Its management is delegated by the state represented here by the MEDD to Malagasy non-governmental organisation (NGO) Fanamby officially since 2015, though specific sites are managed by other organisations under sub-delegation contracts. In addition, some forest patches and freshwater wetlands in the sustainable use zone are managed by local community associations through community-based natural resource management (CBNRM) legislation (Pollini et al. 2014). The CBNRM areas are managed according to a management plan by users' associations called COBA and the rules-in-use are defined in a form of local regulation called *dina*.

Although Fanamby are the official managers, the PA has a complex governance structure involving multiple stakeholders including NGOs, regional and local authorities, regional government technical services, local community associations and private sector operators (Republic of Madagascar 2015). The PA board

committee is divided into two levels: (i) the orientation and evaluation committee (COS) and (ii) the invited parties. The first group is the regional consultation platform for management orientation and socio-economic development of the PA that conceptualises and executes the activities. The last group participates in the annual meeting of the platform to bring their expertise or support when it is required. The platform has to meet at least once a year to ensure implementation of the PA management plan.

Data collection and analytical framework

We used a qualitative approach to explore the factors limiting the effectiveness of the PA based on the experience and perceptions of a range of key stakeholders. We framed our data collection protocol around the six elements of the IUCN-WCPA management effectiveness evaluation framework (context, planning, inputs, process, outputs, outcomes) (Hockings et al. 2006), and thus collected data related to: (i) the management applied to the PA and its impacts and (ii) the socio-economic and political context influencing the management of the Menabe-Antimena PA.

We used purposive sampling and snowball sampling to identify key informants involved in or impacted by the management of the PA. We used the list of actors in the governance structure to sample stakeholders directly involved in PA management, and supplemented this with interviews of local communities, regional authorities, and private sector operators active in the site. In total, we conducted 53 key informant interviews (KI) and 12 focus group discussions (FG), between April and June 2018 (Table 1). These data were supplemented with consultation of secondary data including pertinent legislation, unpublished research reports and other grey literature (minutes of consultations and other meetings, technical reports etc.).

We carried out data collection in a two-stage process, first focusing on off-site stakeholders (NGOs, regional authorities, private sector) and subsequently interviewing local communities living within and around the PA. For the latter, we carried out key informant interviews and focus group discussions in eight villages that were identified by NGO staff as having large numbers of residents involved in shifting cultivation within the PA (Figure 9.1). The research obtained ethical approval from the School of Anthropology and Conservation, University of Kent, and free, prior and informed consent was obtained from all participants. All data are presented anonymously to protect the identity of informants.

We coded the data using NVIVO-11 to identify emergent themes, and then used the Institutional Analysis and Development framework to conceptualise the underlying factors limiting the effective management of the protected areas. The framework consists of interconnected components linked by direct feedback, with the action situation as the main unit of analysis. The first step of the analysis is to identify and understand the action situation where different actors interact and engage in a series of actions framed by norms, conventions, formal and informal rules, in order to understand the patterns of interaction that have led to the outcomes

Table 9.1 Overview of key informant interviews and focus groups conducted with stakeholders in the Menabe-Antimena protected area

	Stakeholders	*Data collection*
Off-site stakeholders	Conservation actors (managers and partners): Fanamby, CNFEREF, Durrell Wildlife Conservation Trust (Madagascar), WWF. (Fanamby, CNFEREF and DWCT are NGOs directly involved in management of the PA. WWF operates in the region and offers technical and financial support to the PA managers.)	10 key informant interviews with staff
	Regional offices of government authorities and technical services: Environment, Agriculture, Tourism, Land Registry and Topography, Region, Prefecture, Army and Judiciary	13 key informant interviews with staff
	Other non-state actors operating in the PA (development actors, businesses): FIVE Menabe, AD2M, Louvain Cooperation, Alefa Menabe (local NGO), private sector businesses (agricultural products trader, local sawmill and carpenter)	9 key informant interviews
Communities living within and around the PA	Elected members of local communities within and around protected area (Commune, Fokontany, village level): Deputy mayor, Head and deputy head of Fokontany, Village committee, Communal tax collector (The fokontany is the smallest administrative unit in Madagascar, and a Commune regroups several fokontany.)	11 key informant interviews
	Non-elected members of local communities within and around protected area: • Temporary agricultural workers • Members of community-based forest management associations (COBA) involved in patrolling • Members of community-based forest management associations (COBA) involved in patrolling • Members of community-based forest management associations (COBA) involved in tourism • Heads of migrant households (2–5 years in area) • Heads of migrant households (2–5 years in area) • Members of farming organisation • Non-COBA members • Mixed COBA and non-COBA members (resident and migrant)	• 4 key informant interviews • 3 key informant interviews • 3 focus groups (4–8 participants) • 1 focus group (5 participants) • 3 key informant interviews • 1 focus group (5 participants) • 1 focus group (4 participants) • 2 focus groups (4–8 participants) • 4 focus groups (4–8 participants)

observed (Ostrom 2005): in our case, the action situation is the management of the PA. The last two steps are to (i) identify the contextual variables affecting the action situation (the biophysical conditions, attributes of the community, and rules-in-use) that contribute to the outcomes observed, and (ii) conceptualise the complex links between the components of the system (Ostrom 2011). By applying the IAD framework, we seek to understand the key institutional attributes leading to the persistence of deforestation in the PA.

9.3. Results: understanding institutional weaknesses in biodiversity governance

Deforestation is caused primarily by small-scale agriculture which has been the main livelihood of forest-dependent communities in the Menabe region for many decades. Efforts to address this threat, as well as others such as charcoal production and timber extraction, have involved a range of incentives (e.g. livelihood-based interventions) and coercion measures (e.g. law enforcement). However, all study respondents affirm that deforestation is worsening.

> We have to walk 5 to 6 hours to reach the nearest forest to clear to grow maize. These last 10 years, the forest has been cleared so quickly. Soon there will be no more forest here, with the current land rush.
>
> *FG10, mixed COBA and non-COBA members*

Action situation: sticks and sermons and a few carrots to reinforce coercion

The action situation of the institutional analysis is the management of the PA, which has included a range of activities that can be divided into positive incentives (carrots) and enforcement approaches (sermons and sticks).

Positive incentives aim to reward local community members for respecting the regulation of the PA. It includes payments for male members of community-based management carrying out patrolling and ecological monitoring activities to reinforce control on forest use. To target the larger group to benefit from positive behaviour aligned with biodiversity preservation, a village-based payment for ecosystem services (PES) scheme was carried through community-based ecotourism, investments in semi-mechanised agricultural activities, and the provision of social support. However, respondents felt that the reach and effectiveness of these interventions is limited by three principal factors: (i) implementation approach, (ii) type of project offered, and (iii) sustainability of project benefits.

According to some respondents, the implementation approach of positive incentive investments limited their reach and effectiveness. Although some investments targeted whole communities (for example water infrastructure maintenance or the funding of army surveillance to ensure security), most targeted individual households and prioritised COBA members because they have already demonstrated a commitment to forest management. However, only limited numbers of

Table 9.2 Description of management activities carried out in the PA to reinforce command and control on the forest frontier

Activity type	*Description of activity*
Sermons to educate on restriction related to the PA management	
Awareness raising and information	Series of awareness-raising activities conducted, particularly in 2017. Two main approaches: • Community meetings involving a range of stakeholders, to inform communities about the rules-in-use and sanctions • Signposts and markers erected in villages and around the PA.
Visit of key governmental officials	Prime minister and minister of the environment and sustainable development visited the villagers and key actors involved in the PA governance to increase visibility on the deforestation issue in the area.
Sticks for law enforcement to control forest use	
Law enforcement	There are two processes for enforcement of PA regulations: • Local authorities or COBA patrollers inform DREEF, the promoter or subdelegates of an infraction; if budget available, DREEF and promoter visit the site to arrest the individual(s) responsible. • DREEF, the promoter and subdelegates plan field mission to carry out sporadic control, depending on the budget available.
Military intervention	Military interventions happen after unsuccessful attempts to regulate or monitor anthropogenic activities in protected areas by the NGOs, civil society and individual conservation practitioners. In 2019 for example, a large-scale raid by 80 armed military was conducted to burn plantations in strict conservation zones and three arrests were made in addition to the destruction of illegal corn plantations and camps.
Carrots to a specific group of forest-dependent household to reinforce sticks to restrict forest use not aligned with PA management	
Surveillance and monitoring patrol	9–12 COBA members per site are trained in ecological monitoring and surveillance and receive compensation to carry out patrols four times a month (approx. $2 US/person/patrol).
Carrots to induce positive behaviour of forest-dependent communities for biodiversity preservation	
PES (Payments for Ecosystem Services) for biodiversity conservation	In 2008–2012 a village-based PES scheme financially rewarded communities who were successful in conserving their forests.
Agricultural support	Material support to farmers including the provision of seeds and equipment.
Promotion of community-based ecotourism	One COBA site has been adapted for community-based ecotourism with training in tourism capacity building provided.
Social support	Various social support projects including maintenance of ox-cart wheels, and funding of rural army posts to enhance security.
Ecotourism	A community-based ecotourism set in one part of a large, protected area to support community development and job opportunities.

beneficiaries have been selected to participate, due to selection criteria and highly constrained funding. As a result, neither migrant households nor resident households not involved in COBA tend to benefit from such investments.

> Only a few people are members of the COBA in this site, but the many projects promoted here to help us change our livelihoods to not depend on *hatsake* have only benefited those in the COBAs. The promoter knows that most of the households living in this PA cannot afford to stop doing *hatsake* without strong support from them.
>
> *KI44, non-COBA member*

The COBAs of PA Menabe-Antimena face the same barriers as most COBAs in Madagascar: they are dominated by local elites' captures and supported by external actors mostly to promote and defend biodiversity preservation. A few elite households, relatively well-educated compared to the community as a whole and living near accessible roads, have agreed to run the association known as COBA. Recent migrants, who are often there to earn quick money to move to another area or return to their home village, rarely join COBA because they have to be officially registered in the area, which they do not always do.

> The funding available cannot cover the whole community. We have to focus our support on those who are already keen for conservation, COBA members. The funding also requires that the support is only provided to those who are eligible, and newcomers don't meet the criteria. We have a huge problem of migration to the area, which is increasing the number of people in the PA so quickly, but they are not even officially registered as legal migrants [so we cannot work with them].
>
> *KI11, conservation actor*

The second issue concerns the types of projects implemented, which often do not match the needs and expectations of the beneficiaries. Project promoters specified that they had carried out preliminary studies prior to selecting projects; however, sometimes communities required projects that could not be implemented with available budgets.

> We asked them to build irrigation infrastructure, as we have not been able to use the flat land in our communities since the drought in 1960. But we did not receive any feedback since they studied the area. Instead, they gave us farming equipment and some peanut seed, which were not what we really need if they want us to stop using the forest land.
>
> *FG11, mixed COBA and non-COBA members*

In fact, NGOs often rely on a restricted funding process or on maintaining the status quo approach developed during the Integrated Conservation and Development Project (ICDP) in the 1990s, despite its failure. These fundings are already

framed to a specific theme, either by the donors or by the NGOs, to support specific community projects through small livelihood projects such as livestock and farming. This type of funding assumes that supporting livelihoods through agriculture or livestock projects to promote market-oriented livelihoods is the way to induce positive behaviour for biodiversity conservation in forest-dependent communities.

> The activities required to manage this PA mostly depend on external donors. The PA is not financially independent and most of time the funding available cannot cover many activities that we wish to do according to the management plan.
>
> *KI11, conservation actor*

The final issue identified concerned the sustainability of the benefits provided by these one-off projects. Project promoters are limited because the funding is unstable, often does not arrive in time, and is insufficient to make the investment sustainable. The one-off projects cannot help communities to overcome the opportunity costs of conservation, which have a long-term impact on their livelihoods. Despite various scientific studies calling for reform of financial support for conservation, it is observed that donors do not always adjust their financial system to respond to the problems faced by NGOs. NGOs are more accountable to donors than to the target communities that are affected by the expansion of biodiversity conservation areas.

> We depend on external donors and most of the time the community project is for a short period, so we have to look for new funding to be able to provide the same support every year. The chronic political crisis in country exacerbates the situation, because sanctions lead to reduced funding.
>
> *KI10, conservation actor*

COBA members said that they were not receiving tangible benefits through the livelihoods project. However, they continue to work with conservation actors to: (i) gain benefits through other activities, by attending political meetings outside their village, where they receive per diems, stay in good condition accommodation and travel to an area they have never been to or will never afford to go based on their income; (ii) have a job as a local patroller or guide that provides them with a more or less stable income; (iii) be well informed about different decisions made outside the village regarding access to land and future funding in the area.

> The support offered is too small to get much benefit. I got a few cups of peanut seed, and we have to share farming materials like ploughs with the whole community. I did not perceive a benefit that will allow me to not depend on the forestland, and it was just offered once.
>
> *KI48, COBA member*

Management has also focused on enforcement activities, i.e. application and enforcement of PA regulation; however, this has been sporadic due to a lack of

resources. The PA managers do not have the authority to apply the law and thus rely on government agencies (the Forest Service and Gendarmerie); however, these agencies do not have the resources required to implement enforcement activities. As a result, they depend on funding provided by the promoter or other conservation partners to cover the costs of surveillance and enforcement missions. Alarmed by the magnitude of deforestation within the PA, the actors managing the PA had implemented an urgent plan in 2017. They also lobbied national-level decision-makers on several occasions and brought different Ministers to the region to witness the situation.

Different entities including the regional court, Office of the Region, Prefecture, Forest Service and army, as well as the PA promoter and subdelegates, have implemented awareness-raising activities to inform communities about the rules in place within the PA. Panels and markers have been established to physically mark the PA boundaries and inform people of prohibited activities. Since the 2017 farming season, numerous individuals were arrested and jailed for carrying out cultivation in protected forest. Because of many military interventions held in the protected areas, many elected local officials started to be vocal relating to the issue that small farmers are being put in jail as they are losing votes from communities and need to sympathise with them or do not consider *hatsake* to be a serious offence:

> During the clearing and planting activities in the 2017 farming season, many men and women were caught and put in jail. They were very strict last year but they also know that we need to eat so, they might jail a few of our family but it won't stop us if they don't provide any alternatives.
>
> *KI44, non-COBA member*

> Most of rural communities depend on farming as their main livelihood, and *hatsake* is not the same as other crimes such as killing or stealing. We are talking here about activities that are illegal, but our society has failed to teach these people to develop sustainable livelihoods.
>
> *KI21, regional authorities*

Biophysical conditions: a forestland well known for its farming potential

Menabe-Antimena PA has long been known for its farming potential, and the conversion of forest to maize cultivation using *hatsake* has been prevalent in the area for decades (Réau 2002; Scales 2011). Once land becomes unsuitable for maize after two to three years of cultivation, the land is switched to peanut cultivation, occasionally intercropped with maize or cassava, for a further four to six years prior to abandonment (Raharimalala et al. 2012; Ramohavelo et al. 2014). The global market for peanuts has been strong since the arrival of a Chinese peanut exporter in 2014, and a national drinks manufacturer (Malto-Star) is said to underpin a stable market for maize. Several roundtables were organised with the different stakeholders to explore strategies to minimise their negative impacts, but no significant impact had been observed at the time of the study.

The accessibility of the PA's forests and the economic opportunities offered by these crops have attracted several waves of migration from the south of Madagascar (particularly of the Antandroy ethnicity), with migrants settling temporarily to practice *hatsake*. Numerous respondents suggested that the rapid depletion of protected forests is due to these migrants, describing them as free-riders who overconsume the resource to maximise short-term benefits before moving to another site to repeat the same practice.

> Since maize and peanuts increased in price and demand has been stable, we have seen these last 10 years many Antandroy have come to clear forest; afterwards they sell the land to residents or any households who want the land, and they move to another site.
>
> *FG1, COBA member*

Migration in the region dates can be traced back to the French colonial period and the crops which boom at different times in the region has reinforced these migrations coupled with wealthy local elite, who have better access to the national and global market, and have played a key role in these migrations. More labour is needed to grow maize and peanuts at low cost and migrants who are willing to carry farming deforestation as local residents are either afraid to break the law related to forest use restriction or have sufficient land to focus on more peanuts plantations. However, the wave of migration in Menabe-Antimena is not only market-driven but also reflects the migration of households from the south of the country facing extreme climatic conditions and several areas well-known as deadly development projects and programmes in their home region.

> Internal migration has been a big issue in this area for a long time, but it is getting worse as more and more Antandroy from the South are coming here to overuse the protected resource for short-term economic interest.
>
> *KI4, conservation actor*

Community attributes: forest as a conflictual arena to get incomes

Multiple sets of stakeholders, each with different practices, expectations and interests, have been integrated into the governance structures of the PA in an effort to harmonise their actions. However, the lack of cohesion and coordination of actions between these stakeholders has hampered the effective delivery of interventions intended to reduce anthropogenic threats within the PA. This is associated with two underlying factors: (i) the diverging objectives and values of stakeholders, and (ii) differences in their relative influence and power. Given these differences, we categorise stakeholders into PA 'supporters' who are actively involved in PA management, and PA 'opponents' who prioritise the economic valorisation of protected resources through farming.

PA opponents include migrant communities and powerful actors involved in agricultural value chains (e.g. local elites: elected or wealthy individuals, mobile

labour from the south of the country). Activities of migrant communities were often suggested by respondents to be the main cause of deforestation, and were said to be connected to regional 'elites' involved in the collection and commerce of peanuts and maize. The latter have a high relative power to influence decision-making processes that impact heavily on effective management of the PA.

> The administration and government agencies are underfunded and cannot fulfil their duties properly, but many corrupt and powerful individuals [in these bodies] are also getting benefits from the production of maize and peanuts here. So, they will keep using their power until they no longer have interest in these resources.
>
> *KI22, regional authorities*

The PA 'supporters' consist of actors legally appointed as governing the PA including members and residents involved in COBA. These stakeholders are limited in their power, resources and capabilities. Long-term resident communities, migrants and COBA members all rely heavily on natural resources due to a lack of employment opportunities and their lack of education and are unable to develop alternative livelihoods without sufficient support.

> Small farmers like us don't have the skills to work in the State to get a salary every month. The forest is our office that provides us the salary that we need to fulfil our basic needs such as food, health and education for our kids.
>
> *FG10, mixed COBA and non-COBA members*

In addition to differences in relative power, these sets of stakeholders also have conflicting values, resulting from the contradiction between sectoral policies and the socio-political interests of the stakeholders. Although government policy has highlighted conservation as a national priority and it is recognised that small-scale agriculture is the most important driver of deforestation in many PAs, agricultural policy remains focused on agricultural intensification within irrigated areas rather than reducing shifting cultivation by developing sustainable small-scale agricultural models such as agro-ecological systems. Less attention is focused on farmers living within PAs who lack access to such irrigated fields, and livelihood-based interventions associated with the PA have not been successful in overcoming biodiversity preservation externalities that it imposes on local cultivators. Moreover, some stakeholders within government agencies have set other priorities and act against such policy, and claim that economic growth and social stability (i.e. the local economic benefits derived from cash crop value chains) are more important than protecting the forest, which is valued only for the quick economic returns from its conversion to other land use including agriculture.

> The government set conservation as the priority policy of the country, but it was not integrated into the vision and mission of many different departments working in economic growth. We are also afraid of the retaliation of people if we are too strict, as they depend so heavily on the protected forest.
>
> *KI13, regional authorities*

> In this country, people use the argument that the communities who cut down and burn the forest are poor – if we do not provide them with enough support, we should allow them to do *hatsake* for their subsistence. This rhetoric has been used by many actors to gain people's support during election and to get rich.
>
> *KI21, regional authorities*

Institutions or rules-in-use

The institutional context in which the PA has evolved includes a range of formal and informal rules and an ambiguous property rights system. Three issues in particular affect the institutional context of the PA and limit its effectiveness. First, the enforcement of laws prohibiting deforestation and exploitation in the PA is weak, largely due to a lack of resources and corruption within the government agencies responsible. Second, the constitutional amendment which allows the free circulation of Malagasy citizens anywhere within the national territory has permitted continued waves of uncontrolled migration which has rapidly increased the population around the PA and pressures on its land and resources. Menabe-Antimena PA has attracted labour migration looking for opportunity which has market-driven crops to gain relatively better income compared to their native village. Third, in the absence of functioning formal land tenure systems, there is widespread acceptance of customary tenure, whereby whoever clears forest land claims ownership over the cleared land. The PA is considered to be mainly state-owned, although some plots have been privately owned since colonisation as a production area. It is mainly because of the overlap of these private areas that the PA has been classified as multiple use. In fact, the official mapping of Menabe-Antimena PA did not indicate any household land claiming customary rights.

The Menabe-Antimena PA has long been poorly managed by the state, and it was only in 2006 that the NGO Fanamby invested in supporting state management of the area to promote biodiversity preservation. However, making the area a protected area is not enough to resolve the conflict of interest between conservation and agricultural frontier. The free movement of people, the tenure system that encourages forest clearing, and the lack of law enforcement creates a situation of almost open access to forest land, rapidly leading to a tragedy of the commons. The Menabe-Antimena PA illustrates the institutional disorder in land access and use policies on Madagascar's forest frontier. The forest thus becomes a conflictual frontier to earn income and wealth between powerful actors who have access to different power resources. However, poor forest-dependent communities are often blamed, used or manipulated to support the specific agenda of powerful actors and pay for the externalities of biodiversity preservation or agricultural expansion.

Patterns exacerbating institutional ineffectiveness in PA management

The interrelationships between the different institutional factors we have identified explains the complex socio-institutional situation in which management of the PA has evolved (Figure 9.2). Strong demand for cash crops, driven by both domestic and export markets, creates a situation where clearing forest for cash crops is perceived as more attractive to poor communities than leaving it for conservation without significant benefits at local level. The lack of reliable funding has weakened PA managers' ability to implement effective and efficient enforcement and incentive biodiversity conservation measures. These limitations are exacerbated by regular political crises in the country, which has created an erratic institutional context dominated by corruption, cronyism, socioeconomic crisis and poverty traps. This generalised crisis in the country has been profitable for powerful actors, who take advantage of the weakness of the state to impose social institutions on less powerful actors, thus hampering effective management of the PA.

9.4 Discussion

Menabe-Antimena has long been prioritised as one of the most important biodiversity areas in Madagascar, and has benefited from protected area status since 2006. Despite this, it continues to suffer such intensive deforestation that complete destruction of the forest, and the associated extinction of at least three vertebrate species, is expected within decades (Vieilledent et al. 2020). By using an

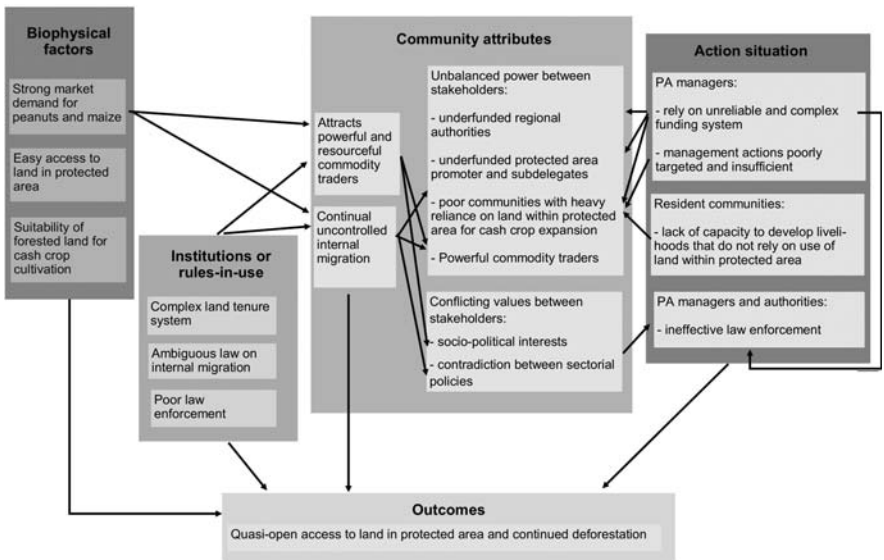

Figure 9.2 Conceptual model of key factors limiting the effectiveness of protected areas in Madagascar, based on the case study of the Menabe-Antimena.
Source: Author's creation

institutional analysis to examine the factors – both within the management of the protected area itself and of the socioeconomic context in which it is embedded – that have influenced its ineffectiveness, we have provided insights into how deforestation has been able to persist and indeed increase despite years of protected area management efforts. Our findings suggest that the ineffectiveness of the PA has occurred because managers have had inadequate funding to either provide farmers with viable alternatives to shifting cultivation or adequately enforce the law, and because the PA has been insufficiently mainstreamed into regional economic and governance priorities. In the absence of effective enforcement and viable alternatives, shifting cultivation remains the most attractive livelihood option for resident and migrant communities.

Deforestation in the Menabe-Antimena protected area is driven by growing domestic and export markets for maize and peanuts, which can be easily grown using shifting cultivation. The economic returns from such cultivation can be relatively high, serving to attract migrants from the south of Madagascar and leading to rapid increases in local population (Scales 2011; Vieilledent et al. 2020). The attraction of migrants to forest and other resource frontiers is a widespread driver of biodiversity loss throughout Madagascar (Cripps and Gardner 2016; Jones et al. 2018), and a challenge for PA managers to address: however, livelihood-based interventions at Menabe-Antimena are not reaching migrant communities for reasons of funding eligibility.

While PA managers have invested in livelihood-based interventions to provide alternative sources of revenue, the projects have tended to be of short duration and poorly matched to the needs of the communities, thus failing to fully compensate the opportunity costs of foregoing shifting cultivation, or provide a viable alternative to deforestation for farmers. In addition, the investments have been limited in scope, so that agricultural support reaches only a small proportion of cultivators. As elsewhere in Madagascar, this suggests that protected area managers are failing to adequately compensate local people for the opportunity costs of forest conservation (Poudyal et al. 2018), despite the existence of social safeguards policies in protected area legislation (Gardner et al. 2013; Virah-Sawmy et al. 2014). As a result, shifting cultivation continues.

The limited size and scale of these interventions is dictated by a lack of funding, which has hampered management throughout the PA's history. The adequate resourcing of PAs is essential for achieving positive conservation outcomes (Leverington et al. 2010; Geldmann et al. 2015, 2018; Barnes et al. 2016; Gill et al. 2017), but finance for PAs in Madagascar depends heavily on unreliable funding from international donors: this consists primarily of short-term grants with complex administration processes, and is vulnerable to changing funder priorities and national political crises (Gardner et al. 2018).

Given the ineffectiveness of livelihood-based incentives to reduce shifting cultivation, the PA managers are partially reliant on law enforcement activities to prevent deforestation. However, this disincentive also has limited effectiveness because the PA managers do not have authority to apply the law and the government's law enforcement agencies do not have the budgets or motivation to do so.

Enforcement missions are therefore sporadic because they must be funded by the PA managers, and they rarely result in appropriate penalties due to the unwillingness of the authorities to convict those apprehended. Moreover, enforcement targets the cultivators themselves rather than the elites and middlemen that promote and facilitate illegal logging and deforestation, limiting its impact. Efforts are equally required elsewhere in the supply chain to ensure the buyers of maize and peanuts do not promote the cultivation of these commodities in the PA, or purchase stocks derived from land within it.

The limited interest of the public authorities in enforcing protected area laws is hugely problematic as it renders the PA managers without legitimacy to use force to apply the law. Although the Malagasy central government seems to ostensibly prioritise biodiversity conservation, this is not reflected in the priorities of decentralised authorities at regional and local levels. In addition, both authorities suffer from chronic underfunding which limits their ability to fulfil their duties, there is poor cohesion of sectoral policies leading to conflicting priorities between sectors and ministries, and corruption is generalised at all levels (Ferguson et al. 2014; Gardner et al. 2018; Jones et al. 2019). Thus, although the protected area contains the Avenue of Baobabs (the most widely photographed image of Madagascar) and sustains much of the region's tourism industry, the enforcement of PA-related laws is not prioritised by local and regional authorities, the Ministry of Agriculture does not incorporate the PA into its planning, and important actors across the region fail to value the PA or seek to defend the PA. As a result, the PA continues to be plundered for short-term gain of a small number of individuals controlling the agricultural commodity trade (Scales 2011; Vieilledent et al. 2020), rather than managed for the greater benefit of the region and nation. Effectively mainstreaming biodiversity across governance sectors will be essential to reduce threats to PAs across the country and ensure that transnational and national NGOs and local community PA managers have the necessary backup from local and regional authorities to be able to address them at the local level.

9.5 Conclusions

Creating protected areas is not sufficient to ensure their sustainability including to arrest the processes that threaten their biodiversity – they also have to be effectively managed. Therefore, global sustainability and biodiversity conservation policies should focus equally on the quantity and most importantly on the quality of the global protected area estate. Focusing on continual expansion of PAs is leading either an increase in the number of paper parks or private communities from their land to make territory for biodiversity, thus harming their livelihoods. Conservationists should ensure that the most important sites, such as those harbouring species that occur nowhere else, are adequately funded. While the expansion of protected areas to maximise the representation of species and habitats is important, much of the world's existing PA estate occurs in tropical low-income countries with weak governance, poor rural populations with few development alternatives, and high anthropogenic pressures on forests driven by agricultural

commodity markets to respond to both domestic and international needs. Our analysis suggests that to be effective in such circumstances, PAs must have sufficient and permanent resources to be able to make deforestation unattractive as a livelihood option, and work with government authorities at different levels and other non-state actors to ensure PAs are treated as regional development priorities and integrated into all relevant planning especially those deal with agricultural issues.

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10 Local Deals for Global Politics

Governing Palm Oil Expansion in Areas of Limited Statehood

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10.1 Introduction

Global agricultural expansion has greatly increased in recent decades causing more and more environmental and social damage such as deforestation, biodiversity loss and land tenure insecurity in tropical regions. Recent studies observed that about 80 per cent of new croplands are located on lands that were previous forestlands, a situation that is responsible for around 12 per cent of total anthropogenic CO_2 emissions (Foley et al. 2011). These forest exploitation or conservation processes have been closely associated to land tenure issues in tropical Africa (White & Martin 2002; Hardin 2011).

In this chapter on tropical Africa, we use a case study of the politics of palm oil expansion in Cameroon to analyse how global dynamics of agricultural expansion change the power relations between key actors involved in forestland conversion processes. Forestland in this chapter refers to an area of land covered by trees or forest ecosystems that can be used for other specific purposes such as farming, natural resource extraction, hunting, ecotourism or construction. From colonial to postcolonial periods, the management of forestlands in Sub-Saharan Africa has often been at the centre of globalization processes. Two major factors have influenced the politics of forestland use in Sub-Saharan Africa. First, the marginalization of weak actors such as local populations who are prevented access and use of forestland resources (Colson 1971; Adams & Hume 2001). Second, the increasing power of external actors including transnational private companies that promote conversion or big non-governmental organizations that promote biodiversity preservation (Humphreys 2006; Ekoko 2000; Ongolo & Karsenty 2015). Broadly speaking, contemporary forestland governance in Africa is related to the strategy of actors whose aim is to control and manage high-value below-ground forest resources (such as mines or oil) and above-ground resources (such as agricultural lands, woods and non-tangible forest ecosystem services). The majority of forestlands in Sub-Saharan Africa are still legally owned by state entities (White & Martin 2002; Boone 2007; Agrawal et al. 2008). Consequently, any major change in the use of their above- and below-ground forestland resources is more or less dependent

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on the political attitude of state bureaucracies (Cotula & Vermeulen 2009; Wolford et al. 2013).

Since the beginning of the 2000s, the international community has been increasing pressure to reduce deforestation and protect biodiversity in tropical regions (Hosonuma et al. 2012; Brockhaus et al. 2014) Yet, because of the scarcity of new croplands in South-east Asia, where about 85 per cent of the world's palm oil is produced, Central African countries have become very attractive to the oil palm industry (Feintrenie 2014; Strona et al. 2018). In Cameroon, transnational agribusiness firms developing large-scale palm oil projects seek to avoid blame for detrimental environmental and social impacts by lauding the sustainability of their palm oil production system (Hoyle & Levang 2012; Hamann 2017). Herakles Farms, still called SGSOC (Sithe Global Sustainable Oils Cameroon), for instance, was the first palm oil project in Cameroon to apply for a label from the Roundtable on Sustainable Palm Oil (RSPO), an 'independent' supply chain certification standard. An in-depth understanding of the interactions between palm oil development and large-scale forestland conversion in Africa requires a close look at what happens when oil palm production takes over forestlands in countries like Cameroon, afflicted with limited statehood and weak bureaucratic autonomy.

10.2 Theoretical background: statehood and bureaucratic autonomy

Statehood refers to a state with full domestic sovereignty which is able to govern its territory, and to manage sectoral policies based on their full bureaucratic capacity (Jackson and Rosberg 1982; Krasner & Risse 2014; Risse et al. 2018). Our research emphasizes two important characteristics of African statehood: institutional capacity, and bureaucratic autonomy in the formulation and implementation of nation-building sectoral policies, not policies imposed by external actors such cooperation agencies, transnational corporations or NGOs.

Institutional capacity and African statehood: a brief lexicon

What does the notion of African statehood refer to? In recent African studies, Hagmann and Péclard (2010) proposed a comprehensive, contextual definition saying that African statehood should be understood as "the emanation of particular historic types of African modes of governing". This definition highlights both the weight of path dependence and colonial heritage in the dominant African style of government and the influence of local practices and elites in the transformation of the imported model of state in an African context. However, this definition of African statehood should not hide the gaps between standard statehood and African statehood. Scrutinizing these gaps contributes to a better understanding of the issue of forestland governance and more specifically the politics of forestland conversion in Sub-Saharan Africa.

Weber's work has shown that the monopoly of force over a territory is a fundamental requirement for any state seeking to effectively exercise the "monopoly

of legitimate violence" (Weber 1978). Statehood implies the ability of central authorities to control the means of violence they use to control the national territory on the one hand, and the rigorous implementation of the rule of law[1] in all national-level sectoral policies on the other. Many scholars of African studies have explained that the institutional capacity of African postcolonial states or the scope of authority over statehood are limited or based on an atypical mode of functioning (Boone 1998; Chabal & Daloz 1999; Bierschenk & de Sardan 2014). This may be due to political instability with rivals to the central authorities monopolizing the use of force over vast territories for long periods of time. It can also be due to a situation in which economic patterns are rooted in informality with an irregular ability to collect taxes. Finally, the weight of political patronage in state bureaucracies, cronyism and powerful vested interests are three other root causes of weak institutional capacity in African statehood.

The issue of bureaucratic autonomy

Bureaucracy is one of the oldest concepts in political theory. It may even precede the works of Max Weber in the late 19th to early 20th centuries. In this chapter, we use Krott's (2005: 126) simplified definition: a bureaucracy is "a public institution that makes decisions concerning specific problems on the basis of general legal standards, resolving those problems by implementing special measures". At the national scale, public bureaucracies refer to a set of 'sub-governments', government authorities or ministries representing various policy domains (McCool 1990; Jordan 1990; Laumann & Knoke 1987). In most cases, each bureaucracy struggles to protect its formal and informal interests. In the forest domain, formal goals of sectoral sub-governments may consist of preserving biodiversity, reducing deforestation and/or promoting sustainable forest management (Arts & Buizer 2009; Bernstein & Cashore 2012), while the informal goals may be to enrich bureaucrats and dominant private external actors, and to protect patronage and the discretionary powers of decision-makers (Cerutti et al. 2013; Rahman & Giessen 2017). The weight of these interests individually alters the degree of bureaucratic autonomy, especially in developing countries.

In short, the notion of bureaucratic autonomy refers to "the manner in which the political principal issues mandates to the bureaucrats who act as its agent" (Fukuyama 2013: 356). The form and efficiency of bureaucratic autonomy depends on whether the government is authoritarian or democratic. The issue of bureaucratic autonomy is problematic in Sub-Saharan Africa for several reasons. First, the majority of states in Africa are deeply embedded in patrimonial structures that cannot function as a rational agent that makes a clear distinction between the general interests (for the society) and the private interests of dominant individuals (Chabal & Daloz 1999; Mbembe 2001; Olivier de Sardan 2004). Second, the historical heritage of elite capture behaviour, despotism, and cronyism is a key element in the explanation of bureaucratic dysfunctionalities in Africa (Mbembe 1992; Hibou 1998). These practices are dominant in many African state bureaucracies and within the governance systems as a whole. A number of contemporary

Africanist scholars (Chabal & Daloz 1999; Mbembe 2001; Hagmann & Péclard 2010) emphasized that, beyond the formal attributes of modern states, the dynamics of governance in Africa cannot be well understood without considering the informality and political disorder that characterize the present style of government in this continent.

Following the above theoretical framework, which is closely linked to our research, we used three hypotheses to address the question of how the global dynamics of agricultural expansion change the power relations between key actors of forestland conversion processes in tropical Africa. Based on a case study of Cameroon, we assume that H1, the lack of state bureaucratic autonomy, is the major political cause of erratic forestland conversions; H2, despite the growing influence of external actors in managing forestlands in tropical countries, state bureaucracies still have the ability to preserve their informal interests; H3, the use or misuse of science-based knowledge on forest ecosystem sustainability became a powerful resource in the legitimation or contestation of oil palm expansion in tropical Africa.

Actors, interests, and power in the governance of tropical forestland use

As stated by Krott (2005) the actor is a basic component of any policy process, especially in a multifaceted policy domain like the forest domain in which resource management entails multiple rounds of interactions between stakeholders. Literature offers many descriptions and pictures of the notion of 'actor' (Rhodes 1997; Emirbayer & Mische 1998; Hermans & Thissen 2009), but there is still no comprehensive definition of the term 'actor'. One of the recent convincing and appealing definitions of actor is "any entity that has a distinct interest and the ability of influencing a policy" Schusser et al. (2016: 82). Despite its important empirical basis, this definition is quite narrow from a theoretical perspective. To go further, 'actor' in this chapter refers to any individual, entity or organization with a distinctive policy interest and a capacity to influence policy. This definition takes into account both the strong actors and the weak actors who are mainly affected by a policy but could become more influential if circumstances allowed.

An examination of forest resource powers and how these powers are transferred, distributed or retained among/by stakeholders on the one hand and between the powerful and the weak or weakened actors in the other hand is preliminary to making an in-depth analysis of the governance of forestland systems in a developing country (Ribot 2009). In short, power is understood in this chapter as the coercive capability of one actor to affect the practices or the behaviour of another by employing force (Weber 1978), or the ability of a disciplining authority or action to change the ideas of people through persuasion and dissuasion without any apparent coercion (Foucault 1978). Our analyses employ an actor-centred power approach, which aims at providing a specific theory-based analytical framework to examine power issues in forest governance systems (Krott et al. 2014). This approach is particularly useful in making an empirical analysis of social relations in contexts in which an actor individual/group A alters the behaviour or

changes the practices and ideas of actor individual/group B more or less with or without the latter's agreement.

The degree of independence of B's willingness or resistance can be assessed through three core elements of power mechanisms: coercion, (dis-)incentive, and dominant information (Krott et al. 2014; Burns et al. 2017). Despite the usual asymmetry of power in favour of the dominant side, power relations remain a bidirectional process that the balance between actors can change over time and that depend on the issue at stake and the interaction arena. Many studies observed empirically how actors use power elements as a tool of domination (Burns et al. 2017). However, there is a gap in the empirical evidence on the actors on the other side, those who apply power to resist domination. One of the major contributions of this chapter is to fill this gap by explaining the role of the 'infringement tactic' phenomenon (see discussion section 10.5).

First, *coercion* refers to a circumstance that "alters the behaviour of the subordinate by force" (Hayek 1960). Under certain conditions, coercion may include the threat of force or even a concrete use of force. In principle an actor that bases its power on coercion, will constrain the subordinate actor to act in a certain way without intrinsic consent. In practice, this situation may imply the use of physical and mental violence, police brutality, and/or judicial harassment. Second, *incentive* consists of a process that motivates an actor to do something or to adopt a given behaviour because of an anticipated reward. By contrast, disincentive refers to any action of an economic agent (actor A) aimed at dissuading another agent (actor B) to do something or to act in a manner that may be disadvantageous for actor A (Laffont & Martimort 2001). In principle, incentive and disincentive are based on the alteration or orientation of actors' behaviour by the allocation or privation of specific advantages. In practice, this may imply the provision of access or the threat of non-access to non-tangible favours or material resources. Third, *dominant information*, any power relationship contains a certain degree of information asymmetry between the dominated actor and the dominant (Karsenty & Ongolo 2012; Krott et al. 2014). The production or use of knowledge, including scientific knowledge, may be oriented and even manipulated by actors in power relations to satisfy a specific interest (Böcher & Krott 2016). Formal and informal actors' behaviour using information and knowledge as power resources may include hidden strategies, coalitions with tiers-parties, selection or misuse of science and expert knowledge, marginalization of competing stakeholders, discretionary use of information, media pressure, etc. In all these cases the subordinate is not able to verify the information and therefore becomes dependent on the actor who uses "dominant information".

10.3 Methodological framework

Case study context

Since the early 2000s, the scarcity of agricultural lands in the largest Asian producer countries including Indonesia and Malaysia, which account for about

85 per cent of the world's palm oil production (Feintrenie 2014), has encouraged oil palm agribusiness investors to turn to the Congo Basin countries in Central Africa. Between 2000 and 2016 for example, about 65 per cent of land concessions allocated by state bureaucracies to private firms in Cameroon were allocated to oil palm producers (Table 10.1). Among recent western and Asian transnational agribusiness corporations developing large-scale palm oil projects, Herakles Farms, still called SGSOC (Sithe Global Sustainable Oils Cameroon) was the first and most important palm oil project to apply for RSPO (Roundtable on Sustainable Palm Oil) supply chain certification.

The Herakles/SGSOC case, a transnational agro-industrial firm headquartered in the United States, is the story of an agro-industrial project for oil palm plantations in southwestern Cameroon. In 2009, the Ministry of Economic Affairs on behalf of the Cameroonian government signed a confidential investment agreement with Herakles Farms Cameroon for the creation of large-scale oil

Table 10.1 Trend and evolution of land deals in Cameroon from 2000 to 2016 (source: LandMatrix database)

Corporation/investor name	*Investor country*	*Intended crop*	*Year & negotiation status*	*Intended size*	*Contracted size*
SXOINV Co., Ltd.	China	Cassava, Corn, Fruit, Rice, etc.	2005 – Contract signed	10,120	120
Somdiaa, Government of Cameroon	France, Cameroon	Sugar Cane	2006 – Contract signed	25,000	11,980
SOCFIN, Government of Cameroon	Luxembourg, Cameroon	Oil Palm, Rubber	2000 – Contract signed	63,763	63,763
Herakles Farms/ SGSOC	United States of America	Oil Palm	2013 – Contract signed	73,000	19,843
Biopalm Energy Limited	Singapore	Oil Palm	2011 – Contract signed	200,000	3,348
GMG Global Ltd, SPPH	Singapore, France	Oil Palm, Rubber	2013 – Contract signed	65,000	45,000
Phatisa	Mauritius	Corn (Maize), Soya Beans	2012 – Contract signed	20,000	350
Compagnie fruitière	France	Banana	2014 – Contract signed	800	800
Justin Sugar Ltd	United Kingdom	Sugar Cane	2013 – Contract signed	54,632	54,632
Total				**512,315**	**199,836**

palm plantations in a primary forest zone. The SGSOC project was the biggest palm oil production investment in Cameroon since at least the 1960s; it involved about 73,000 hectares of forestlands. After boisterous protests to the project by conservation NGOs and other actors the President of Cameroon rendered a partial decision in November 2013 that was set out in three presidential decrees that 'provisionally' conceded 19,843 hectares to the SGSOC oil palm project for a period of three years instead of the 73,000 agreed in 2009 (Republic of Cameroon 2013 a, b, c). Although the status of the remaining forestlands awarded in 2009 (about 70 per cent) was still formally in limbo in August 2018, some conservation NGOs reported that Herakles continued to develop its palm oil plantations beyond the boundaries of the provisional forestland concession (Greenpeace 2016).

The work of activists (Nguiffo & Schwarz 2012; Greenpeace 2016; Oakland Institute 2016) and scientific research have focused on the inequities (Ndi & Batterbury 2017; Batterbury & Ndi 2018; Pemunta 2018; Tafon & Saunders 2018) of this project. While other scientific work focused more on anthropic ecological damage caused by the 'new wave' of palm oil production in Cameroon (Linder 2013; Kupsch et al. 2014; Linder & Palkovitz 2016; Ordway et al. 2017). By concentrating on power dynamics and bureaucratic politics, this chapter provides a sharp analysis of the governance of oil palm expansion and how it influences the politics of forestland conversion in Cameroon.

Data collection

The first phase of our research was based on an extensive, iterative literature review aimed at identifying key political drivers of forestland conversion in the Congo Basin forest region. The preliminary findings of this review were discussed at a national workshop (Yaoundé, 25–26 November 2011) attended by close to 60 participants involved in Congo Basin forestland conversion. The major aim of this workshop was to understand how the growing pressure for the acquisition of large swathes of farmland changes the governance of forestlands in Cameroon. The workshop noted, as mentioned above, that the Herakles/SGSOC project was the largest palm oil production investment in Cameroon since the 1960s when Cameroon had just become independent.

In our research (empirically conducted from 2011 to 2018) we employed a quantitative-cum-qualitative approach (Creswell 2009). Our quantitative data came from an in-depth analysis of many unpublished documents collected by the lead author during his field missions and from the Land Matrix database. Land Matrix[2] is an independent, global land monitoring initiative that promotes transparency and accountability in decisions concerning land deals and investments in developing countries. Our qualitative data came from informal and semi-structured expert interviews and also non-participatory and participatory observation. Close to 67 experts from national state bureaucracies, international cooperation agencies, non-governmental organizations, private corporations, and academic and research institutions were interviewed in

Cameroon in June 2012, February 2013, August 2015, May 2016, and January 2018. Each interview lasted between 15 and 75 minutes, depending on the interviewee's knowledge of the topic and her/his willingness and availability to contribute to our research. The majority interviews were conducted in person at the interviewee's workplace. Informal interviews with key actors were conducted out of the workplaces (at their request) in order to guarantee more frank discussion on the controversial issue of palm oil expansion in Cameroon. We were fortunate to receive authorization to consult formal and informal documents and sometimes even confidential unpublished documents (such as administrative letters) on the politics of forestland conversion in Cameroon.

WikiLeaks[3] (Cull 2011) gave us access to confidential documents from the US Embassy in Cameroon (Table 10.2), which enabled us to further analyse the political tensions between external actors and the top echelon of state bureaucracies involved in the Herakles project. In a recent study, rigorous research material from WikiLeaks was used to scrutinize the socio-ecological injustices of land grabbing processes and analyse how resistance 'from below' struggled to face state and corporate powers in Cameroon (Tafon & Saunders 2018). We researched the Herakles project for seven years to understand the power dynamics that influence oil palm expansion in Cameroon. An in-depth analysis of WikiLeaks confidential documents related to the Herakles project was decisive in confirming, reviving, and even rejecting some of our preliminary intuitions and hypotheses.

Table 10.2 Selection of smart archives of the US Embassy in Cameroon on the Herakles project

Citation code	*Reference of the U.S embassy telegraph*	*Subject*	*Date*
WkL-HF1	151559Z JAN 13	Presidency shares views on regional unrest, human rights and investment, (4p).	1/15/2013
WkL-HF2	251756Z FEB 13	Herakles Farms: the environment vs palm oil in Cameroon with a dose of unethical behaviour mixed in, (6p).	2/25/2013
WkL-HF3	170926Z MAY 13	Cameroon scene setter for the visit of AF DAS Cynthia Akuetteh, (6p).	5/17/2013
WkL-HF4	240954Z MAY 13	President Biya reviews regional and bilateral issues and tells DAS Akuetteh he wants more ACOTA training, (4p)	5/24/2013
WkL-HF5	240804Z MAY 13	Cameroon: MFA conveys to DAS Akuetteh views on integration, security, and decentralization, (3p)	5/24/2013
WkL-HF6	211015Z MAY 13	Cameroon: President's SG discusses Boko Haram, CAR, human rights, trade, and investment, (3p).	5/21/2013
WkL-HF7	310950Z MAY 13	Commercial issues dominate DAS Akuetteh's Cameroon visit (3p)	5/31/2013

10.4 Results: on the globalization of local deals in palm oil sector

When palm tree plantations move into areas of erratic bureaucratic autonomy

In Cameroon, forestlands provide various non-tangible (e.g. climate change mitigation, biodiversity) and tangible goods from above- to below-ground resources (e.g. wood, mines, agricultural lands). The management of these resources involves complex interactions between a large constellation of public and private actors defending different ideas and formal/informal interests.

In the case of Herakles farms, our research showed that uncoordinated governance of forestland use in Cameroon contributed to the development of large-scale oil palm plantations. Because of the erratic disconnect between state bureaucracies and market-driven forces, the Herakles palm oil 'enclave' functioned as a local business with very few socio-ecological obligations. "The main problem with the Herakles palm oil project is that its promoters have behaved like the privileged relations they had with MINEPAT (Ministry of Economy) annihilated the existence of the other sectoral ministries"[4]. The 'Establishment Convention' for this project was signed in September 2009 between Herakles farms and MINEPAT acting on behalf of the government of Cameroon. Negotiations which led to the signature of this confidential convention were conducted without any involvement of state bureaucracies whose respective spheres of activities were directly engaged in the project, such as the ministries of land affairs, forestry, environment and agriculture. As concerned the use of forest resources, for example, the Convention stipulated that Herakles would have the: "exclusive right, within the production area, to plant, cut and utilize timber, to the extent the investor and any investor party deems necessary for the construction and maintenance of infrastructure, without the need to obtain any further authorisation or pay any further fees, and for other investor activities within the production area" (Republic of Cameroon & SGSOC 2009: 11). Based on this blanket authorization to use the forestlands allocated to its oil palm project, Herakles started to clear-cut forests in 2010 in violation of the Cameroonian 1994 Forestry Law.

Despite strong protests, the first round of extensive forestland conversion led by SGSOC lasted until 2013. A German conservation NGO called Pro Wildlife was one of the first to voice strong opposition to the SGSOC project. In its letter to the Cameroonian Minister of Forestry and Wildlife (MINFOF) opposing the Herakles project, Pro Wildlife and its allies introduced their consortium as a group of "non-profit organisations representing millions of citizens from all over the world, and scientists". The letter dated 27 May 2011 and signed by sixty-one organizations including local associations, national and transnational conservation NGOs and western academic institutions started as follows:

> [The] southwest region of Cameroon is home to the second greatest biodiversity of the whole African continent. We have learned that the US-company Herakles farms, operating locally as Sithe Global Sustainable Oils Company (SGSOC) is planning to clearcut a total area of at least 70,000 hectares to

> establish industrial palm oil plantations within this region. […], in fact more than half of the area designated for palm oil plantations is presently covered by high-canopy primary and secondary rain forests, which are providing an ecological buffer to and connectivity between the surrounding protected areas. Without these forests vital migration routes for wildlife will be forever lost, and threatened species will lose essential retreats.
>
> (Pro-Wildlife 2011)

Following this letter, a group of international scientists, including scholars from Stanford, Duke, and James Madison universities in the US published a public denunciation of the Herakles project because of its 'environmental hazards'. One of their main arguments was that "nearly three-quarters of the proposed land was covered in forest similar to that found in Korup National Park"[5] (Table 10.2, WkL-HF2: 5). In addition, the scientists also stressed the fact that the Herakles project would have severe social impacts on the livelihood of the 37 neighbouring communities that depended on the forestlands acquired by Herakles for their survival.

Despite this strong opposition letter, reactions from a number of protest movements and the blatant violation of the forest and land laws, the deforestation activities continued. Nevertheless, between 2011 and 2013 the Herakles Project obtained more proof of environmental legitimacy. It applied for and received the label of a sustainable oil palm project from the Roundtable on Sustainable Palm Oil (RSPO)[6]. The Cameroonian governmental authorities supported the labelling process by issuing an environmental license. And the national Institute of Agricultural Research for Development (IRAD) and the Ministry of Forests and Wildlife (MINFOF) issued certificates (November 2009 and October 2010) indicating that biodiversity hotspots were not threatened by the project since most of the forestland allocated to the Herakles project was 'secondary and degraded forests'. Similarly the Ministry of Environment and Nature Protection (MINEPDED) issued a "certificate of environmental conformity" to the project in September 2011. Herakles pressured Cameroonian state bureaucracies to obtain these legal certifications by referring to administrative facilities stipulated in the establishment convention signed with MINEPAT:

> Government undertakes to promptly provide to investor, and to cause any governmental authority to provide to investor all certificates, exemptions, waivers, consents, licenses, permits, easements, documents and other authorizations, to the extent (that) any of the foregoing are or may be desirable or necessary for any project participant to conduct the investor activities and otherwise to give effect to, and allow investor to benefit from the provisions of this convention.
>
> (Republic of Cameroon & SGSOC 2009: 15)

State bureaucracies in charge of economic and related affairs (finance, trade, public procurement, etc.) have often been stronger than the bureaucracies that manage

natural resources. In the case of the Herakles palm oil project, MINEPAT helped orchestrate this hegemony within the governmental system by emphasizing the national discourse on the goal of Cameroon's 2035 economic emergence, which includes accelerated forestland conversion. The public authorities are promoting the economic emergence agenda by requiring all the ministries to contribute to increasing "the per capital income [of Cameroon] from US$983 to US$3800 by the year 2035". To reach goals of this government vision 2035 driven by the Ministry of Economy, governmental authorities are strongly encouraged to "accelerate and support the economic growth rate by focusing on most accessible resources: agriculture, mining, etc." (MINEPAT 2009: 24).

Actors, interests, and power strategies in palm oil production

Our research indicated that key actors involved in the large-scale oil palm business in Cameroon employed a set of formal and informal strategies to satisfy their interests. There were eight major actor groups, namely the national state bureaucracies (MINEPAT, MINFOF, MINEPDED, Prime Minister's office, and the Presidency that strongly influenced the project), the private sector (Herakles), the western agencies (US Department of State [US Diplomacy] and the U.S. Embassy) and the BINGOs, the big conservation NGOs, representing both collective and individual NGOs.

These actors used their power to influence the governance of the Herakles project. We analysed their strategies on the basis of three power elements (described in theoretical section 10.2): coercion, (dis)incentive, and dominant information (Table 10.3).

Coercion: Two of the key actors of the Herakles project (Herakles Farms and MINFOF) employed direct and indirect physical actions to impose their interests in the project area. In 2010, Herakles imposed a very limited and selective access to the project's forestlands to hide the fact that the lands had been allocated and exploited illegally and that clearing and logging had been started without the legal license required by the 1994 Cameroonian forest law. Many representatives of the local population and environmental activists who tried to visit the project zone were violently removed. The Herakles palm oil enclave was well protected by a private police force whose creation was encouraged in the Establishment Convention:

> Government hereby authorizes investor directly or under contract with other persons of its choosing, to establish, manage and maintain its own asset and employee security and protection service for the purpose of maintaining law, order and security in the production area. […] Such service shall have the power to search, apprehend, detain, exclude and evict unauthorized persons from the production area.
>
> (Republic of Cameroon & SGSOC: 21)

Table 10.3 An overview of actors' interests and power strategies in oil palm expansion in Cameroon

Power element	*Formal and informal strategies*	*Key actor*							
		MINEPAT	*MINFOF*	*MINEPDED*	*PM*	*PRESIDENCY*	*HERAKLES*	*US DIPLOMACY*	*BINGOs*
Coercion	Use of public forces (forest rangers and police) to control or suspend the project		++						
	Use of private police force to secure and impose the project						+++		
	Rejection or ignorance of judicial injunctions to stop the project						+		
	Illegal logging and forestland conversion to palm oil						++		
	Violation of the land tenure rules (1974 Ordinance and 1976 Decree)	++			+	+	++	+	
	Violation of the 1994 forest law	++			+	+	+++		
(dis) incentive	Utilization of governmental discourse on economic emergence by 2035	++			++	++			
	Claims to respect national sovereignty in forestlands allocation and exploitation	+			++	++			
	Protests and contestation campaigns against 'land grabbing' or deforestation activities		++						+++
	Promotion of the Herakles project as a good signal for future foreign investment in Cameroon					+		++	
	Political pressure to protect US investments in Cameroon							+++	
	Increasing acceptance of the project by environmental labelling			+			++		

Power element	*Formal and informal strategies*	*Key actor*							
		MINEPAT	*MINFOF*	*MINEPDED*	*PM*	*PRESIDENCY*	*HERAKLES*	*US DIPLOMACY*	*BINGOs*
Dominant information	Strategic use of social and environmental scientific knowledge for project legitimacy			+			++		
	Producing independent scientific knowledge to demonstrate the 'environmental hazards' of the project								++
	Conducting 'name-and-shame' in media and policy spheres to pressure Herakles and its investors								+++
	Fostering lack of transparency and inertia on the project to avoid blame from project opponents	+++			+	++	+++	++	

Level of influence or effect: +: low; ++: moderate; +++: strong

The Cameroonian government finally reversed its position and recognized that the use of coercion and other such measures to stop the project were illegal.

So, after its initial strong support for the Herakles Farms project, despite its illegal dimensions, the state authorities did an about-face and implicitly supported the big NGOs' claims and the country's land tenure legislation which stated, in the 1974 Ordinance on land tenure and the 1976 decree of national land management that a foreign individual or corporation could not obtain a land concession without submitting a formal application to the Minister of Land Affairs. And that requests for land concessions larger than 50 hectares required the formal approval of the Ministry of Land Affairs and a presidential decree. Remember that in the case of the Herakles project, the 73,000 hectares of forestland were illegally allocated and exploited until 2013, since approval had been based merely on the silent consent of the President and the Prime Minister represented by the Ministry of Economy in a MINEPAT/Herakles joint Establishment Convention authorizing the allocation of the forestland; there had been no due process of law. To ensure the confidential, clandestine development of the project, the 45-page Establishment Convention did not indicate the size nor the location of the allocated forestlands. This was revealed in a confidential document from US Embassy in Cameroon, "Herakles farms arrived at a verbal agreement with the GRC [Government of the Republic of Cameroon] for land in the southwest region" (Table 10.3, WkL-HF2: 2).

At the same time as public campaigns and the voices of critics against the Herakles project steadily grew louder, about 500 e-mails were sent to the Presidency and the US Embassy in Cameroon to condemn the project. A Cameroonian lawyer emphasized that the Herakles project was in "violation of Cameroonian law because it occupied land without a land lease, cut down forests without authorisation, and did not perform the required socio-environmental impact assessments before clearing forests and planting nurseries". Furthermore, the Establishment Convention contravened Cameroonian law (Table 10.2, WkL-HF2: 3). These allegations were formally confirmed in a letter on the violation of land procedures sent by the Minister of Land Affairs to Herakles. Finally, MINFOF sent in its paramilitary forest police forces to stop the project. Because of the intense 'name-and-shame' and the local protest movements in April 2013, MINFOF decided to stop the deforestation activities in the Herakles production area (MINFOF 2013).

Incentive or disincentive: Key actors in the Herakles palm oil project extensively used incentives and disincentives to alter each other's behaviour and foster personal interests. Furthermore the Ministry of Economy, the Prime Minister and the Presidency have used the discourse on the 2035 economic emergence to promote the Herakles project, which they felt was a good opportunity for agricultural development. In May 2013, for instance, the Prime Minister spoke highly of the Herakles project at a diplomatic meeting with the US Deputy Assistant Secretary of State for African Affairs (DAS). The PM said the MINFOF decision to stop the Herakles project was 'unfair', since the Herakles farms were "in the right place at the right time" (Table 10.2, WkL-HF7: 2). In other words, the Herakles palm oil project was considered a good opportunity to transform forestlands into farmlands.

For many decision-makers, the Herakles project was a hot issue of national sovereignty. "It is not the international conservation NGOs that can decide which agricultural model is the most appropriate for the development of our country. Cameroon is free to do business with any investors it chooses"[7]. In the Herakles case study, since the country has limited statehood, external pressure was only perceived as an infringement of national sovereignty when the interests of the state bureaucracies did not fit in with the changes advocated by the external actors. For example, the Prime Ministers felt that pressure from BINGOs to stop the Herakles project because of its social and environmental damage amounted to "negative involvement of international environmental NGOs [infringing] on Cameroon's sovereignty" (Table 10.3, WkL-HF7: 2). While pressure from the US DAS to move ahead quickly with the Herakles palm oil project was more acceptable to the top Cameroonian echelons of decision-makers. This was reported in a confidential diplomatic report:

> Akuetteh [DAS] said that we hoped that the government could resolve its dispute with palm oil producer Herakles farms. Biya [the President of the Republic] responded that nongovernmental organisations were adamantly opposed to this project; however, Cameroon has thousands of hectares of forests and there is no reason for this project not to move forward.
>
> (Table 10.2, WkL-HF4:3).

Most of the incentives through political and economic pressure that pushed the development of the Herakles project were exercised at least seven high-level meetings held between the top echelons of the Cameroonian state bureaucracy (PM and the President) and US diplomacy services (US embassy in Yaoundé and DAS). One of the main arguments used by US diplomacy to pressure Cameroonian authorities was that a failure to act quickly for the implementation of the Herakles project "could cause uncertainty in the local business climate and have a chilling effect on future foreign investment" (Table 10.2, WkL-HF7:1). The reaction of the top echelon of Cameroon state bureaucracy was often to ensure US diplomacy that the strong governmental support for the Herakles project should be clear evidence that there was "nothing more important than increasing the number of US firms in Cameroon" (Table 10.3, WkL-HF5:1). As another example in the same direction, when MINFOF decided to stop the Herakles project in April 2013 because of illegal logging, US diplomacy exercised intense pressure. In May 2013, the Prime Minister and the President of the Republic forced MINFOF to change course.

As a market-based incentive promotion tool, Herakles tried to legitimate its oil palm plantations in Africa project by joining the 'sustainable palm oil production' (RSPO regime) in November 2011. However, this labelling process was so severely criticized by the civil society organizations that RSPO finally withdrew the label in August 2012.

Dominant information: The key actors in the Herakles project attempted to make their information and knowledge dominant by introducing asymmetric

initiatives and strategies. For example, Herakles used the production and validation of social and environmental knowledge on the sustainability of the project to increase the project's international acceptability. While MINEPDED's validation of the related environmental impact assessments served as a basis for the project's legitimation strategy at the local and national level. In response, big conservation NGOs in collaboration with national and international academic partners developed alternative knowledge to contest the sustainability claims of the Herakles project. There were many 'name-and-shame' campaigns in the media to denounce the 'environmental hazards' of the Herakles project. Another common feature of information and knowledge asymmetries employed by some actors vis-à-vis the others was the promotion of 'discretionary decision' or 'policy inertia' aimed at avoiding blame if and when the project failed, e.g. MINEPAT's launching the project based on a confidential bilateral Establishment Convention with the Herakles company. Despite the constellation of actors involved in the governance of forestlands in Cameroon, the overall process leading to the Establishment Convention was conducted by MINEPAT with the strong discretionary support of the Prime Minister, the Presidency of Cameroon, and the US diplomacy services. The majority of the stakeholders directly affected by the project, including local communities and sectoral state bureaucracies in charge of forest and land tenure issues, were excluded from the whole process.

10.5 Discussion: resisting domination in natural resources governance

Why weak bureaucratic autonomy drives erratic policies

Our first hypothesis (H1) is that the lack of state bureaucratic autonomy is the major political driver of erratic forestland conversion in Cameroon. The Herakles farms project is a good example of the dynamics of forestland use in Cameroon since it is characterized by a combination of weak autonomy of state bureaucracies and strong influence of external actors, including private firms, western cooperation agencies, and transnational conservation NGOs. Earlier studies have highlighted the issue of institutional weaknesses and the increasing pressure of external public-private interventions in the governance of forestlands in tropical countries (Agrawal et al. 2008; Humphreys 2009; Lambin et al. 2014). In empirical terms, we found that the external actors employ a set of power strategies to pressure the weak actors. The main goal of the former is to foster their dominant interests in the policy domains of the latter. The category of external actors (possibly the 'political principal'), and the dominant interests defended or even imposed on a weak bureaucratic entity or 'agent' may refer to very different concerns. External pressure, for instance, can be levied for the protection of private or foreign investments (by private firms and western cooperation agencies), or in support of claims for environmental preservation and social equity (by transnational NGOs). With regard to forest policy, the implementation of these strategies includes intensive use of incentives, deregulation of domestic policies in recipient countries,

and manipulation of existing governance fragmentation (Karsenty & Ongolo 2012; Burns et al. 2017). In Africa, the issue of weak bureaucratic autonomy is not exclusive to Cameroon. It has been an institutional pattern in Sub-Saharan Africa for at least two reasons. First, the majority of states in Africa are deeply embedded in a patrimonial structure that does not function as a rational bureaucratic entity, since it makes a clear distinction between the general interests of societal well-being and the private interests of individuals in dominant positions (Mbembe 2001; Olivier de Sardan 2004). Second, the historical and postcolonial heritage of elite capture behaviour, authoritarianism and cronyism are key elements of bureaucratic dysfunctionalities in Sub-Saharan Africa (Mbembe 2001; Young 2004). These practices are dominant in many African state bureaucracies and within the multilevel governance systems as a whole. In short, beyond the formal attributes of modern states bureaucracies, the dynamics of public policies in Africa cannot be well understood without considering the informality and political disorder that characterize the present style of government of persons and natural resources (Chabal & Daloz 1999; Hagmann & Péclard 2010).

From change to status quo: the phenomenon of 'infringement tactics'

Our second hypothesis (H2) is that despite the growing influence of external actors in forestland government in Cameroon, state bureaucracies remain capable of skilfully fostering their own interests. The Herakles Farms project demonstrated how external interventions, including those based on incentives/disincentives or asymmetric use of information and knowledge, could stimulate short-term change. However, whether such change induced within state bureaucracies under the pressure of external actors remains reversible depends on competing interests or hidden agendas that may arise in the policy arena. This reversibility issue has been studied in other forestland governance contexts (Sloan 2014; Ongolo & Karsenty 2015; Horning 2018). For example, the confidential allocation of about 73,000 hectares of forestlands to Herakles in 2009 by the Ministry of Economy was effective until pressure rose from the local populations whose competing interests challenged forest bureaucracy (as they claimed their customary rights to the allocated forestlands and the right to participate in the regulation of forest operations) and from transnational conservation NGOs (fighting for biodiversity protection). Informal strategies employed by state bureaucracies to keep the upper hand over the politics of forestlands in Cameroon are based on what we call the '*infringement tactics*'. Broadly speaking, infringement tactics refer to the assumption that weak actors under the pressure of dominant actors have a certain ability to achieve their interests and protect their hidden agenda by using a set of informal behaviour patterns and resources. The aim of infringement tactics is to circumvent external pressures and skilfully resist the related oppressors. This phenomenon is similar to those observed in earlier theoretical works relating to other political and cultural contexts (Weaver 1986; Scott 1990; Bayart & Ellis 2000; Andrews 2013). In short, infringement tactics aim at studying how "weak" actors can informally exploit the three elements of power (coercion, incentive/disincentive and

dominant information) to their advantage to counterbalance the formal power positions of dominant actors. In some cases, they may turn the power balance upside down by applying their hidden informal agenda.

Scientific knowledge as political instrument within power dynamics

The production of alternative scientific knowledge by stakeholders of the Herakles project served in the legitimation or contestation of the project, depending on stakeholders' interests. On the one hand, the Herakles project was able to obtain the RSPO environmental label for 'sustainable palm oil' producing companies on the basis of scientific studies attesting that (i) the allocated forestland concession for palm oil production was not a primary forest, which meant that there were no flora and fauna species that were listed on the IUCN Red List of 'Endangered Species'; (ii) the areas required to maintain or enhance High Conservation Value (HCV) had been identified; (iii) from a social equity perspective, all privately owned land had been recognized and customary arrangements had been proposed. This scientific knowledge in favour of the Herakles project was supported by formal attestations issued by state bureaucracies including the Ministry of Environment (MINEPDED) and the national Institute of Agricultural Research for Development (IRAD). The big transnational conservation NGOs (BINGOs), in collaboration with academic institutions, responded by producing 'independent' scientific knowledge to denounce the 'environmental hazards' of the Herakles project. This alternative knowledge served as the main disincentive instrument for the 'name-and-shame' campaigns conducted in the media and political circles including Cameroonian state bureaucracies, to dispute the project. Among the scientific arguments put forward against the Herakles project, BINGOs' academic allies highlighted that: (i) the project would cover high-canopy primary and secondary rainforests, with a higher risk of destruction (than a conventional sustainable agricultural project) of the ecological intact forest blocks between the surrounding protected areas; (ii) clearcutting such intact rainforests would be detrimental to the biodiversity; (iii) there was a serious threat for tens of thousands local residents who depended on these allocated forestlands for their livelihood.

These results support earlier studies that purported that political actors can always politicize or manipulate scientific knowledge to benefit from science-policy interfaces. Nevertheless, this political use of science-based information opens up possibilities for powerful actors to use scientifically sound information to counteract the resistance of other political actors who do not push activities that preserve the planet such as forestland sustainability (Böcher & Krott 2016; Dharmawan et al. 2017; Do Thi et al. 2017). Our research demonstrates how power can be used to force actors to accept and implement science-based solutions.

10.6 Conclusion

Tropical African countries including Cameroon have become one of the key targets of the global land rush for agricultural expansion. The related investments

flows have hastened the dynamics of forestland conversion with a special focus on oil palm projects. According to the International Land Matrix, close to 65 per cent (about 130,000 ha) of the 199,836 ha of land allocated to agriculture in Cameroon between 2000 and 2016, was meant for oil palm projects. Our research sought to explain how the global dynamics of oil palm expansion in tropical Africa changed the governance of the forestland conversion processes in Cameroon. Using the Herakles Farms, a private US firm's palm oil project as our case study, this chapter showed that the major factors driving forestland conversion in Cameroon predicated on the weak autonomy of state bureaucracies, and the woefully little capacity of African statehood to withstand pressure from external actors.

In accordance with our conceptual and theoretical frameworks, our analyses show that: first, the lack of state bureaucratic autonomy is the major political driver of erratic forestland conversion in Cameroon; second, state bureaucracies and the top echelon of governmental authorities involved in the management of forestlands are under constant pressure from external actors such as private firms, western cooperation agencies and big transnational conservation NGOs; and third, to meet the actors' interests in promoting sustainability or fostering forestland conversion, science-based knowledge has become a powerful tool for legitimation or contestation in the governance of tropical forestlands.

Depending on the interests at stakes, the external actors may employ power strategies based on coercion, incentive/disincentive, or dominant information to impose their formal or informal interests on forestland governance. Nonetheless, the growing influence of these external actors has not eliminated the state bureaucracies' capacity to skilfully preserve their hidden agenda in local businesses while managing to avoid blame from the global political communities.

The results of this research provide substantial and original contributions for studies on sustainable development in developing countries for at least three reasons. First, improving forestland governance in tropical countries is a fundamental challenge to the achievement of the sustainable development needed for the preservation of the planet and for human survival of millions of people. In the Congo Basin countries (including Cameroon) the survival of at least 60 million people who depend on forest resources is at stake. At the global level, the importance of forestland sustainability for the well-being and improved living conditions of humanity is summarized in Goal 15 of the United Nations Sustainable Development Goal for 2030. Second, the effects of the structure of state bureaucracies on the dynamics of deforestation and biodiversity loss need to be more thoroughly analysed to explain how sustainability goals can coincide with decision-makers' interests in tropical regions. Third, the gap between science and policy in the management of natural resources in developing countries is still huge. Further research on how scientific knowledge can be transferred and more effectively used by policymakers would contribute greatly to original and innovative cutting-edge knowledge on the governance of tropical forestlands in times of changing climate globally and increasing pressure for agricultural expansion in Africa.

Notes

1 It is important to distinguish between the notions of "rule of law" and "rule by law". As Fukuyama (2013) points out, in the former, the central authorities are themselves bound by the same rules, norms, and principles that apply to other actors; in the latter, the central authorities use rules, norms, and principles as well as their bureaucracies as an instrument of power against or control over the other actors.
2 https://landmatrix.org/
3 WikiLeaks is an international non-governmental organization that publishes confidential information.
4 Discussion with a senior officer in the Prime Minister's office in Yaoundé in February 2013.
5 Korup National Park, located in southwestern Cameroon, covers over 126,000 hectares of well-preserved primary forest. This park is among the oldest and richest tropical forests in Africa and is particularly known for the diversity of its fauna and flora.
6 To date, RSPO has claimed to be the most representative private certification scheme in the palm oil sector. RSPO aims at promoting environmental and social corporate good practices for sustainable palm oil production in tropical regions.
7 Interview of a civil servant in the General Secretariat of the Ministry of Economy, Planning and Regional Development (MINEPAT) in Yaoundé in August 2015.

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11 Policy Change and Power Dynamics

How Actors Respond to Participatory Forest Management across Multiple Scales in Tanzania

Kajenje Magessa and Neal Hockley

11.1 Introduction

Before the 1980s, centralised forest policies in many countries in Africa, Asia and Latin America excluded local communities from forest resource management, while often failing to prevent degradation of forest resources (Haller et al., 2008). While the idea of community involvement in forest resource management had been developing since the early 1950s, it gained momentum and was widely adopted by many countries in the 1980s, due to a shift in rural development thinking and practice (Barlett, 1992; Timsina, 2003). Structural adjustment programmes, supported by international financial institutions such as the World Bank and International Monetary Fund (IMF) also contributed to the popularity of community involvement in forest resource management (Kowero et al., 2003). Financial institutions, including the IMF, forced African governments to introduce decentralisation reforms in all sectors, including the forest sector (Kowero et al., 2003). Furthermore, in the early 1990s, a number of international frameworks including the Convention on Biological Diversity; the Rio Declaration and the African Timber Organization emerged, building on earlier work by the Brundtland Commission (1987), and demanding local community involvement in forest management as an intrinsic component of sustainable forest management principles (ATO 2003; CBD, 2003; UN, 1992). As a result, in the 1990s many countries developed policies whose stated aim was to adopt more decentralised approaches in forest resource management as a way to improve forest condition, governance and rural livelihoods (Schreckenberg and Luttrell, 2009). The concept of forest decentralisation has taken different forms and names in different countries, e.g. Community Forest Management (CFM) or Participatory Forest Management (PFM) due to differences in the political context in which the concept is implemented (Odera, 2009). Despite the diversity of terms used from country to country, all imply some degree of devolution of power over forest resource management to local communities (Agrawal and Ribot, 1999).

Decentralisation of forest resources is considered by many governments and international organisations as being a democratic approach to forest management and governance, empowering local communities with decision-making and

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utilisation powers as well as power to enforce forest rules (Agrawal and Ribot, 1999; Manin et al., 1999; Ribot, 2004; Ribot et al., 2010). Béné et al. (2009) argued that involving local communities in forest resources management would contribute to sustainable forest management and improve rural livelihoods better than pure state management for several reasons: 1) the proximity of local communities to forest resources gives them an advantage in monitoring the use of the forest resources; 2) local communities have a better knowledge of the local environment where forest resources are located hence enabling them to design the appropriate management strategies and implement them accordingly; and 3) local communities have an interest in the long-term maintenance of the resources because most of them depend on it for their livelihoods (Béné et al., 2009). However, in order to achieve effective PFM, there should be rules and regulations to deal with free riding and depletion or spoliation of the shared common pool resources and to ensure larger scale public goods are maintained (Smith, 1980; Agrawal, 2001). Decentralisation of forest resources aims to secure property rights to local communities and at the same time to facilitate equity in distribution of benefits accrued from the approach for the marginalised groups e.g. poor and women (Coulibaly-Lingani et al., 2011). In most developing countries, advocates for the policy viewed decentralisation of forest resources as a means to alleviate poverty and not only as a way to improve forest governance and condition (Kellert et al., 2000). Since the introduction of this bottom-up approach, scholars have documented mixed reactions of different stakeholders to decentralisation policies across multiple countries (e.g., Abas, 2019; Blomley et al., 2017; Liu and Innes, 2015; Magessa et al., 2020a and 2020b; Mustalahti et al., 2012; Pollitt and Bouckaert, 2011; Riggs et al., 2018).

In this chapter we use the example of Participatory Forest Management (PFM) in Tanzania to explore how interest groups at multiple scales promote, co-opt and resist policy innovations designed to redistribute power. We draw on our own research, and that of many other scholars who have studied different aspects of PFM in Tanzania, from policy development through implementation to village and household level outcomes. We summarise the diversity of these study objectives and methodological approaches in Table 11.1.

11.2 Participatory Forest Management in Tanzania

Tanzania makes an interesting case study because it is among the leading countries in Africa that had made most progress in terms of numbers of communities and hectares of forest involved in PFM (Blomley et al., 2017), and hence many countries have borrowed from Tanzania's PFM experience (Wily, 2001; GoK, 2007). Participatory Forest Management is defined as a "strategy through which local communities adjacent to forest resources and other stakeholders are involved in management of the forest resources" (Blomley and Ramadhani, 2006). In Tanzania, PFM has been implemented since the 1990s (URT, 2012), supported by the Forest Policy of 1998 and Forest Act of 2002 (URT, 1998 and 2002). Participatory Forest Management in Tanzania entails two pillars: Community

Table 11.1 Summary of Tanzanian PFM studies reviewed for this chapter

Key references	*Objective*	*Methods*
Blomley and Ramadhani, 2006	Assess the degree to which different models of PFM have improved rural livelihoods and forest management.	Document review.
Blomley et al., 2017	Explore barriers to Participatory Forest Management.	Household survey, Key Informant Interview (KII).
Corbera et al., 2017	Analyse governance and livelihood changes in a PFM initiative.	Household survey, Focus Group Discussion (FGD) and KII.
Fjeldstad et al., 2001	Examine factors determining tax compliance in local authorities.	Household survey.
Green and Lund, 2015	Examine how the framing of a CBFM intervention implies the professionalisation of forest management.	FGD and KII.
Nielsen and Lund, 2012	Investigate production and communication of locally based monitoring information.	KII, Forest transect survey and observation.
Gross-Camp, 2017	Describe the influence of PFM on the well-being of local stakeholders.	Individual survey, KII and FGD.
Jacob and Brockington, 2017	Examine benefit-sharing lessons for REDD+ implementation based on PFM experience.	Household survey, KII, transect walks, participant observation, and FGD.
Kelsall, 2004	Natural resources governance agenda through the lens of a contemporary, local history.	FGD, KII.
Khatun et al., 2015	Explore how local villagers view the new forest institutions, the procedures and outcomes of benefit sharing in PFM.	FGD, KII and Household survey.
Killian and Hyle, 2020	Analyse the consequences of responsibilisation for women in natural resource management.	KII, participant observation, FGD and mini-survey.
Koch, 2016	Examine aid as a cause of implementation failure of PFM.	KIIs and document review.
Lund and Juul, 2006	Assess current status and challenges of PFM.	Literature survey.
Lund and Treue, 2008	Evaluate effects of decentralised forest management on forest conservation, rural livelihoods and good governance.	Forest inventory, wealth ranking, participant observation, KII and FGD.
Lund, 2007	Examines collection of natural resources revenue by village governments.	KII, FGD.
Luswaga and Nuppenau, 2020	Explore communities' participation in the participatory forest programme.	Household survey.

Key references	*Objective*	*Methods*
Magessa, 2020	Determine to what extent does Tanzanian PFM achieve devolution, and what explains its failure to do so.	Individual survey, FGD and KII.
Magessa et al., 2020a	Assess whether PFM has achieved devolution.	Individual survey, KII, FGD.
Magessa et al., 2020b	How far decentralised forest policies are designed to achieve devolution.	Policy review.
Meshack et al., 2006	Assess levels of transaction costs in PFM.	Household survey.
Mustalahti and Lund, 2009	Assess the degree to which the legislation is implemented.	KII and observations.
Mustalahti and Tassa, 2012	Explore findings related to commitment, transparency and continuity in PFM.	Document review, KII, transect walks, Venn diagram, participatory resource mapping, participant observation.
Mustalahti et al., 2012	Examine the local priorities and needs in the use of land and forest resources in PFM.	KII and participatory rural appraisal methods.
Mustalahti, 2006	Examine the relationship between local communities, national and local governments and external funding agencies in PFM.	KII and FGD.
Perfect-Mrema, 2017	Explore the socio-political underpinnings of corruption in PFM.	KII, Focus Groups, observations, and documentary analysis.
Saha et al., 2019	Assess the performance of the PFM institutions.	Document review.
Treue et al., 2014	Assess the sustainability of forest utilisation under PFM.	Forest survey and household survey.
Vyamana, 2009	Investigate impacts of PFM on livelihoods.	Household survey, KII and FGD.

Based Forest Management (CBFM) that takes place on village land and Joint Forest Management (JFM), which takes place on land owned by either central or district government. Both CBFM and JFM explicitly aimed to improve rural livelihoods, forest governance and condition (URT, 2001). In JFM, local communities share management responsibilities with the government but the forest remains owned by the government (URT, 2002 and 2013). In CBFM, the village council owns and manages the forest through a Village Natural Resource Committee (VNRC) or Village Environmental Committee (VEC). Members of the committees should be elected by all villagers through a village assembly (URT, 2002 and 2007). Where the forest covers more than one village, villages may choose to establish a Joint Village Forest Management Committee (also known as a Zonal Environmental Committee, ZEC) (URT, 2007). By 2012, around 7.7

million hectares of forests and more than 2,000 villages were involved in PFM (URT, 2012). However, studies have documented both positive and negative impacts of PFM (Persha and Blomley, 2009; Arts and Babili, 2012; Lund et al., 2018). This chapter uses PFM in Tanzania to investigate to what extent new policies can change existing power dynamics at multiple scales.

Policy introduction and formulation: domestic resistance to foreign influence

The introduction of PFM in Tanzania heralded a major shift away from centralised, state-led management. In this section we consider how PFM policy was introduced to Tanzania, which actors were responsible for controlling and setting the agenda, and how this influenced policy formulation. We argue that PFM was promoted primarily by foreign donors, rather than being promoted from within Tanzania. This led to processes of policy formulation and adoption that were in many respects superficial and resisted by many key actors within Tanzania.

Wide stakeholder engagement in the process of policy-making is important for achieving democratic legitimacy, which in turn may affect policy effectiveness. However, Magessa (2020) describes how the idea of PFM was brought to Tanzania by foreign donors, notably the Swedish International Development Agency, (SIDA) and foreign NGOs, who played a large part in the process of policy formulation, with a lack of wider stakeholder engagement. Unlike processes of policy transfer or diffusion (see Benson and Jordan, 2011), in the case of PFM in Tanzania, international organisations were not primarily transferring policy developed elsewhere, but were to a substantial extent developing PFM policy in Tanzania and other developing countries more or less simultaneously. PFM was therefore seen as a substantive change in approach for the domestic policy actors in Tanzania: it brought new ways of thinking that were not aligned with their norms. Magessa (2020) found that most of the officials from the Forest and Beekeeping Division and Tanzania Tree Seed Agency who were involved in developing the policy were not happy during the process. Key personnel in the government did not agree with introduction of the PFM policy, because it seemed to them that donors (e.g. SIDA) were pushing PFM policy onto the agenda, and driving the process of policy formulation. These participants doubted its implementation would be sustainable after the end of donor support: they feared that when donor support ended, their previous state-led approaches to forest management would have been replaced by a PFM approach that would no longer be viable. A similar situation has been observed during PFM implementation, where Mustalahti and Lund (2009) found that in cases with higher value forest resources (e.g *Dalbergia melanoxylon* and *Pterocarpus angolensis* species), the process of PFM implementation was pushed by NGOs and donor-funded projects at a stage where the benefit-sharing regime from the PFM was not yet settled. This would lead to extra challenges in achieving sustainable forest management. Most of the forest staff interviewed by Magessa (2020), felt that it would have been better for the government to improve the current approach to forest management than to adopt the PFM approach. Similarly, Lund and Juul (2006), Mustalahti and Tassa (2012), and Blomley et al. (2017) all found that

implementation of PFM was donor-oriented and there was weak political commitment and financial support for PFM from domestic stakeholders. Thus, while foreign donors succeeded in setting the agenda, and framing the set of possible policy responses, various domestic actors resisted this, in a way which affected, but did not prevent, PFM policy formulation and adoption. Thus, the willingness of government staff to implement PFM was low, and this limited the budget that government allocated to it, undermining its sustainability. Blomley and Ramadhani (2006) also argued that district forest staff in Tanzania viewed PFM more like a donor-supported project than a long-term policy shift, and their coordination with external initiatives remained poor. This scepticism, resistance and lack of ownership of the policy among key forest staff meant that PFM has struggled to expand effectively away from externally funded donor schemes (Mustalahti et al., 2012).

The lack of wider stakeholder engagement in PFM policy formulation led to policymakers giving inadequate consideration to local context and local community dynamics, leading to weaknesses in policy design that allowed unrepresentative local institutions to develop in PFM (Magessa et al., 2020a and 2020b). This has resulted in a lot of resistance from implementing institutions and contributed to the failure of PFM policies to deliver intended benefits to local communities (Jacob and Brockington, 2017). Tanzanian officials have adjusted policies in response to international demands, but without necessarily intending to put those changes into effect or ensure their success (Koch, 2016). So far, without donor funding, the technical and material support from the local government for community forestry has been minimal or non-existent, and the implementation of PFM efforts are put to a real test in the absence of donor support (Mustalahti, 2006; Blomley et al., 2017; Luswaga and Nuppenau, 2020) due to a lack of coordinated, genuine partnerships between government, non-government and community-based agencies. This situation is not unique to Tanzania, similar findings have been noted in Ethiopia where NGOs and a foreign donor promoted PFM in the country (Gobeze et al., 2009), aiming to resolve a situation of open access to forest resources and promote sustainable forest management. Similarly, Ribot et al. (2006) found that participatory forestry reforms in many countries have been promoted due to donor pressure, resulting in hesitant devolution processes that have not allowed forest adjacent communities a genuine say over forests and this has affected the sustainability of PFM implementation (FAO, 2011; Ameha et al., 2014).

Power dynamics within/between government and communities

Participatory Forest Management policy requires District Forest Officers to gather and compile information from each village and make sure it is forwarded to the Director of Forestry and Beekeeping Division twice a year (URT, 2007). However, Magessa (2020) found that accountability of District Forest Officers to the Director of Forest and Beekeeping division was not evident, because District Forest Offices fall under the responsibility of the President's Office, Regional Administration and Local Government, where decisions about their job descriptions, promotion and salaries continued to be made (URT, 1982).

These findings are in line with Nielsen and Lund (2012) and Green and Lund (2015) who found that accountability in PFM is ineffective. Thus, while the Director of Forestry and Beekeeping Division (FBD) has the power to formulate PFM policy, the implementing authorities in local government are not accountable to the director with regard to PFM and the Director has no power to question them (Magessa, 2020). Similarly, a study by Perfect-Mrema (2017) found that accountability mechanisms in PFM are, to a large extent, not in line with aspirations for full devolution since the mechanisms are not full embedded in robust analytical frameworks or well-defined theory. Furthermore, Magessa (2020) argues that this situation came about because formulation of PFM policy did not take into account existing local government organisation structures and practices weakening PFM policy (Magessa et al., 2020b). Other scholars, e.g. Bruña-García and Marey-Pérez (2014) and Nagasaka et al. (2016), have argued that effective public policy design that accommodates local context is never achieved without considering views of different stakeholders affected directly or indirectly by the policy. The administrative capacities of PFM implementing institutions were compromised, as they had no formal organisational structure that facilitated integration of national efforts at the local level (Magessa et al., 2020a). This has constrained the extent to which PFM has achieved true devolution (Magessa, 2020). Similarly, Lund and Juul (2005) and Treue et al. (2014) found that the inability of local agencies and authorities to coordinate and integrate their activities with those of central government has led to compartmentalisation and lack of complementarity. The experience of Tanzanian PFM, therefore, supports the notion that effective decentralisation requires the clear linking of institutions both vertically and horizontally to provide a meaningful hierarchy of services and to increase the quality and reliability of service delivery (see e.g. Lebel et al., 2006; Dyzenhaus, 2017; Riggs et al., 2018).

Magessa (2020) found that introduction of PFM in Tanzania has threatened the power of forest staff over forest management and therefore created power struggles between forest staff and local communities. The National Forest Policy of Tanzania (URT, 1998) states that the Forestry and Beekeeping Division needs to support local communities to implement PFM according to what has been specified in the policy. However, Magessa (2020) found that the Tanzania Forest Services Agency contradicted PFM policy and threatened the power of local communities managing forests under CBFM with more valuable timber trees (e.g. large number of *Dalbergia melanoxylon* and *Pterocarpus angolensis* trees). Staff from the Tanzania Forest Services Agency believed that local communities managing forests under CBFM with these more valuable resources were not allowed to harvest their forests without an approval from their Agency, which is not in accordance with the policy. In some cases, Magessa (2020) found that there have also been power struggles between the Forestry and the Beekeeping Division on one side and Tanzania Forest Service and District councils on the other, where District Forest Managers and District Forest Officers have become reluctant to support local communities. This is because many of the forests where CBFM were

established were previously providing a lot of revenue to central and local government. After CBFM establishment in these forests, CBFM policy empowered local communities to retain all the revenue, hence central and local authorities lost power over the forest resources (Mustalahti and Lund, 2009). Mustalahti and Tassa (2012), Blomley et al. (2017) and Magessa (2020) all argued that this situation has limited the scaling up of PFM in Tanzania because effectiveness in implementing CBFM policy depends largely on the willingness of central and local government officials to support local communities. This requires appropriate behaviour and attitudes of officials toward CBFM policy implementation and the right and cultural conditions (Magessa, 2020). Similarly, Fjeldstad et al. (2001), Kelsall (2004), Lund, (2007) and Mustalahti and Lund (2009) highlighted that government seems to be reluctant to facilitate and devolve utilisation rights to communities where the central and local government authorities stand to lose powers over financially valuable forest resources. If central government leaders are unwilling to facilitate and decentralise services to local communities despite clear policy to do so, implementation of decentralisation policy will not be achieved (Sozen and Shaw, 2002; Ribot et al., 2006; Riggs et al., 2018).

Magessa (2020) also found that during PFM policy formulation, forest staff did not trust local communities or believe them capable of their new role in forest management under PFM and regarded them as perpetrators of illegal activities in the forests. This lack of trust of forest officials in local communities has led to further resistance and deficiencies downstream during PFM policy implementation because some forest officials are unwilling to support local communities as stipulated in the policy. Fjeldstad et al. (2001), Kelsall (2004), Lund (2007), Mustalahti and Lund (2009), Sozen and Shaw (2002), Pollitt and Bouckaert (2011) and Liu and Innes (2015) all came to similar conclusions: forest staff are reluctant to recognise that local communities can be the main actors as well as partners in forest resource management. Liu and Innes (2015) argue that trust among implementing agencies is crucial to achieving meaningful devolution; a minimum level of trust and respect must be created between local communities and government officials for achieving effective PFM. Rondinelli, et al. (1989) and Kartodihardjo et al. (2011) have also argued that willingness of central and lower-level government officials to become partners with local communities and accept their participation in forest management may contribute to effective PFM. This willingness of the government may create mutual recognition, trust and respect between forest officials and local communities such that each stakeholder involved is capable of performing certain functions in aspects of decision-making, enforcement, financing and management of the decentralised forest resources. This, it is argued, would enhance the sense of ownership of local communities and contribute to achieving local empowerment goals in Participatory Forest Management. However, this does not appear to be the case in PFM implementation in Tanzania.

Power dynamics within local communities

Tanzania's policies require forests under Participatory Forest Management to be managed by village level committees elected by all village members through a village assembly (the meeting of all adult members held at least four times a year), (URT, 1982, s.55, p.32). However, Magessa et al. (2020a) found that in the SULEDO PFM project, participation of residents and Village Environmental Committee members in the previous VEC election was low. Indeed, the engagement of residents and VEC members in all PFM activities was low and a small elite seems to dominate the implementation of PFM, capturing both decision-making power and the benefits of PFM, to the dissatisfaction of other residents. Zonal Environmental Committee (ZEC) leaders contravened PFM policy and implemented PFM to meet their own interests: accountability of ZEC leaders to the VEC, village leaders and residents was not evident. Magessa et al. (2020a) found that ZEC leaders resisted PFM policy by organising elections for VEC members, something which should be the responsibility of the village government leaders. Furthermore, ZEC leaders tended to invite few residents to participate in the election, despite the PFM policy requiring VEC members to be elected by all village members through a village assembly. ZEC leaders often do this purposely by inviting individuals who are well connected to committee leaders in order to maintain their position, hence this situation creates mistrust between committee leaders and local communities. Saha et al. (2019) and Magessa et al. (2020a) both concluded that the low degree of trust between local communities implementing PFM and Village Environmental Committee members weaken people's participation in forest management. As a result, implementation of PFM has often become dominated by a very restricted "elite within an elite", comprising only committee leaders and close associates (Meshack et al., 2006; Vyamana, 2009; Corbera et al., 2017; Magessa et al., 2020a). The lack of democratically elected VEC members in the CBFM approach led ZEC members to implement the approach according to their own interests rather than those of the wider population (Magessa et al., 2020a). This runs against the intentions of PFM policy and compromised the VEC's representativeness as well as downward accountability.

Luswaga and Nuppenua (2020) found local elites to be reluctant to implement the PFM policy, leading to low participation of local communities in all PFM activities. Lund and Treue (2008) and Jacob and Brockington (2017) argued that PFM policy in Tanzania has failed to achieve its objectives because the benefits have been concentrated on an elite. Perfect-Mrema (2017) pointed out that implementation of PFM in Tanzania reveals significant forest-related corruption which led to forest encroachment in the form of charcoal and timber exploitation. It's important to note that Lund and Saito-Jensen (2013) showed that elite capture of institutions is dynamic, and that other sectors of the community may learn to navigate the new institutions and achieve greater influence over time. However, Magessa et al. (2020a) argued that this process is likely to be at least partly

dependent on residents having basic rights to hold forest committees accountable, which are lacking in Tanzanian PFM policy. It also remains to be seen whether this adaptation leads to a genuine reduction in elite capture, or simply a redistribution of power between different elites.

The success of PFM policy implementation is determined by the capacity of communities to participate and by the government's responsiveness to the people's voice. However, Killian and Hyle (2020) and Khatun et al. (2015) found that women do not have equal opportunities to raise their voice like men and the implementation of PFM in Tanzania excluded marginalised groups, including women, in the decisions made about forest management and in the distribution of benefits accrued from the forest. Magessa (2020) and Magessa et al. (2020b) found that this has resulted from inadequate consideration of local context and women's needs during PFM policy formulation - this led to weak policy design that seems to be unable to address the needs of women. Gross-Camp, (2017) documented that PFM in Tanzania benefits men more than women, compromising the aspiration of empowering women in the approach. This situation is not unique to Tanzania, gendered access to forest resources and benefits has been highlighted across several other countries implementing PFM (Iversen et al., 2006; Thoms, 2008; Luintel et al., 2017; Das, 2019), since powers devolved to local communities have been monopolised by local elites (Dyzenhaus, 2017). As a result, the implementation of PFM has excluded the poorest and marginalised individuals from accessing the valuable forest resources (e.g. timber) (Lamichhane and Parajuli, 2014; Rai et al., 2017).

11.3 Conclusion

The stated rationale of Participatory Forest Management was to reduce state hegemony and shift power away from central governments, down to communities – to democratise power over access and management of forest resources. It stemmed from donor interest in this goal, wider reform processes pushed by international actors (notably through structural adjustment programmes) as well as success in pilot projects. However, actors at various levels, from national government to local elites have either resisted or co-opted this policy innovation to serve their own interests. We found that donors pushed the introduction of PFM onto the agenda in Tanzania and played a greater part in the process of policy formulation, with a lack of wider stakeholder engagement and a lack of "buy-in" from key stakeholders. Participatory Forest Management brought new ways of thinking to influential actors in national government that were not aligned with their previous approaches and norms – their scepticism about the new policy undermined its design and implementation. We also found that the formulation of PFM policy did not take into account existing local government organisation structure and practices, thereby falling short of achieving the accountability goals in PFM. This situation led to conflicts of interests and power struggles within the forest sector. Implementation of PFM has failed thus far to achieve at least some of the stated policy objectives for democratically elected,

downwardly accountable local actors and equitable benefit sharing, because local elites within the communities have exploited weaknesses in both policy design and implementation to capture its benefits for a relatively restricted group. This failure is not unique to Tanzania, the same issues have been noted in most of the countries implementing PFM elsewhere.

Participatory Forest Management might be more effective in democratising power over forest resources if the process of PFM policy formulation had allowed wider stakeholder engagement, including marginalised groups within forest communities, potentially leading to more effective policy design, increased acceptance of the policy and a greater sense of ownership by local communities upon implementation. However, this requires a substantial change in the way that governments and donors approach Participatory Forest Management.

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Conclusion

Perspectives in Analysing Power Dynamics in Postcolonial Societies

Symphorien Ongolo and Max Krott

This book provides a comprehensive overview on power dynamics in African forests by linking some of those realities to contemporary challenges related to the politics of global sustainability. As such, the book brings together 11 chapters focusing on many aspects of the power relations that alter, determine or transform the governance of forestland resources at different levels in Africa. In many cases, contributing authors point out the prevalence of a domination-marginalization relationship from the colonial to contemporary period in African postcolonial countries. However, this major trend co-exists with more complex and ambiguous power dynamics in autocratic regimes in which the weak or marginalized actors are sometimes able to resist the domination of the powerful actors.

Power as a dynamic relationship

Building from varied theoretical and empirical-based works, power is understood in this book on the one hand as the coercive capability of one actor to affect the practices or the behaviour of another by employing force. On the other hand, power refers to the ability of a disciplining authority or action to change the ideas of people through a persuasive or dissuasive use of knowledge and information without any apparent coercion. While the first builds from Max Weber's works (Weber 1978), the second is rooted more on Michel Foucault's approach (Foucault 1978). In both cases, power has become a fundamental concept largely employed in political science from theoretical to empirical-based research. The book provides an original contribution in this respect by focusing on specific dimensions of actors' power dynamics in the governance of forestlands in areas of limited statehood as in Africa.

As such, it is broadly accepted that power is a complex phenomenon and interaction process of influence. In addition to classical approaches in analysing power from a domination perspective including through a focus on colonial power, a couple of chapters of this book bring contrasting views by focusing on the capacity of an apparently marginalized actor to resist domination in the line of James C. Scott's works on the arts of resistance. In other words, these chapters scrutinize what happen when domination strategies meet infringement tactics, especially in postcolonial contexts. As such, it is important to point out that power

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relations remain a dynamic and potentially reversible relationship in which actors' positions can change over time depending on variations in mutual exercise of influence between involved actors. As highlighted by Crozier & Friedberg (1977: 65), "power is a relation, not an attribute of actors".

A brief overview of core elements of power

The actor-centred power approach offers a solid empirical-based analytical background on how to examine power issues in natural resources governance based on three fundamental pillars: coercion, (dis-)incentive and dominant information (Krott et al. 2014).

Coercion can be defined as a circumstance in which an actor alters the behaviour of another actor by a direct use or a threat to use force (Gunderson 1979). In principle a potentate (dominant) actor that bases its power on coercion, will constrain the subordinate (weak or marginalized) actor to act in a certain way without an intrinsic consent of the latter. In practice, this situation may imply the use of physical and mental violence, police brutality, judicial harassment as well as other authoritarian measures.

Incentive/disincentive consists of a process that motivates an actor to do something or to adopt a given behaviour because of an anticipated reward (Laffont & Martimort 2009). By contrast, disincentive refers to any action of an economic agent (actor A) aimed at dissuading another agent (actor B) to do something or to act in a manner that may be disadvantageous for actor A. In principle, incentive and disincentive are based on the alteration or (re)orientation of actors' behaviour by the allocation or privation of specific advantages. In practice, this may imply the provision of access or the threat of non-access to non-tangible favours or material resources. An example of the use and misuse of incentive in natural resources governance is provided by Karsenty and Ongolo (2012) on the political economy of deforestation.

Information: any power relationship contains a certain degree of information asymmetry between the dominated actor and the subordinate (Castells 2007). In short, information refers to a set of knowledge or facts about specific issues, processes or actors. Depending on the objectives and actors' interests at stake, information can take the form of selected knowledge including within the scientific domain (Böcher & Krott 2016), used as a fundamental element in education and construction of discourse (Popkewitz & Brenman 1997) including in the forest governance domain (Arts & Buizer 2009; Brockhaus & Angelsen 2012). The production and use of information (through different forms of knowledge) or its transmission (through education and discourse) for strategic purposes may include hidden tactics or asymmetries between actors, involvement of tiers-parties aimed at certifying information reliability (e.g. environmental labelling), marginalization of competing information, media pressure, etc. In some cases, it is often not possible for an actor to verify the quality or reliability of the information provided by or collected from another actor. Such an asymmetry led to what Krott et al. (2014) called 'dominant information'.

Resisting domination in areas of limited statehood

For most of postcolonial societies, state building remains a hilly or even a tragic socio-political process. In those societies that have fought various styles of oppression (Mbembe 1992) and humiliation (Badie 2019) from colonization to modern imperialism, any external undesired intervention may give rise to an instinct to resist domination. As such, this phenomenon leads to complex power dynamics.

In a dynamic relationship, when the stronger or powerful actor employs dominant strategies to pressure the weak or marginalized actor, the latter can struggle to resist by using a set of infringement tactics (Table 12.1). Literature abounds with studies that observed empirically how actors use power elements for domination in the field of natural resources governance. Very little is known about the ability of dominated actors to face domination, especially in the field of natural resource governance in Africa. By providing conceptual and empirical insights on infringement tactics, this essay aimed at reducing knowledge gaps on the abilities of what James Scott called "weapons of the weak" (Scott 1985).

Managing natural resources has often been a breeding ground to observe the many facets of power in the tropics from the colonial period to the contemporary age of globalization. As such, the politics of forestlands in Africa offers a fascinating arena of observation to scrutinize how weapons of the weak struggle to resist domination strategies at different spatial scales and political arenas. James Scott's works revealed interesting case studies on how local communities – seen as 'barbarians' – managed to keep the upper hand over their lands by avoiding being governed by the state in uplands regions in South-East Asia, Zomia (Scott 1985, 1990). Other works also provided similar observations in African contexts by examining the politics of natural resource decentralization (Ribot 2009; Poteete & Ribot 2011).

The notion of a dynamic power that we have used refers to the idea that when an actor (e.g. the subordinate or marginalized entity) faces pressure and domination of another actor (e.g. the potentate or dominant actor), the first can resist and skilfully foster her/his interests by using a set of informal tactics. In everyday life of natural resources governance in Africa, the use of infringements may take the form of a stratagem system. As a trivial example, most of us have often been witness or observer of a situation in which a kid pretends a specific emotion, prompt need, hiding, or incapacity in order not to comply with a parent's authority, being rewarded or avoiding punishment.

Table 12.1 Key features to analyse power dynamics in areas of limited statehood

Power elements	*Key features*	
	Domination	*Resistance*
Coercion	Force, Authority, Surveillance	Opposition, Withdrawal, Extraversion
(Dis)incentive	Reward, Dependency, Penalty	Tardiness, Cheating, Boycott
Information	Knowledge, Education, Discourse	Dogma, Mindless, Inertia

On a more political philosophy perspective, Niccolo Machiavelli is one of the thinkers in politics who greatly influenced power studies with his ground-breaking works on the use of force and cunning by *The Prince* in the Renaissance era. According to Machiavelli, for a government entity or leader who wants to keep control or hegemony over a territory, moral virtues and commitments are set aside. Depending on actors' capacities and the prevailing circumstances as well, actor A (acting as a potentate) can use the force of a lion or the cunning of a fox to ensure that his/her interests prevail. Depending on the power balance, actor B (acting as a subordinate) may decide to use a set of cunning behaviours if he/she does not have sufficient strength. Despite the Machiavelli's critics that contest such a dual view of the 'art of government' which has often been the driver of the reason of state (Skinner 2000), Machiavelli's thought remains a valuable basis to analyse what happens when domination meets resistance. As summarized above (Table 12.1) with regard to the key features of a dynamic power relationship, coercive uses of domination may include a concrete use of force and the threat of force, authority or surveillance. To resist, actors under such a domination pattern may employ a set of infringement tactics that include offensive behaviours (opposition, revolt) or defensive postures (withdrawal, extraversion).

In the same vein, in a classical client-patron or principal-agent interaction, the issue of tardiness is one of the fundamental soft weapons that can be used by an actor (client or agent) not to –fully – provide a service for which this agent has been rewarded for by another actor (patron or principal). By tardiness, we refer to any action of an actor aimed at producing or manipulating delays in order to safeguard their own interests, discouraging a partner or skilfully voicing a lack of motivation. In bureaucratic systems in Africa, for example, tardiness can take the form of administrative slowness, selective amnesia and duplication of procedures by a state bureaucracy trying to ignore or not meet its obligations towards citizens, partners or donors. Cheating has also been one of the weapon tactics of an actor (i.e., recipients, client) that try to skilfully impose their interests in an unequal power relationship vi-à-vis a dominant actor (i.e., donors, patron). The use of cheating in power dynamics refer to an informal behaviour, based on a non-respect of principles or conventional norms, in order to benefit from a power game or to succeed in any other arrangement in which acting honestly could compromise short-term interests. Boycott can be employed as an infringement tactics to resist domination as well. With regards to aid governance for instance, state bureaucracies in Sub-Saharan Africa have often used boycott – in the sense of not taking part or not use external funding – as a protest against aid conditionalities imposed by international donors. In this case, recipient state bureaucracies can skilfully boycott a reforms-for-aid programme through a status quo in implementing agreed policy reforms. Similarly, policy implementation processes of many sectoral policy reform programmes have often suffered from under-spending of available funding by decision-makers in other to protest against complex procedures of cash outflows imposed by donors.

Another important catalogue of domination in areas of limited statehood includes a set of soft cognitive domination strategies including knowledge,

education and discourse. As a noble and objective definition, knowledge refers to the facts available or produced about a particular subject. However, some scholars have pointed out that the politics of scientific knowledge production is often driven by a set of actors' interests (Lentsch & Weingart 2011; Böcher & Krott 2016).

The production, selection and transmission of specific knowledge can be based on or used for normative paradigms, contestable societal priorities, promoting dominant cultures and ideological ideas. Many examples regarding the misuse of knowledge co-exist in literature. This was notably the case with the colonial anthropology studying "indigenous people" in the tropics, environmental scientists who have been promoted a "fortress conservation" without any consideration for forest-dependent people living in the selected forest zone to conserve. More recently, domination in knowledge production is also observed with massive studies which explicitly or unconsciously blame the poorest in the global south for the ecological impacts related to their survival modes (forest degradation, biodiversity loss, household bushmeat consumption, etc.), while avoiding the question of the global inequality and historical root causes of this phenomenon. In reaction, a variety of resistance tactics has been employed at different levels by actors from the developing countries. One of the recurrent ones is dogma, that is to say a belief or a set of agnostic behaviours that people are likely to adopt without questioning the degree of the related veracity. The aim of these dogmatic tactics is often to reject undesired knowledge, and knowledge that may threaten the interests of the most concerned by the facts at stake. Over the last years, the proliferation of "fake news" in the climate change domain, enchantment of traditional practices in human-wildlife interactions despite the growing risks of emerging infectious diseases exacerbated by transnational wildlife trafficking etc., are some examples of how dogma can be used in rejection of scientific knowledge. In the same vein, the excessive valuation of the effectiveness of alternative and traditional medicine for the prevention or treatment of Coronavirus disease during the COVID-19 health crisis revealed how much distrust of medical knowledge and the expensive access to modern medicine in Africa is a fertile ground for dogma about health issues.

Mainstream discourse based on scientific knowledge also represents another soft domination strategy that can raise varied rejections when perceived by marginalized actors as dominant narratives that are disconnected to their interests and societal priorities. In environmental-related domains, the fight against deforestation aimed at preserving "global public goods" (forest ecosystems and their biodiversity), and the promotion of global sustainability goals, for example, are often perceived in the global south, including in Africa, as top-down objectives which are not connected to domestic contexts. In most of the cases, mainstream discourse from external actors promoting policy reforms or any other science-based transformation without a convincing involvement of potential recipient actors can only induce marginal and reversible changes. As soon as the conditions (wave of thematic reforms, economic or socio-political pressure, etc.) that have made the marginal changes possible alter or when the short horizon expectation of the recipients is achieved, the undesired changes can be replaced at any time by inertia.

On the issue of successful policy development and implementation

As explained by Thomas and Grindle (1990), one of the major challenges for policy change in developing countries is more the recurrent failure in implementation stages, rather than development of 'good' policies. As such, two main conclusions can be drawn from the multiple conceptual and empirical-based power analyses presented in this book. First, an in-depth understanding of the root causes of policy failures or resistance to policy change should start by a specified power analysis. Such a process should question who the key actors at stake are, how do power processes involving them work and what are the formal or informal interests that (can) motivate those actors to facilitate or sabotage successful policy development and long-term implementation of the related changes in the global south. Second, the multiple power processes arise from actors' interactions in development policy, including between competing actors, may also offer multiple options or at least a window of opportunity for active and potential efficient policy interventions. The aim of those interventions may consist of solving a problem (e.g. deforestation, wildlife trafficking, etc.) or converge towards a sustainability solution (e.g. sustainable land use). In such a context, engaging simultaneously with many interventions might shift an erratic policy development process as a whole towards a more stable and positive policy change. Nevertheless, it may be more realistic in challenging contexts such as in areas of limited statehood, to start with limited interventions, by keeping in mind that multiple step-by-step efforts can induce multiple modest changes but eventually a big change at the end of the day.

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Index

Note: Information in figures and tables is indicated by page numbers in *italics* and **bold**, respectively.