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INTERNATIONAL FOREST GOVERNANCE: A CRITICAL REVIEW OF TRENDS, DRAWBACKS, AND NEW APPROACHES

A Global Assessment Report

Daniela Kleinschmit, Christoph Wildburger, Nelson Grima, and Brendan Fisher

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Interconnecting
Forests, Science and People

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Preface

In 2023, IUFRO expanded its Global Forest Expert Panels (GFEP) Programme into the fully fledged Science-Policy Programme. The core of the Programme combines diverse expertise to assess scientific knowledge about the role of forests and trees in achieving global goals and inform political decision-making. The assessments carried out within the Programme respond directly to key forest-related policy questions by consolidating available scientific knowledge and expertise on the topics of these questions. The findings are published in comprehensive reports and policy briefs that provide decision-makers and stakeholders with the most relevant, objective, and accurate information. This makes IUFRO's Science-Policy Programme an essential knowledge contributor, increasing the quality and effectiveness of international forest policy and governance.

In 2010, IUFRO launched the GFEP report "Embracing Complexity: Meeting the Challenges of International Forest Governance". It provided an overview of the complex and diverse elements that made up the global forest governance arrangements at the time, identified and analysed the core components of those arrangements, and proposed options for dealing with complexity and improving the effective implementation of forest governance at global, regional, national, and sub-national levels. The publication received considerable attention, especially from rule-makers and other forest policy stakeholders.

More than a decade after the publication of the report, the complexity of international forest governance has increased manifold. Now, several organisations at the core of the international forest regime recognise the need for coordination, particularly given that, while the role of nation states through intergovernmental organisations remains an important component of the forest regime, the number of non-governmental actors, both for-profit and not-for-profit, is steadily increasing. The vital role of these actors in international politics and policy should be considered when discussing the broader concept of forest governance. The inclusion of new actors and relationships is being institutionalised in various ways, creating new structures of transnational policy networks and partnerships. The need for coordination is supported and taken even further by several studies, which show that enabling international forest financing and partnerships not only reduces carbon emissions significantly, but also benefits low- and middle-income countries, supports poverty alleviation, and helps preserve biodiversity and other forest ecosystem services.

Against this backdrop, a thorough scientific review of the current status of international forest governance is a timely response to the ongoing global discussions. This publication revisits the questions examined in the earlier GFEP assessment and expands its scope to include aspects that have become more relevant since 2010. It is my sincere hope that this publication will support a more coherent policy dialogue about the role of forests in addressing the broader environmental, social, and economic challenges reflected in the global Sustainable Development Agenda, and that those involved in shaping the current and future international forest governance will find this report and its accompanying policy brief a useful source of information and inspiration.

Alexander Buck
IUFRO Executive Director

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ACRONYMS, UNITS, AND SYMBOLS

ACTO	Amazon Cooperation Treaty Organization
AFI	Acacia Forest Industries
ASEAN	Association of Southeast Asian Nations
CBD	Convention on Biological Diversity
CCBA	Climate, Community, and Biodiversity Alliance standard
CDM	Clean Development Mechanism
COMIFAC	Central African Forest Commission
COP	Conference of the Parties
CREMAs	Community Resource Management Areas
ESG	Environmental, Social, and Governance
ES	Ecosystem (or Environmental) Services
EU	European Union
EUDR	EU Deforestation Regulation 2023/1115
EUTR	EU Timber Regulation 995/2010
FAO	Food and Agriculture Organization of the United Nations
FLEG	Forest Law Enforcement and Governance
FLEGT	Forest Law Enforcement, Governance, and Trade
FLR	Forest Landscape Restoration
FSC	Forest Stewardship Council
GBF	Kunming-Montreal Global Biodiversity Framework
GFD	Glasgow Forest Declaration
GLF	Global Landscapes Forum
HBP	Hijauan Bengkoka Plantations
IAD	Integrated Area Development
IAF	International Arrangement on Forests
IFG	International Forest Governance
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPLCs	Indigenous Peoples and Local Communities
IR	International Relations
IUCN	International Union for Conservation of Nature
IUFRO	International Union of Forest Research Organizations
KUPS	*Kelompok Usaha Perhutanan Sosial* (forest entrepreneur groups in Indonesia)
MAF	Finnish Ministry of Agriculture and Forestry
MBGI	Manejo de Bosques con Ganadería Integrada (Forest Management with Integrated Livestock)
NbS	Nature-based Solutions
NCR	Native Customary Rights
NGOs	Non-Governmental Organisations
NSMD	non-state, market-driven
NYDF	New York Declaration on Forests
OECD	Organisation for Economic Co-operation and Development
PEFC	Programme for the Endorsement of Forest Certification Schemes
RBP	Results-Based Payment
REDD+	Reducing emissions from deforestation and forest degradation
RRI	Rights and Resources Initiative
SAFODA	Sabah Forestry Development Authority
SDGs	UN Sustainable Development Goals
SF	Social Forestry
SUHAKAM	Human Rights Commission of Malaysia
TAFF	Tropical Asia Forest Fund
TCA	*Tratado de Cooperación Amazónica* (Amazon Cooperation Treaty)
TLAS	Timber Legality Assurance Schemes
TWAIL	Third World Approaches to International Law
UFF	Unlocking Forest Finance
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
VCM	Voluntary Carbon Market
VCS	Verified Carbon Standard
VPAs	Voluntary Partnership Agreements
WWF	World Wildlife Fund

Chemical Compounds, Units and Symbols

The International System of Units (SI) is used in this publication.

CO_2	Carbon dioxide
EUR	Euro
ha	Hectare
kg	Kilogram
N	Nitrogen
NH_3	Ammonia
NO_3^-	Nitrate
SEK	Swedish *krona* (crown)
tCO_2eq	Tonnes of carbon dioxide equivalent
USD	United States dollar

Chapter 1

Introduction

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1.1 Purpose of the report

In 2010, given that no comprehensive scientific assessment of international *forest*[1] *governance* (IFG) existed, the Global Forest Expert Panels (GFEP) initiative led by the International Union of Forest Research Organizations (IUFRO) published a report (Rayner et al., 2010) to fill that gap. That report provided an overview of the complex and diverse elements that made up the global forest governance arrangements at the time; identified and analysed the core components of these arrangements; and proposed options for dealing with complexity and improving the effective implementation of forest governance at all levels. The outcomes of that report showed that IFG is complex and fragmented, and that many critical problems are cross-sectoral, requiring synergistic approaches to be solved.

Since 2010, an increasing number of actors, institutions, and arrangements at all scales have added additional layers of complexity to the already intricate IFG regime complex. The current assessment aims to provide an overview about the changes in IFG since 2010. Based on the scientific literature, the changes that have appeared since are critically analysed here to identify evolving trends, challenges, and potentials.

Specifically, this assessment is intended to:

- contribute to informed forest-related international and regional political processes,
- raise awareness about global challenges of international forest governance and the critiques voiced in the scientific literature,
- provide ideas for future governance designs.

While the report from 2010 presented a detailed overview about the diverse elements of international forest governance, this report not only provides updates about new processes, actors, and instruments, but also aims to highlight those political, civil society, and scientific voices that have gained increasing attention over the last decade in a demand for more focus on the human dimensions of IFG and the effects of IFG on people.

This review builds on the existing knowledge published in scientific papers, books, and chapters. Naturally, most of the literature dealing with international forest governance is rooted in social science, including law sciences, sociology, political science with international relations and policy studies, and other related disciplines. The assessment tries to be internationally encompassing but recognizes that despite this aim, many voices are silenced, be it because of language issues, or because these voices are not published in scientific, available channels.

1.2 Context for the assessment

The 2010 report provided an overview about the diverse elements of international forest governance and pointed towards some of its weaknesses in institutional design and its performance. Since that time, IFG has further developed with new processes, actors, and instruments. These are partly rooted in the transition from stopping *deforestation* as the central aim of IFG, to becoming 'the' leverage to tackle *climate change* and additionally to tackle biodiversity loss. Thus, forests are presented as a central solution to solve the global challenges of the world. Other content driven shifts in governance that have been increasingly recognized since 2010 are legality verification processes and instruments, as pushed by several nation states and regional organizations. These processes and instruments formally aim to support *sustainable forest management* internationally, as well as hinder deforestation and illegal timber trade. Additionally, the earlier focus of international forest governance on multilateral governmental processes has shifted towards a governance architecture where private and hybrid governance have become increasingly relevant. This change is accompanied by a shift of instruments, with a stronger focus on (private) financialization of IFG, including pledges and *payments for ecosystem services*.

These changes since 2010 have been embedded in a global political setting that has recognized the poor performance of international governance. The 2030 Agenda for Sustainable Development, with its 17 *Sustainable Development Goals* (SDGs) adopted by the General Assembly in 2015, provides an encompassing set of goals where forests can contribute, not only to the most obvious goal 15 addressing life on land, but to many of the other goals as well (Katila et al., 2019). Furthermore, the SDGs have taken note that it is not parts of the globe that can achieve these goals, but that all regions and countries are needed to urgently support the goals for success. However, the Global

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

Sustainable Development Report from 2023 found that the "incremental and fragmented change is not sufficient and will not achieve the transformations that are required" in the remaining time until 2030 (Miranda et al., 2023, p. 104). Instead, the report concludes that active political leadership and ambition for science-based transformations is needed.

The critical perspective on international (forest) governance has also been developed in the scientific literature of the last decade. Arts (2021) asked the question of whether (international) forest governance is better described as the Hydra or the Chloris. He starts in answering the question in a rather optimistic way and suggests that there are good reasons for having faith in the problem-solving capacities of governance. However, he admits that needed governance reforms are "hard to realise, given established, hegemonic political and economic interests", and thus, result in social inequalities (Arts, 2021, p. 65). A simple description will not satisfy the complex character of international forest governance, as international forest governance processes seem to respond to weak performances with market-based instruments and financialization. Scientific studies in contrast have challenged us to understand the weakness of governance performance as predominantly an economic problem (Delabre et al., 2020).

The social dimensions of IFG have been more of a focus in the last decade, as the FAO report on the State of the World's Forests from 2020 subtitle suggests - "Forests, Biodiversity and People." This report puts at its centre that forests are strongly interconnected with the life of people, for their subsistence, income, food, and health, but as well as sites for culture, spirituality, and recreation (FAO and UNEP, 2020). Scientific studies on international forest governance with a focus on the social dimension share the understanding that the performance of international forest governance depends on people. They argue that for international forest governance to improve significantly there needs to be a balance of power (Arts et al., 2019), ensuring the integration and representation of the many stakeholders (Garcia et al., 2020). Though the relevance of the social dimension has been increasingly acknowledged in the political arena as well as in scientific studies, there is still a need to further investigate environmental justice implications, in particular for local communities and their livelihoods (Erbaugh et al., 2020).

This assessment here is embedded in the particular political and scientific environment with, on the one hand, international forest governance goals and targets that have been discussed and agreed upon for decades but with limited effects, and on the other hand, the potential and partly evidenced negative effects of international forest governance on people, in particular those most vulnerable. This acknowledgement leads to the aim of this assessment to not only provide another scientific update about international forest governance, but to take on lenses that allow to identify the different pieces of the jigsaw, and to dive deeper into the underlying causes and effects, including those intangible means of power, inequalities, and (in)justices of international forest governance. It is assumed that this deeper look might allow to better understand the roots of the challenges of international forest governance, and thus, might enable to identify leverage points for political decision makers.

The Chapters included in this assessment, therefore, use critical lenses for understanding international forest governance since 2010. This work mirrors a general tendency in the scientific discourse on (international) forest governance that has become more critical in the last years, asking questions about power asymmetries, unfairness, injustice, or more generally, about the winners and losers of forest governance.

1.3 Overview of the report

From the lenses of political ecology and political economy, Chapter 2 analyses key trends in IFG over the last decade. These include shifting coalitions of actors, interests, ideas, and institutions, and their intersection with broader political and economic trends across global and regional scales, and how these international dynamics interact with different national and local contexts. This chapter identifies a growing expansion of market-based approaches and increasingly ambitious global performance targets and the financialization of forest values. These trends exist in tension with efforts to decentralize and devolve forest and land rights to Indigenous peoples and local communities. Furthermore, a trend of expansion of decision-making outside the forestry sector is recognized, including a 'climatization' of forest policy within the UN Framework. Additionally, a trend towards regional, bilateral, and unilateral approaches has been observed, and is relayed in Chapter 2.

Chapter 3 is devoted to the forest-related finance landscape and addresses the question of the potential for just investments. In this Chapter, the increased complexity of the forest-related finance landscape is described. The landscape is comprised of finances led by states, market-based

finances, as well as philanthropy and community-led finance. The related instruments include, adjust, or augment markets, but also, when financing themselves, create their own markets. The authors of the Chapter conclude that the growing financialisation of the forest sector has led to short-term gains for financial actors, neglecting inequalities. Alternative finances aiming predominantly for social and environmental justice are discussed as being potentially more effective, these are, however, at present, still marginal.

Chapter 4 presents a longitudinal analysis of global forest(-related) discourses and interrelated meta- and regulatory discourses, and their prevalence over time, taking stock of the discursive shifts. Main results of the Chapter show, first, a climatization of the environmental meta-discourse impacting how forests are problematized. Second, a refurbished discourse on 'ecological modernisation' with a neoliberal twist. And third, that regulatory discourses have not changed considerably, but new modes of governance based on markets have been ushered in. The authors of Chapter 4 acknowledge that mechanisms of power are particularly pronounced in procedures of exclusion. Finally, they conclude that the discursive dynamics might increase the polarization between different actor positions, which can potentially complicate future consensus and compromises.

Chapter 5 identifies and explores major criticisms of international forest governance and presents alternatives to current IFG approaches. The critique ranges from technical issues over weaknesses in the governance design and effectiveness, to broader challenges of the entire design of IFG. In response to these critiques, a spectrum of solutions and alternative governance approaches are presented, ranging from technical fixes and incremental changes, to radical transformations. Chapter 5 identifies a shift towards "critical critiques" that delve into fundamental governance weaknesses, advocating for radical changes to address power asymmetries and envisioning alternative governance settings.

Chapter 6 presents key findings across all Chapters and details potential radical alternatives for future international forest governance. Radical alternatives include fostering open global discourses of reduced consumption as an alternative to the economic growth paradigm, as well as local-based, people-centred approaches to problems of global asymmetries, and dynamics of privileging powerful actors over locally impacted people. Additionally, reframing IFG goals from the strong environmental focus to those demands concerning human and social needs is suggested as a precondition for more meaningful measurements of the effectiveness of international forest governance.

With the compilation of these chapters, we aim to not only provide an update about the state of the art of international forest governance, but also highlight the scientific critique raised in the last decade, which has increasingly pointed out the underlying intangible social relationships. The main message of this critique is how international forest governance has augmented and institutionalized social inequalities and power asymmetries. Being aware of this critique might be the first step in overcoming the weaknesses currently manifest in IFG.

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Chapter 2

A Political Ecology and Economy of Key Trends in International Forest Governance

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CONTENTS

Abstract

This chapter identifies key trends in International Forest *Governance*[1] (IFG) over the last decade. The trends are analysed through a combined lens of political ecology and political economy that considers how the shifting coalitions of actors, interests, ideas, and institutions in IFG have intersected with broader political and economic trends across global and regional scales, and how these international dynamics interact with different national and local contexts.

Overall, we find that IFG continues to expand in scope and complexity to address an increasingly wide range of forest-related environmental, social, and economic priorities. At the same time, it faces ongoing contentions over who writes the rules, for what purpose, and for whose benefit.

In general, we see a growing expansion of market-based approaches, in tandem with the adoption of increasingly ambitious global performance targets and the financialization of forest values. These trends exist in tension with efforts to decentralize and devolve forest and land rights to Indigenous peoples and local communities.

One key trend at the global level is the expansion of decision-making on forests within institutions, agreements, and processes outside the forestry sector. This includes a 'climatization' of forest policy within the United Nations Framework Convention on Climate Change (UNFCCC), for example through the Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism, as well as the growth of public and private markets for forest carbon. Largely in parallel, it includes rising ambitions under the United Nations (UN) Convention on Biological Diversity (CBD) to halt biodiversity loss and expand protected areas while protecting Indigenous rights. At the same time, other institutions, agreements, and processes have aimed expressly to bridge sectoral divides, such as the UN *Sustainable Development Goals* (SDGs), and the promotion of landscape approaches in the public and private sector as a strategy for integrating the governance of forest, agriculture, climate, and other sectors.

While these various global initiatives often struggle to reach consensus on binding commitments and finance, an increasing array of actors have turned to regional, bilateral, and unilateral approaches to pursue their particular interests among smaller 'coalitions of the willing'. This is observed within and across the *Global North* and *South*. This bypassing of international negotiation has recently gained momentum with the passage of the European Union's (EU) Deforestation Regulation 2023/1115 (EUDR). The EUDR bans the import of forest risk commodities such as palm oil and soy unless due diligence is demonstrated that they are deforestation-free, regardless of whether the deforestation is legal according to the laws of the producing country. In other words, the EU aims to leverage its large market share to stop deforestation without the need for agreement from non-EU countries on whether and how this goal should be prioritized and achieved.

In terms of outcomes, there is some evidence of decreasing global rates of tropical deforestation, but also a rising sense of crisis over *climate change*, biodiversity loss and increasing social and economic inequalities (McDermott et al., 2022). IFG has failed to transform the power dynamics driving these crises (Brockhaus et al., 2021; Delabre et al., 2020). Yet, as was noted over a decade ago in the 2010 "Embracing Complexity" report on IFG (Rayner et al., 2010) may still be the best hope, in that the wide diversity of actors, ideas, and institutions expands the possibilities for positive change and transformation through the co-creation and sharing of power, benefits, and knowledge, both within and beyond IFG.

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

2.1 Introduction

This chapter provides an overview of key trends in International Forest Governance (IFG) since Rayner et al. (2010). We apply a political ecology lens that considers the political, economic, and ecological dynamics driving environmental governance, including how various public and private actors, institutions, and interests frame and enact IFG from the global to the local scales. Consistent with Brockhaus et al. (2021), we situate this political ecology within a broader political economy of global trade and investment that enables or constrains what may be achieved within specific environmental instruments, agreements, and processes.

As discussed in Rayner et al. (2010), much of the initial impetus for IFG in the 1970s and 80s came from the Global North, and was focused on stopping tropical deforestation and biodiversity loss in the Global South, while addressing growing industrial demand for timber and biomass (World Bank, 1991). The 1980s was also a period of debt crisis for many *low- and middle-income countries*. The imposition of structural adjustment programmes by the World Bank and other lending institutions pressured indebted countries to shrink their government expenditures and expand production of tropical commodities into forest frontiers to service their debt and improve the balance of trade (Burns and Giessen, 2016; Culas, 2006). Since that time, IFG itself has increasingly shifted towards market-based approaches that simultaneously aim to internalize sustainability into international trade, while bypassing challenges of inadequate state revenues, low governance capacity, and high levels of economic and political inequality across local to global scales (Brockhaus et al., 2021; McDermott et al., 2022).

Yet, despite decades of effort, progress in slowing deforestation and achieving other IFG goals has been limited. Theorists have offered many explanations for this. They include failure to address the underlying political and economic incentives driving forest loss and other unsustainable forest practices, the differing burdens that transforming forest governance would place on the Global North versus South, and on different forest users (Humphreys, 2012). They include the isolated nature of the forestry sector and its limited ability to engage with the expanding production of tropical agricultural commodities for urban and international trade as increasingly dominant drivers of forest change (Rudel et al., 2009). They include challenges of inadequate and conflicting knowledge and data regarding the extent of forest loss (Curtis et al., 2018; Hansen et al., 2013), as well as other forest values that are yet more challenging and contentious to measure. They include the proliferation of overlapping international forest-related agreements, institutions, and processes leading to complexity, inefficiencies, conflicts, and contradictions. They also include tensions over the relative priority given to different goals, from stopping tropical deforestation, land degradation, and biodiversity loss to reducing forest-based emissions and enhancing carbon storage, to strengthening Indigenous and local community rights, and broadening participation in forest decision-making. This diversity of goals problematizes agreement on what "progress" means, for what, for whom (McDermott et al., 2022; Rayner et al., 2010).

Since Rayner et al. (2010), the constellation of goals, actors, institutions, and interests involved in IFG has continued to expand. There has also been a further shift towards market-based and hybrid state-market approaches. Certain measures of tropical deforestation have improved, for example net forest loss has decreased, but this varies greatly by region, and in many areas, loss of primary forest, *forest degradation*, and biodiversity loss continue unabated (Parrotta et al., 2022). The area of forest under some form of formally recognized community ownership, management, or control has expanded (Ginsburg and Kroeker-Maus, 2023), but the degree to which such formalization has strengthened or reduced local access, benefits, and control over forest resources in practice is debated (Katila et al., 2020). Meanwhile, a growing sense of urgency around climate change and biodiversity loss has driven reducing forest carbon emissions and biodiversity conservation to the top of the IFG agenda, and has driven pressure for the financialization of environmental governance more generally (Corson and Campbell, 2023).

Just how and why these changes have occurred, driven by what actors, interests, ideas, and institutions at what scales, and with what resulting shifts in power and (in)equality, is the subject of the rest of this Chapter. We adopt a critical, integrative approach to our analysis that highlights key governance trends that are addressed within a wide range of academic and grey literature, and identify key debates and contrasting findings within this literature (Cronin and George, 2023; Snyder, 2019). Given the large scope and reach of both IFG and the literature addressing it, our approach is illustrative of overall trends rather than exhaustive of all important IFG developments. We order our analysis as follows: the next section starts with a focus on the global level, followed by a look at regional, bilateral, and unilateral approaches. This is

then proceeded by analyses of the intersection of IFG with national and local governance, the latter drawing on case studies across world regions. We then end with a brief summary and conclusion.

2.2 Trends in global forest governance – growing comprehensiveness and ambition mask persistent tensions and inequalities

Global forest governance, in essence international forest governance not specific to particular regional and national boundaries, is both a response to, and a product of, broader societal and planetary trends. These include the globalization of trade and associated political economy, shifts in the geopolitical world order, scientific and technological advances enabling global-scale monitoring and assessment, as well as the increasing global impacts of climate and land use change. This Section tracks the continued expansion of actors, ideas, interests and institutions engaged in IFG at the global scale, while also highlighting key sources of tension and bottlenecks both within and beyond the confines of IFG. These challenges not only help explain the proliferation of different global IFG initiatives, but also contribute to parallel trends towards regionalism, nationalism, and state authoritarianism.

One key trend in global IFG is the expansion of inter-governmental decision-making on forests within institutions outside the forestry sector. As outlined in Subsections 2.2.1.1 and 2.2.1.2 below, the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations (UN) Convention on Biological Diversity (CBD) continue to play important normative roles in global IFG agenda-setting. Both of these core *Rio Conventions* have made notable progress in the last decade in completing and expanding their institutional architectures and Action Plans, but pursuing somewhat different priorities, and with limited collaboration between them. In contrast, the United Nations Forum on Forests (UNFF) (Section 2.2.1.3), the UN platform focused primarily on IFG, has played a relatively backstage role in global forest rule-making (Blaser et al., 2014).

As noted in the following Subsection 2.2.2, in addition to these individual Conventions and platforms, there have been parallel efforts to create synergies across global instruments and between forestry, agriculture, and other sectors. Key examples include the 2014 Sustainable Development Goals (SDGs), and the push from within both state and non-state decision-making institutions for holistic landscape approaches and *Nature-based Solutions* (NbS).

Meanwhile, as global concern continues to mount over climate change, biodiversity loss, deforestation, and forest degradation, so has political pressure on governments and corporate actors to demonstrate fast and urgent action, spurring a plethora of ambitious target-setting (Section 2.2.3). This both drives, and is driven by, rapid growth in scientific knowledge and knowledge technologies, including remote sensing and modelling capacities. These technological developments, in turn, support the increasing financialization of IFG (Section 2.2.4), for example through new Environmental, Social, and Governance (ESG) standards for finance, and the certification of forest carbon and biodiversity markets (Section 2.2.5).

The following Subsections examine these processes in more detail, highlighting some key new rules, strategies, and actor coalitions that either reinforce, or counterbalance larger global trends.

2.2.1 The Rio Conventions: Parallel institutions with different priorities

2.2.1.1 UNFCCC REDD+: A relatively comprehensive set of rules for forest carbon, with caveats for other forest values

Since Rayner et al. (2010), the UNFCCC has agreed on the basic rules for the governance and finance of REDD+, its core mechanism for reducing forest-based emissions from tropical deforestation and forest degradation (Parrotta et al., 2022). Analyses of how these rules have evolved highlight core tensions common to IFG more generally, in essence, disagreements about the effectiveness and/or equity of market- versus non-market-based approaches to environmental governance, and the relative importance of stopping forest cover loss and associated forest emissions versus other environmental and social values, such as conserving biodiversity and protecting the rights of Indigenous Peoples and Local Communities (IPLCs) (McDermott, 2014). The REDD+ rules navigate these tensions by prioritizing the measurement, verification and finance of forest carbon emissions reductions, while adding auxiliary measures to address other concerns. Specifically, market-based forest carbon mitigation and offsetting is allowed under REDD+, subject to additional "safeguards" requirements to respect existing international and national laws, protect non-carbon environmental and social values, Indigenous and local community rights, benefit distribution, and address threats of carbon *leakage* and non-permanence (UNFCCC, 2011; Dec 1/CP.16 IIIC). This approach was further institution-

alized under the Warsaw Framework (UNFCCC, 2013), which established relatively prescriptive and standardized rules for the setting of forest carbon emissions baselines and Monitoring, Reporting, and Verification (MRV), along with more generalized procedural requirements to develop Safeguard Information Systems (SIS). The subsequent signing of the *Paris Agreement* in 2015, with its ambitious targets to keep global warming within 1.5°C (UNFCCC, 2016), gave new momentum for forest carbon finance as a relatively 'cheap and fast' form of emissions reduction (Seymour and Busch, 2016). This was followed by the completion, in Glasgow (UNFCCC, 2021), of Article 6 under the Paris Agreement through the establishment of rules for Internationally Transferred Mitigation Outcomes (ITMOs), including international carbon offsetting and other approaches for generating international, public and private carbon finance.

By 2022 (Parrotta et al., 2022), more than 60 countries had provided information on REDD+ actions (UNFCCC, 2023), many had developed National REDD+ Strategies, and 17 countries had reached REDD+ Phase III, the final phase of formally reporting national-level emissions reductions to the UNFCCC. Efforts to assess the impacts of REDD+ on deforestation indicate moderately lower rates of deforestation in REDD+ versus non-REDD+ countries, although there is significant uncertainty in attributing these differences to REDD+ actions (Korhonen-Kurki et al., 2019; UNFCCC, 2023). Assessing the impacts of REDD+ safeguards is yet more challenging given a lack of shared performance indicators (Korhonen-Kurki et al., 2019; UNFCCC, 2023). Furthermore, and as is elaborated throughout this report, REDD+ sits within a much wider arena of public and private IFG rule-making on deforestation, forest finance and carbon trade, and many other related issues that influence REDD+ outcomes. Hence, even as the rules governing REDD+ under the UNFCCC have been formalized, the boundaries between what is, and is not, REDD+, continue to shift and blur.

2.2.1.2 The UN Convention on Biological Diversity (CBD): Reinforced ambitions for biodiversity and Indigenous rights

The CBD is core to the global biodiversity *regime*. It is focused on three main objectives: (i) conserve biological diversity; (ii) use biodiversity components sustainably; and (iii) ensure a fair and equitable sharing of the benefits from genetic resources. Besides the Holy See, the USA is the sole non-party to the treaty. Complementing the CBD are the Cartagena Protocol on biosafety when handling genetically modified organisms, and the Nagoya Protocol, which focuses on the equitable sharing of the benefits of the genetic resources (Díaz et al., 2020; Friedman et al., 2022; Lehmann, 2023; Rodríguez Fernández-Blanco et al., 2019).

The CBD's Strategic Plan for Biodiversity 2011-2020, with 20 concrete targets on biodiversity conservation, was agreed in 2010 at COP10 in Nagoya, Aichi Prefecture (Japan). These Aichi Targets were meant to halt biodiversity loss by 2020. However, none of the targets were reached and only six were partially achieved (CBD Secretariat, 2020; Díaz et al., 2020; IPBES, 2019). Several reasons have been ascribed for this failure, including their ambiguity, complexity, lack of outcome focus, and accountability (Hughes et al., 2022; Maron et al., 2021). While the targets were global, the parties agreed to translate them to national and subnational contexts. In this translation process, each country was free to interpret these broad global goals and adapt them as deemed appropriate (Jørgensen, 2013; Logmani-Aßmann et al., 2021).

The creation of protected areas has constituted a central strategy for promoting biodiversity conservation in the CBD (Corson et al., 2014), and one which has fostered ongoing struggles over land rights. Specifically, Aichi Target 11 aimed "to protect at least 17 percent of the Parties´ terrestrial and inland water area through a system of effectively and equitably managed protected areas and other effective area-based conservation measures (OECM)" (CBD, 2010, p. 9). In essence, this target required setting aside areas for conservation purposes and limiting human interference (Lehmann, 2023; Logmani-Aßmann et al., 2021). The establishment of such protected areas has been reported to alter land use rights with cases of increased elite control of resources, displacement and marginalization of IPLCs, and restrictive access for rural peoples, especially in countries of the Global South (Friedman et al., 2022; Obura et al., 2021; West et al., 2006). Acknowledging that over half of the high-value land for conservation is traditionally owned, used, or occupied by IPLCs, in 2018 the parties to the CBD adopted a decision that provided some definitions on what constituted equitable and effective management (IPBES, 2019; Jonas et al., 2021; Obura et al., 2021). Still, during the African Protected Areas Congress in 2022, the Kigali Call to Action was adopted highlighting the concerns from IPLCs affected by the creation of new protected areas in their lands (IUCN, 2022).

In December 2022, the new Kunming-Montreal Global Biodiversity Framework (GBF) was adopted to replace the Aichi Targets, setting up four goals

to be achieved by 2050, and 23 targets for 2030. This new framework advances several aspects in comparison with the previous strategy, especially in three main points: i) it is set to establish a monitoring system: although a monitoring framework was not finalized at the COP15, its adoption is expected at the COP16 in 2024 (CBD Secretariat, 2020); ii) it sets a new protected areas target aiming to expand protected area coverage to 30% of global land area by 2030, and it also recognizes Indigenous and traditional territories (Target 3) and reaffirms their rights in all decision-making related to biodiversity (Target 22), which has led the International Indigenous Forum on Biodiversity (IIFB) to praise the new agreement (Lehmann, 2023); and iii) within the GBF, parties have agreed to "progressively close the biodiversity finance gap of USD 700 billion per year" by 2050 (Goal D) and mobilize USD 200 billion annually by 2030 (Target 19), which includes an agreement to transfer "at least USD 30 billion per year by 2030" in international biodiversity aid from *high-income countries* to low- and middle-income countries. However, low- and middle-income countries, facing the highest risk of habitat loss, have criticized the figure as far too low (Abulu and Ghosh, 2022).

Throughout this evolution of CBD rule-making, there continues to be a notable lack of coordination between UNFCCC's REDD+ and the CBD. Rather, these two key Rio Conventions represent different fora attracting a different constellation of actors, ideas, interests, and institutions. This difference is further reflected in how both Conventions have developed their own scientific expert panels, namely the Intergovernmental Panel on Climate Change (IPCC) and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), each with a differing 'politics of knowledge'. While both Panels place strong emphasis on scientific knowledge, IPBES has incorporated a greater emphasis on the integration of traditional and non-scientific forms of knowledge (Beck et al., 2014; Montana, 2020).

2.2.1.3 UNFF: Playing catch up?

The roots of the United Nations Forum on Forests (UNFF), as an effort to reach international agreement on forests as a global resource, can be traced to the 1970s and 1980s. This was a time of increasing international attention to tropical deforestation, driven in significant part by shifts in demand for timber, global food systems, and the expansion of commodities such as rubber, soy, and oil palm into tropical forest frontiers (Asadi, 2008; Gaskell, 2012). The 1992 UN Earth Summit in Rio marked a pivotal moment in IFG, when countries failed to reach a legally binding agreement to address deforestation and reconcile conflicting goals for forest conservation and economic development. A number of explanations have been provided for this failure, including concerns over sovereignty, disagreements over who should bear the costs, and conflicting conceptions of sustainability (Humphreys, 2012; Sotirov et al., 2020). But the net result was the creation of an International Arrangement on Forests (IAF) that serves as a platform for nonbinding discussions, yet lacks the authority of a UN Convention to establish binding intergovernmental agreements (Dimitrov, 2005; Rayner et al., 2010).

Over time, much has been written about the development of, and challenges to, the IAF, including the establishment of the UNFF as its primary platform, the UNFF's Member States, the UNFF Secretariat, the Collaborative Partnership on Forests (CPF), the UNFF Global Forest Financing Facilitation Network (GFFFN), the UNFF Trust Fund, and the 2007 adoption of a Non-legally binding instrument on all types of forests (e.g., Rayner et al., 2010). After an Independent Assessment of the IAF and its effectiveness in 2015, a working group was tasked to develop a strategic action plan that would also help to link the forest agreement and the related funding to other Conventions and activities, and to effectively serve as a reference for the forest-related work of the UN system. The report highlights how forests have received more attention (and funding) under the UNFCCC and the CBD than under the IAF itself (Blaser et al., 2014).

In 2017, the United Nations Strategic Plan for Forests 2017-2030 was endorsed at a special session of the UNFF. The Strategic Plan provides a global framework for actions at all levels to sustainably manage all types of forests and trees outside forests and halt deforestation and forest degradation. The Strategic Plan features a set of six Global Forest Goals and 26 associated targets to be reached by 2030, all of which are voluntary. It includes a target to increase forest area by 3% worldwide by 2030, signifying an increase of 120 million hectares, an area over twice the size of France. It builds on the vision of the the UN 2030 Agenda for Sustainable Development and recognizes that real change requires decisive, collective action, within and beyond the UN System.

- **Global Forest Goal 1**
  Reverse the loss of forest cover worldwide through sustainable *forest management*, including protection, restoration, *afforestation, and reforestation*, and increase efforts to prevent

forest degradation and contribute to the global effort of addressing climate change.

- **Global Forest Goal 2**
  Enhance forest-based economic, social, and environmental benefits, including by improving the livelihoods of forest dependent people.

- **Global Forest Goal 3**
  Increase significantly the area of protected forests worldwide and other areas of sustainably managed forests, as well as the proportion of forest products from sustainably managed forests.

- **Global Forest Goal 4**
  Mobilize significantly increased, new, and additional financial resources from all sources for the implementation of sustainable forest management and strengthen scientific and technical cooperation and partnerships.

- **Global Forest Goal 5**
  Promote governance frameworks to implement sustainable forest management, including through the UN Forest Instrument, and enhance the contribution of forests to the 2030 Agenda.

- **Global Forest Goal 6**
  Enhance cooperation, coordination, coherence, and synergies on forest-related issues at all levels, including within the UN System and across CPF member organizations, as well as across sectors and relevant stakeholders (UN General Assembly, 2017).

Meanwhile 2030 is approaching quickly, and an initial assessment report of progress (Prins, 2023) points to a long list of challenges, notably the ongoing and growing competition for forest land by other land uses. The report notes progress on provision of finance to smaller scale forest industries, but also the need for more data on forestry's positive contributions to sustainability.

2.2.2 Tying it all together?: the SDGs, landscape approaches, and Nature-based Solutions (NbS)

In 2015, the UN agreed on the SDGs and the 2030 Agenda as a comprehensive set of global objectives aiming to address global challenges (Pattberg and Bäckstrand, 2023). The SDGs represent an expansion in scope and ambition from the Millennium Development Goals (MDGs), establishing 17 Goals with 169 targets and 244 indicators to be achieved by 2030. All the 17 SDGs relate to forests in some way, such as SDG 2 on Zero Hunger, SDG 5 on Gender Equality, and SDG 13 on Climate Action (Katila et al., 2019). Among them, SDG 15 on Life on Land has forests clearly articulated within its mission to "protect, restore, and promote sustainable use of terrestrial *ecosystems*, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (UN, 2015, p. 14). Particularly, given that the SDGs are non-legally binding, their effectiveness is strongly shaped by the interests of national governments in their implementation (Forestier and Kim, 2020). Halfway to 2030, the UN Secretary-General´s SDG progress report indicates that progress on the SDGs overall has been slow, with 30% of the targets showing no progress or even regression in comparison to the baseline situation in 2015 (UN General Assembly, 2023).

While the main responsibility in achieving the SDG targets lies with national governments, the 2030 Agenda calls for multi-stakeholder partnerships. This is specifically articulated in SDG 17 on Global Partnerships, which calls for public-private partnerships as collaborative governance mechanisms, under the assumption that they can improve the effectiveness of global sustainability governance while at the same time increasing representation and legitimacy (Pattberg and Bäckstrand, 2023; Tosun et al., 2023). Within academic literature evaluating the SDGs, Glass et al. (2023) echoed this emphasis on public-private collaboration, by arguing that multi-stakeholder partnerships have the capacity to reduce the SDGs implementation gaps by complementing governmental efforts in sustainability governance. More critical views, however, suggest that multistakeholderism is an extension of the neoliberalization of environmental governance, and more effective at promoting the interests of private multinational actors than giving voice to less economically and politically powerful social groups (de Oliveira Tavares and Burns, 2023; Widerberg et al., 2023).

The complexity of addressing diverse global environmental priorities, such as climate change mitigation and biodiversity conservation, while at the same time contributing to all the SDGs, has led a range of public private sector actors and institutions to promote landscape approaches as holistic governance strategies capable of bridging multiple sectors. Key organizations promoting landscape initiatives include the Food and Agriculture Organization of the United Nations (FAO), the World Bank, the United Nations Environment Programme (UNEP), the Centre of International Forestry Re-

search (CIFOR), the Global Landscapes Forum (GLF), the International Union for Conservation of Nature (IUCN), and the World Resources Institute (WRI), as well as large environmental Non-Governmental Organisations (NGOs) such as the World Wildlife Fund (WWF), the African Wildlife Foundation, the Rainforest Foundation US (RFUS), and the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) (Freeman et al., 2015; Reed et al., 2016). In 2011, the CBD adopted a set of guiding principles for improving the sustainable use of biodiversity within a landscape perspective (CBD, 2011). The first GLF, replacing the former Forest Day, was held alongside the UNFCCC COP19 in Warsaw, Poland in 2013, which served to highlight the increasing relevance of landscape approaches.

A landscape approach can be defined as "a framework to integrate policy and practice for multiple competing land uses through the implementation of adaptive and integrated management systems" (Reed et al., 2016, p. 2544) considering and negotiating the trade-offs (van Oosten et al., 2021). This approach recognizes the diverse range of actors and stakeholders from multiple sectors, the need to integrate long-term considerations such as resilience and adaptability, the dual human and ecological dimensions, and the complexities of incorporating temporal and spatial scales within a defined geographical area (Arts et al., 2017; Mansourian and Sgard, 2021; Ros-Tonen et al., 2018). However, in practice, finding an equitable balance between multiple objectives, guaranteeing a fair involvement of all stakeholders, addressing power and gender imbalances, and moving beyond jurisdictional and sectoral boundaries remains highly challenging (van Oosten et al., 2021). With an increase in the uptake of these approaches, first assessments seem to support their effectiveness (Reed et al., 2017). However, the approach has also been questioned as being just a re-branding of previous efforts (Bastos Lima et al., 2017; Reed et al., 2017) or a new conservation fad (Lund et al., 2017). These critiques are mainly linked to the difficulties in implementation, including a lack of coincidence between landscapes and jurisdictional boundaries (Arts et al., 2017). The approach has also been criticized for downplaying power imbalances and considering landscapes as depoliticized spaces (Arts et al., 2017; Ros-Tonen et al., 2018).

A wide range of initiatives can be described under the umbrella of landscape approaches, such as REDD+ (Bastos Lima et al., 2017), sustainable value chain governance through public-private partnerships (van Oosten et al., 2018), natural resources management through community forests (Foli et al., 2018), and *Forest Landscape Restoration* (FLR) (Ros-Tonen et al., 2018), just to name a few. Several large NGOs and international organizations have a range of landscape initiatives such as the Congo Basin Forest Partnership 12 transboundary landscapes (CBFP, 2023), WWF Greater Mekong Programme (WWF, 2023), or the EU's Landscapes for our Future (Landscapes For Our Future, 2023). Section 2.4.2 below provides an illustrative case study of Ghana's REDD+ programme as an example of the integration of landscape approaches into national policy as a means to strengthen local participation and local benefit in forestry decision-making.

Within the framework of landscape approaches, in recent years the concept of NbS has gained popularity. IUCN (2016, p. 1) defines NbS as "actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits". The concept has been highlighted by many recent global assessment reports (e.g., IPBES, 2019; IPCC, 2022) and is being adopted by governmental and non-governmental actors. Globally, 66% of the world's nations have included some type of NbS in their pledges to the Paris Agreement, mainly focusing on forests (Seddon et al., 2021). The EU has adopted its own definition of the concept emphasizing the role NbS can play in fostering innovation that would place "Europe as a leader in the global market for nature-based solutions" (European Commission, 2015, p. 4). This understanding of the term as a market driven approach can also be observed by its uptake by the private sector, where NbS may be seen as a cheap offsetting option that can reduce the pressure on the need to reduce greenhouse emissions (Nesshöver et al., 2017; Seddon et al., 2021). The lack of a clear and globally accepted definition of NbS has resulted in many different actions falling within this broad term, such as FLR, green infrastructure, ecosystem-based adaptation, community forestry, and community-based resource management. It has been argued that this lack of a common understanding has diminished the transformative potential of NbS, leading to calls for clear guidelines that enable NbS to be "rigorously assessed and validated", and governed by "robust accountability and regulatory frameworks" (Seddon et al., 2021, p. 1415).

The setting of global goals for 'ecosystem restoration' could be viewed as another form of landscape approach. In 2019, the UN proclaimed 2021-2030 as the Decade on Ecosystem Restoration with the aim "of supporting and scaling up ef-

forts to prevent, halt and reverse the degradation of ecosystems" (UN General Assembly, 2019, p. 5). The Aichi Target 15 called for the "restoration of at least 15 percent of degraded ecosystems by 2020", although limited progress was made (CBD Secretariat, 2020). Restoration also played an important role in the REDD+ negotiations. In this context, FLR has been promoted across the world with the aim to restore landscapes from a broader perspective, allowing simultaneous restoration of the ecological and productive functions of forests (GPFLR, 2023; van Oosten et al., 2021).

The decision of what, where, and how to restore nature has been increasingly based on a multi-stakeholder process of negotiation and spatial decision-making with the aim of maintaining, enhancing, or restoring the landscape's functions, goods, and services for the long term (van Oosten et al., 2021, 2014). Various international FLR initiatives were developed in the last decades. One example is the Asia-Pacific Economic Cooperation (APEC) 2020 Forest Cover Goals, adopted in 2007 with the aim of increasing forest cover in the Asia-Pacific region by at least 20 million hectares of all types of forests by 2020. According to the final assessment, the goal was achieved and even exceeded by increasing forest cover by 27.9 million hectares in the established period (APEC, 2021). However, the increase was not equal in all countries and while the total forest area increased, the area of old growth natural forests and other naturally regenerated and highly biodiverse forests has decreased (de Jong et al., 2021). In a global review of FLR, Stanturf and Mansourian (2020) observed that a focus on reaching forest area targets has driven an over-emphasis on tree planting and the establishment of monoculture plantations such as eucalyptus and rubber plantations, including on sites better suited to non-forest ecosystems.

2.2.3 Informal cooperation and a rapid expansion of targets

In addition to formal rules in global governance, the 1970s saw a growth of informal cooperation in world politics that has accelerated since the 1990s. This includes, for example, the formation of various "G" groups of countries as intergovernmental political fora, such as the Group of 7 (G7) leading Northern economies, the larger North/South Group of 20 (G20), or the group of Brazil, Russia, India, China, and South Africa (BRICS) (Westerwinter, 2021). Balsiger and VanDeveer (2012) explained this trend as a response to the high transaction costs and lowest common denominator approaches common to formal negotiations, and to the latter's poor compliance and effectiveness, which have led governmental actors to search for alternative models of international cooperation. According to Vabulas and Snidal (2021), intergovernmental forums offer more flexibility, greater state autonomy, closer control of information, lower transaction costs due to greater speed in reaching agreements, and minimal administration costs. Illustrative examples of IFG decision-making within such fora include the 2002 agreement by the G7 Ministers responsible for Climate, Energy, and the Environment to "accelerate the transition to sustainable supply chains that decouple trade and agricultural production from deforestation and forest degradation and to promote sustainably produced wood and wood products" (ITTO, 2022, p. 18). In the same year, the G7 formed the Climate Club as a global undertaking aiming to achieve the global climate targets (G7, 2022).

This trend towards non-binding cooperation, coupled with increasing political pressure on governments and the private sector to address climate change, forest loss, and other global environmental challenges, have also driven a trend towards aspirational target-setting as a key global governance strategy, both within and outside of formal decision-making institutions (Biermann et al., 2017; McDermott et al., 2022). Such target-setting may entail very ambitious and far-reaching goals, such as zero deforestation, net biodiversity gain, or net zero emissions, and be accompanied by widely varying levels of specificity in definitions and commitments (Biermann et al., 2017; McDermott et al., 2022).

Key examples of inter-governmental target-setting include the UNFCCC's target of holding the increase in the global average temperature below 2°C above pre-industrial levels, and aiming for 1.5°C. The CBD has included several targets in the GBF, including the 30x30 commitment to protect 30% of the earth's land area by 2030 (Carroll and Noss, 2022). The SDGs have established 169 global targets in the form of non-legally binding policy objectives that are both time-bound and measurable (Biermann, 2017; Bogers et al., 2022).

The 2011 Bonn Challenge provides an example of less formal, hybrid public-private target-setting. Launched by IUCN and the German government, the Bonn Challenge calls for the restoration of 350 million hectares of forest by 2030. As of August 2023, Bonn Challenge pledges reached 210 million hectares across the world (Bonn Challenge website, n.d.), although almost half of these pledges were based on new commercial plantations (Lewis et al., 2019).

In 2014, at the UN summit, a mix of public and private actors signed the New York Declaration on Forests (NYDF) that declared a target of halving deforestation and restoring 150 million hectares by 2020, and ending deforestation by 2030. Signatories included numerous countries as well as companies, Indigenous groups, and civil society organizations. Despite very limited progress in meeting NYDF targets (NYDF Assessment Partners, 2019), the NYDF was followed in 2021 by the even more ambitious Glasgow Forest Declaration (GFD). The GFD was signed at the UNFCCC COP26 by 141 countries, and commits to halting and reversing forest loss and land degradation by 2030. Both the New York and Glasgow pledges have been critiqued as lacking specificity in their definitions and means of achievement (e.g., Gasser et al., 2022), and representing a 'Target Olympics' that risks impeding, rather than supporting, more transformative change (McDermott et al., 2022).

Target-setting and pledges are also widespread within the private and civil society sectors. According to FAO (2018, p. 5), a "zero-deforestation movement has spread globally" to encompass a wide range of international NGOs and industry organizations that have pledged to remove deforestation from their supply chains. In regards to forest restoration, Trillion Trees was established in 2016 by BirdLife International, Wildlife Conservation Society, and the WWF, and the Trillion Tree Platform was launched in 2020 by the World Economic Forum. These and other private sector pledges and targets are also subject to considerable critique, for example with research on corporate zero-deforestation commitments finding frequent failures in the adequacy of their targets and/or follow through (Haupt et al., 2017; Lambin et al., 2018).

While the creation of highly ambitious targets may be politically appealing, the pressure it puts on governments and other actors to demonstrate progress can incentivize the manipulation or inflation of implementation results (McDermott et al., 2022). Establishing quantitative targets can result in actors focusing on singular proxies to represent complex phenomena, and thereby disconnecting what is measured from the actual desired outcome (Goodhart, 1984; Kim, 2023). As defined by Strathern (1997, p. 308), Goodhart's law states that "when a metric becomes a target, it ceases to be an accurate metric". In line with the theory of symbolic politics by Edelman (1976), numbers can have a symbolic function, giving the impression of competence and clear goals in public while leaving more decision space for powerful actors, and offering flexibility in the implementation processes (Arts et al., 2019; Deegen, 2019; Logmani-Aßmann et al., 2021; McDermott, 2009).

2.2.4 Growing push for green finance

There has been a growing plethora of calls for 'green' finance to support sustainability transitions, including calls for finance from all sources for sustainable forest management, for example as enshrined in the goals stated by the UNFF. Article 6 of the Paris Agreement, highlighting the importance of forests, expressly encourages both market- and non-market-based sources of funding for forest carbon. Similarly, at a regional level, in 2019 the EU agreed on a Green Deal to facilitate a shift towards sustainable investments, for example in areas like renewable energy, biodiversity, or circular economy, and proposed a taxonomy regulation to classify what are "green" or "sustainable" economic activities.

The land sector, embedded within forests and forest lands, has been shaped by a long history of financial interventions, investments, and incentives focused on the development of commercial business and global trade as engines of economic growth. More recently, biodiversity conservation has been subject to corporate business interests, facilitated by a coalition of organizations that fund, implement, and measure environmental objectives and conservation (Brockington and Duffy, 2010). Within forestry, we see for example new business models emerging when large scale forest concessioners aim to market forest carbon rather than continue with the (costly) exploitation of already depleted timber concessions (see box on the case of Mai Ndombe). This observation sits within a larger trend in the development of forest and land relations towards financialization, where financial activities rather than timber or biomass production are the main source of profit in an economy. Here, financial motives, financial markets, financial actors, and financial institutions gain control in the operation of domestic and international land-based economies (Epstein, 2006; Meyfroidt, 2018). There have been numerous historical analyses following this financialization processes, such as studies of land speculation and the search for finance for the colonial project (Bichler and Nitzan, 2012), or studies of the evolution of the forest sector in the US (Gunnoe, 2016).

In response to growing demand for green finance, the number of forest-related financial instruments has accelerated rapidly over the past couple of decades, many of them linked to global agreements (e.g., REDD+ under the UNFCCC) or international markets (e.g., for carbon and biodiver-

sity offsets), and other attempts to mobilize private funding for positive environmental outcomes, including green bonds. Mobilizing funding from all sources is also an explicit goal of the UN Strategic Plan for forests, which does not differentiate between sources and beneficiaries. Sullivan (2013) identified and categorized a range of new financial instruments aiming to incentivize or govern investments, including new investment funds specializing in environmental conservation products, the development of environmental indexes to guide and enhance investment products such as corporate and government bonds, and the uptake of environmental conservation parameters in the financializing of assets by conventional banks. The study also highlighted how financialization is enabled by discursive shifts, with nature turned into a service (nature works) that can be accounted for (nature banks) and betted on (nature derivatives).

This evolving financial landscape shows how public and private finance are blended, accompanied by commitments to support a sustainability transition. We have seen new initiatives led or championed by central bankers, finance ministers, institutional investors, asset managers, and broad international coalitions. However, the emphasis on green finance overlooks some of the more complex political and economic drivers that undermine the protection and stewardship of forests, ecosystems and biodiversity (see Chapter 3). Examples are perverse land use subsidies, such as for biofuels and energy production that displace or damage native ecosystems, ineffective taxation regimes (Assembe-Mvondo et al., 2013), tax avoidance, tax evasion, and national debt (Dempsey et al., 2022; Galaz et al., 2018).

Numerous concerns have been voiced that financial sectors are better designed to protect financial investors and shareholders than biodiversity and local welfare, for example in discussions during a UNFCCC side event on "Fair and equitable REDD+ finance and benefit-sharing mechanisms for climate goals and justice", hosted on 11 November 2021 by CIFOR-ICRAF, Öko-Institut e.V., University of Helsinki, and Wageningen University. Collins (2019) and Kopnina (2017) argued that the commodification of land and natural resources through green finance fuelled land and resource appropriation and local displacement. Furthermore, leading strategies to govern more sustainable land use investments, such as ESG investing, are not well suited to address risks to local people or the environment per se, but rather focus on the risks that impact the investors themselves (Crona et al., 2021). Crona et al. (2021) argued that unless the finance sector incorporates environmental and social risks beyond those dictated by their own financial interests, it will continue to be part of the problem rather than a solution to global, national, and local environmental crises.

Box 2.1

REDD+ finance competes with established land investments: The case of Mai-Ndombe, Democratic Republic of Congo (DRC)

Pietarinen et al. (2023) examined the assumption that policy instruments can bring about transformational change with a shift of incentives. REDD+ is often justified with this assumption by helping to raise the economic value of standing forest above that of cleared forest. However, our analysis shows that this assumption overlooks a much more complex political ecology. Policy instruments cannot be considered in isolation from the historical and social context within which they are embedded. Thus far, approximately 120 million USD of REDD+ financing has been introduced into the province of Mai-Ndombe (FCPF, 2021, 2016) and channelled into tackling the identified drivers of deforestation, in essence, local people who are identified as practising 'slash-and-burn' agriculture, artisanal logging, and fuelwood collection, and as responsible for population growth (DRC REDD+ Investment Program 2015-2020). Yet, alongside REDD+ interventions of improved food production, increased access to family planning and improved access to sustainable cooking energy, there are overlapping economic activities and conflicting goals of established mining, timber, livestock concessions, and oil exploration permits across the entire Mai-Ndombe province (MapHubs, 2016; WRI, 2023). These interests have already, or are expected to, generate substantive profits and growth, and are highly resistant to change due to their

long-term establishment and entangled private-political interests in an opaque institutional structure. Furthermore, companies operating in this region simply shift their focus from less lucrative logged-over timber concessions into (expected) profitable carbon concessions. Such carbon concessions also overlap with protected areas, many of which were established on lands historically used by Indigenous people. In this way, local people become legally restricted from accessing forest and land resources and must rely on increasingly smaller patches of land to meet their livelihoods needs. It can be further argued that the REDD+ process has reinforced a putative reality that blames local communities for deforestation framed through an assemblage of geospatial imageries, maps, and discursive practices (Windey and Van Hecken, 2021), while enabling private and international investments for economic growth into commercial and industrial agricultural land, timber, and minerals (FCPF and UN-REDD, 2015). Distal flows of finance, discourses, and commodities over time have (re)created and reinforced entrenched interests in the Mai-Ndombe landscape, and REDD+ has little chance for transformative change.

2.2.5 Financialization drives proliferating standards and verification systems

The growing markets for forest carbon and other *ecosystem services*, and in particular the markets for 'offsets', provide a key example of how the increasing financialization of forest governance has spurred additional public and private IFG rule-making. As outlined in the brief summary below, this includes not only the creation of new offset markets, but also a wave of new non-state, market-driven ecosystem service certification schemes aiming to govern these markets.

Markets for *forest* carbon have dominated forest-related offsetting, spurred in part by REDD+ in the Global South, but also by an array of private and compliance markets in the Global North (e.g., Donofrio et al., 2021). The largest volume and value of forest carbon trading has occurred in compliance markets, mostly in high-income countries. Voluntary forest carbon trading between 2009-2019 generated an estimated USD 1.4 billion, which is less than half of the value of compliance markets (valued at USD 3.9 billion), and less than the total non-market expenditures on REDD+ (valued at USD 1.9 billion) (Donofrio et al., 2021). Nevertheless, in comparison with other sectors such as renewable energy, forest carbon trading accounts for the largest percentage of all voluntary carbon markets by value (Donofrio et al., 2021). As evidenced for example in Section 2.4.4 on nature recovery in Scotland, there has also been expanding interest in markets for biodiversity offsets.

As these offset markets expand, so have controversies around their ethics and effectiveness, including the degree to which they represent the commodification of forest values, are regulated, and/or negatively impact non-carbon values (for a systematic review of challenges see Pan et al., 2022). These controversies, together with incentives to create value and price differentiation among offsets, have catalysed and shaped the growth and form of private standards and third-party carbon verification systems. Verra, a non-profit organization with strong representation from the private business sector, governs the Verified Carbon Standard (VCS). The VCS is the most widely used forest carbon certification standard (Donofrio et al., 2021), and has claimed to focus on the credible verification of the carbon 'additionality' of projects (McDermott, 2013). Other standards, such as the Climate, Community, and Biodiversity Alliance (CCBA) standard, the Gold Standard and Plan Vivo, have bundled the assessment of carbon additionality with other social and environmental values, such as those encapsulated in REDD+ 'safeguards'. The CCBA was initially spearheaded by international NGOs, and later subsumed under Verra, further consolidating Verra's market dominance. As observed by McDermott (2013), each of these schemes is governed by a different balance of actors and interests that has, in turn, led to marked differences in standards content. These authors (McDermott, 2013) find that private sector involvement in scheme governance is associated with a strong emphasis on carbon accounting, while standards schemes with high levels of NGO involvement place greater emphasis on other values, including biodiversity, human rights, and/or

benefit-sharing. Meanwhile, these new ecosystem services schemes represent a continued proliferation of forest-related standards on top of existing forest certification schemes, including the Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification Schemes (PEFC) (McDermott et al., 2012). This growing number of sustainability standards has not, however, served to stem debate. Rather, the certification of carbon offsetting has been subject to particularly intense controversy regarding both its environmental and social integrity (Gifford, 2020).

In sum, this Section's analysis of global IFG provides an illustrative, if far from exhaustive, review of key trends among interests, actors, ideas, and institutions that are generating rules beyond particular regional and national boundaries. As is clear from this analysis, while the breadth and complexity of rules and institutions continues to grow, controversies and conflicts among different actors persist. Meanwhile, political pressures to demonstrate effective action are rising with every perceived failure of IFG. These tensions and pressures, in turn, set the stage for the following Section 2.3 examining the proliferation of regional, bilateral, or unilateral processes as alternative venues for different coalitions of actors, interests, ideas, and institutions.

2.3 Regional, bilateral, and unilateral processes

2.3.1 Regional trends

A recent mapping of international forest agreements until 2022 showed that only 25% of all the identified agreements are global, with a trend over time towards an increase in the number of regional agreements (Polo Villanueva et al., unpublished). This trend towards regionality in forest(ry) issues is similar to what has been observed in other environmental issues, such as climate change (Balsiger and Prys, 2016).

Regional agreements have been described to have a 'collective action' advantage compared to the global ones due to greater similarity of interests, norms, perceptions, and values (Conca, 2012). Regional members, for example, can be closer to the ecological basis of environmental problems, and may even share similarities in terms of the causes of problems, such as deforestation drivers (Batterbury and Fernando, 2006; Giessen and Sahide, 2017). In this context, national governments believe they can steer greater progress within the region than what they can achieve globally (Halle, 2012).

2.3.1.1 Regionalization in the Global North: The case of the European Union as an example

Regionalization of forest policy has been a trend in the Global North, in particular under growing pressure from climate change and other environmental crises, and with the absence of a legally binding global framework. Attempts to regionalize forest policy are reflected in working groups and committees across a variety of regional organizational structures, for example through highly formalized arrangements within the EU and its member states, yet across different policy domains. While efforts to promote at regional level a (forest-based) bioeconomy were largely embraced, the more recently established EU Forest Strategy is considered by some member states as jeopardizing their economic ambitions. This EU Forest Strategy for 2030 was adopted by the EU in July 2021. The European Green Deal provides the reference for this new policy, with its ambition for a decarbonized society until 2050, and an emphasis on the role of forests in mitigating and adapting to climate change, reversing biodiversity loss, and advancing restoration. The Strategy also calls for renewed forest policymaking at the EU level.

The European Forest Institute led a comparative study of 15 member state's fitness for this new Strategy (Pecurul-Botines et al., 2023), and identified several areas of political tension. One line of conflict occurs between member state sovereignty and EU competences. Another source of conflict exists between environmental goals, which are largely backed by NGOs, and economic goals such as for timber, pulp production, and forest carbon, which are supported by the forest industry and some state actors (e.g., Edwards and Kleinschmit, 2013; Winkel and Sotirov, 2016).

Assessing progress with the EU Forest Strategy will also require new quantitative and qualitative measurements and reporting practices. The service sector will play a key role in such a transition, and needs to undergo major changes itself to be able to develop and provide new services. According to a study from Finland by Takala et al. (2023), it is not yet clear if the forest service sector is ready for sustainability transitions, as called for in the EU Forest Strategy.

Adding to these challenges, the EU's Fit-for-55 package includes the EU Taxonomy Regulation, the EU Deforestation Regulation, the development of the Nature Restoration Law, and the revised Renewable Energy Directive. To be able to implement this package, the expectations for major reform and changes within the forest-based sector will only increase, with implications in terms of, for

example, administration and verification of its operations. Such changes will also have to link to the implementation of the EU Forest Strategy. Hence, although the Strategy itself is not legally binding, it is part of a much larger legally-binding package, and one can expect larger implications for national authorities.

The comparative analysis by Pecurul-Botines et al. (2023) also identified many existing national forest-related policies that will contribute to realizing the EU's new Forest Strategy. The diversity of socio-economic, environmental, and political settings for forests and forestry in Europe can provide fertile ground for discovering new approaches to implementation. However, the authors also noted that European forest governance and markets are embedded within larger, and often global, trade and investment patterns, and will be increasingly impacted by climate change and related forest disturbances (despite locally specific symptoms). Finally, they observe 'silences' in the existing national policy frameworks that might hamper a successful implementation of the new EU Forest Strategy. These include the absence of policy action in domestic policies that acknowledge and tackle threats to biodiversity imposed by the forest sector itself, for example through overharvesting (Muys et al., 2022) and the risk of conversion of old-growth forests, as well as lacking data and monitoring efforts to support the objectives of the new EU Forest Strategy.

2.3.1.2 South-South collaborations: For whom, for what?

While almost half of the regional forest agreements identified by Polo Villanueva et al. (unpublished) are in Europe, the Global South also shows regional collaboration, especially in Asia and Africa, with 24% and 16% of the total agreements identified, respectively. Regional agreements like the Association of Southeast Asian Nations (ASEAN) have been especially active in recent years in developing their own policies relating to forests and the environment (Giessen and Sahide, 2017). In 2016, they agreed on the ASEAN-Strategic Plan of Action for Cooperation on Forestry (2016-2025), as a strong policy outcome (Sarker et al., unpublished). Other goals such as social forestry are promoted widely and across sectors within ASEAN, and while there seems to be consensus over the importance of social forestry, there are conflicting views over what constitutes social forestry, and what does not (Wong et al., 2020). ASEAN has recently agreed a set of Guiding Principles on Social Forestry Enabling Legal Frameworks to promote a degree of regional harmonization (ASEAN, 2022a, 2022b).

In the Congo Basin, it is the forest ministers that are organized in the Central African Forest Commission (COMIFAC). The COMIFAC represents the primary authority for decision-making and coordination of sub-regional actions and initiatives pertaining to the conservation and sustainable management of the Congo Basin forests. Yet the COMIFAC has been considered rather weak in its ability to orchestrate forest policy in the region (Nago and Ongolo, 2021). In 2014, COMIFAC adopted a Convergence Plan (2015-2025) in an effort to increase regional coordination.

In Latin America and the Caribbean, the number of regional forest agreements is quite low in comparison to other regions (Polo Villanueva et al., unpublished). This could be explained by Brazil´s influence as hegemonic leader, concerned over its sovereignty, and resistant to the empowerment of regional institutions (Mesquita and Chien, 2021). In 1980, the Amazon Cooperation Treaty Organization (ACTO) was agreed, but according to Garcia (2011), it was initially a dead letter regime for strengthening property rights over the Amazon region by South American countries, particularly Brazil, in the face of attempts by powerful foreign actors to appropriate land and resources in this region. Between 1995 and 2009, with an increase in the number of donors, the agreement saw an institutional strengthening with publication of action plans and the adoption of relevant policy instruments (Polo Villanueva et al., unpublished). In 2010, the Amazonian Strategic Cooperation Agenda 2010-2018 was adopted, explicitly mentioning the term "forest" among its main goals for the first time. In August 2023, 14 years after the last meeting, the presidents of the 8 member states of ACTO gathered in Belem, Brazil, agreeing on the Belem Declaration. Although Brazil's newly re-elected president, Lula da Silva, failed to include a common goal of zero-deforestation by 2030, the Declaration created an alliance for combating forest destruction, leaving each country to pursue their own individual deforestation goals (Spring, 2023).

Another example is the Andean regional forest governance led by Indigenous people and promoted by Bolivia under Evo Morales, who evoked Pacha Mama (Mother Earth) within and beyond the climate negotiations as an alternative to capitalist exploitation and destruction of forests and land to feed an unsustainable Western lifestyle (de Souza Santos, 2010).

When comparing the governance functions, Polo Villanueva et al. (unpublished) found a higher number of funding functions in regional agree-

ments from the Global South as compared to global or regional agreements from the Global North. Regional integration among developing countries might serve as a magnet for foreign direct investments, as observed in ACTO and COMIFAC (Gomez Mera, 2005; Sarker et al., unpublished). The creation of issue specific formal institutions enables member states to strengthen the international credibility of their commitments in order to attract investments (Abbott and Snidal, 2000).

Formalized forest agreements in the Global South may also be a strategy for member states to maintain sovereign use over their natural resources and territory. That is, they may serve as a place-holding non-regime, responding to external western claims on abstaining from forest resource use (Gomez Mera, 2005; Humphreys, 2012). As it has been described in the case of ACTO, the existence of rival regional or global agreements might trigger defensive incentives to act as a bloc (Dimitrov, 2020; Gomez Mera, 2005; Humphreys, 2012). These different strategies are examples of how regional agreements follow the interests of regional members through four main functions as described by Giessen and Sahide (2017). Regional agreements can be used for blocking external initiatives, attracting external political and funding support, imposing rules on other member states, and/or aligning the positions and interests of the member states.

2.3.2 From regionalism to bilateralism to unilateralism?

The rise of initiatives against illegal logging, and their trajectory from regional intergovernmental processes, to bilateral and unilateral trade-based instruments, serves as an important illustration both of efforts to bypass international stalemate, and of the growing dominance and shifting nature of market-based approaches. The framing of illegal logging as the central driver of unsustainable forest practice, first emerged in the early 2000s at a time when the prospect of a legally binding forest convention had all but disappeared (Dimitrov, 2005). It was also evident that private forest certification, first launched in the late 1980s as a non-state, market-driven strategy for rewarding sustainable forest management, was failing to take root in tropical countries (McDermott, 2014). Furthermore, forest certification relied on effective governance and enforcement of state law, which was absent from much of the tropical forest frontier (Cashore and Stone, 2012). It was also noted that, even without the addition of voluntary social, and environmental certification standards, many tropical countries had relatively stringent environmental laws on paper (McDermott et al., 2010). These various logical arguments converged to spark a series of international collaborations focused on strengthening law enforcement in the timber sector (McDermott, 2014; Myers et al., 2020).

The anti-illegal logging movement also served to generate new coalitions of actors and interests among formerly opposing interests (Sotirov et al., 2017). These included Northern governments and forest industries concerned that illegal logging was driving unfair competition by bypassing the costs of legal compliance, such as the costs of adhering to environmental regulations and permitting processes and of paying taxes. It included Southern governments concerned with strengthening their law enforcement capacity, capturing more tax revenue, and/or leveraging illegal logging initiatives as a new source of development aid. It also included environmental NGOs concerned with forest and biodiversity protection.

The first international legality institutions to emerge included, in addition to private legality certification, regional intergovernmental Forest Law Enforcement and Governance (FLEG) processes. However, these processes were soon followed by two new innovations that, to varying degrees, greatly reduced the need for intergovernmental consensus. The first was the development of unilateral forest-related trade policies in the Global North. These policies were unilateral in that they were designed, lobbied, enacted, and enforced by individual foreign powers as a means to leverage the buying power of their import markets to regulate forest-related behaviour in foreign countries. The US, followed by a number of other high-income countries, passed a series of such unilateral policies banning the import of timber produced in violation of the laws of the country of origin (Kleinschmit et al., 2016).

The EU pursued both bi-lateral and unilateral approaches to illegal logging, guided by the 2003 EU Forest Law Enforcement, Governance, and Trade (FLEGT) Action Plan. The bi-lateral strategy involved Voluntary Partnership Agreements (VPAs) with low- and middle-income country partners (European Commission, 2003), while the EU Timber Regulation 995/2010 (EUTR) imposed a unilateral ban on the import of illegal timber.

Under the FLEGT VPAs, the EU supported partner countries to develop national-level Timber Legality Assurance Schemes (TLAS). The core elements of a TLAS are an agreed legality standard, and a nationally dictated system for documenting compliance with the standard. Once approved by

the EU, the TLAS would form the basis for issuing EU-recognized FLEGT licenses. FLEGT licenses would then serve as proof of legality under the EUTR. As of August 2023, fourteen years after the first VPA was signed with Ghana, out of 10 countries engaged in VPA processes, only Indonesia has received EU approval for their FLEGT license (FLEGT Facility, n.d.).

There has been a wide range of research analysing and evaluating these various illegal logging initiatives. They have been classified as hybrid state/market-based approaches marking a concurrent shift 'back to the state' and sovereign authority, but also leveraging markets to achieve this. They have been identified as a means to fast-track action by bypassing international stalemate (Cashore and Stone, 2012). Researchers have also examined the outcomes of illegal logging initiatives in terms of their effectiveness or equity (Kleinschmit et al., 2016). For example, a recent review of the impacts of FLEGT VPAs (Polo Villanueva et al., 2023) found lowered rates of illegal logging among timber concessionaires in some countries, and increased civil society engagement in forest policy. At the same time, FLEGT's focus on legal formalization in countries with contested land rights, and lack of recognition of local and community forest rights has favoured large-scale timber production for export markets at the expense of local and domestic access to forest resources (Hirons et al., 2018; Polo Villanueva et al., 2023; Setyowati and McDermott, 2017). In this way, FLEGT has reinforced key political and economic inequalities (Hirons et al., 2018; Polo Villanueva et al., 2023; Setyowati and McDermott, 2017).

Analyses of the EUTR as a unilateral policy also vary in both the focus of their analysis and their resulting findings. For example, Sotirov et al. (2017) pointed to the passage of the EUTR as an example of successful multistakeholder coalition building; Acheampong and Maryudi (2020) focused on the limited effectiveness of FLEGT mechanisms, including the EUTR, in stopping illegal practice; and Brusselaers and Buysse (2021) pointed to inequities in the EUTR's strategy and outcomes.

Whatever the successes or failures of the (anti-) illegal logging movement in practice, political momentum has shifted from multi-lateral and bilateral approaches towards more exclusively unilateral decision-making, as illustrated by the subsequent emergence of state-based 'deforestation-free commodity' initiatives. With rising attention to the role of a limited number of commodities in driving deforestation,, including palm oil, soy, beef cattle, cocoa, and coffee in driving deforestation, a growing number of market-based initiatives has come to remove products whose production led to deforestation from international supply chains. These initiatives aim to provide market recognition and/or preferred market access for commodities that are demonstrably deforestation-free. As discussed in Section 2.2.3, many of the early deforestation-free commodity initiatives involved voluntary pledges by the private sector to achieve 'zero deforestation' supply chains. These have been substantially critiqued for their limited effectiveness, leading to calls for more state-based involvement (Haupt et al., 2017; Lambin et al., 2018).

In response, the 2020s have seen a new wave of unilateral government efforts originating in the Global North to regulate deforestation-free supply chains. Among the most notable examples is the EU Deforestation Regulation (EUDR), which goes well beyond the scope of FLEGT to prohibit the import of any of seven 'forest risk commodities' without proof of due diligence, including timber, to ensure that the commodities were not associated with deforestation (European Commission, 2021), including both legal and illegal deforestation. By not distinguishing between legal and illegal deforestation, the EUDR aims to selectively overlook the authority of foreign states to govern deforestation within their borders.

From a political economy perspective, the unilateralism of the EUDR is highly notable for a host of reasons. Firstly, it highlights the relatively dominant role of the EU in the global trade of certain tropical commodities. The EU's economic dominance, in turn, is perceived as a source of power to take unilateral action and impose its priorities on importing countries regardless of the latter's interest or willingness to engage. The level of political support for this initiative within the EU has been quite high, with the European Commission claiming "overwhelming support" based on a public consultation process that was the "second most popular in the history of the EU" (European Commission, 2021), and reflecting popular interest in stopping tropical deforestation. While the power dynamics embedded in EUDR negotiations vary by sector, it is notable that many of the commodities that are included in the EUDR are tropical. Hence, the EUDR has no direct impact on the EU's production of oil seeds or other competing commodities produced in the Global North, and might even improve the competitiveness of these crops. Furthermore, the EUDR includes a 'risk rating' system that entails additional reporting requirements for products from regions and countries at high risk of deforestation, which are predominantly located in the Global South.

The implications of the EUDR for actors and interests in the Global North and South are distinctly different, and there have been numerous objections raised by producing country governments and other stakeholders (e.g., Kumeh and Ramcilovic-Suominen, 2023). The EUDR has been critisised for being imposed on producing countries without their consent or adequate engagement, and for offloading the costs of compliance onto low- and middle-income countries without adequate support or compensation (Kumeh and Ramcilovic-Suominen, 2023). Concerns have also been raised that the EUDR, like FLEGT before it, will favour large, high capacity companies with clear land rights and large, intensively managed plantations, who are best positioned to meet the external requirements. At the same time, it risks excluding smallholders and local communities, often without clear land rights, who now face increasing barriers to accessing lucrative international markets (Zhunusova et al., 2022).

2.4 National and local enactments

No analysis of IFG is complete without considering its enactment in the particular countries and localities in which it 'lands'. While this Section's case studies serve in part to illustrate contextual diversity, they also speak to certain common trends and tensions. Recent years have seen a wave of authoritarianism and nationalist populism among many nation states, driving a growing resistance to certain forms of political and economic globalization. Yet, at the same time, we see a re-centralization of state power. There are also seemingly counter-trends towards devolution of authority to manage forest resources to subnational and local, community levels.

The following case studies examine these tensions through the examples of Social Forestry in Indonesia, Landscape Approaches in Ghana, Argentina's sylvopastoral movement, Nature Recovery in Scotland, and Finland's forest-based bioeconomy.

2.4.1 Social Forestry and the new entrepreneurship in Indonesia

Social Forestry (SF) in Indonesia developed from a few small experiments in the 1970s to a national programme in 2016, evolving from an initial focus on conservation to a focus on improving livelihoods, and more currently, to support climate change mitigation and adaptation. SF was included in the Indonesian national strategic programme to promote economic equity in 2018 (PERPRES, 2018) with a target of 12.7 million hectares of forest land to be allocated to local communities by 2030. The official definition states that local and Indigenous communities are to be the main actors. Yet, except for the customary forests *(Hutan Adat)* that provide ownership rights, the other SF schemes basically act as permits for forest management granted by national government. Progress towards meeting the target has been slow, and every year there are calls to accelerate SF development.

In its current form, the national programme heavily emphasizes individual rather than communal incentives. The role of local people and communities as entrepreneurs is a core feature, and the strategy stresses the establishment of SF as a business, by bringing together communities, cooperatives, and corporations – what Li (2021) called a neoliberal constellation. The new Law on Employment Creation (Law 6/2023) strengthens this trend and has changed "permits" to "agreements", even though the procedure to gaining this permit or agreement remains the same and is ultimately signed off by the Minister of Environment and Forestry of Indonesia. Thus, SF groups have to establish entrepreneur groups or KUPS *(Kelompok Usaha Perhutanan Sosial)* and submit a 10-20 year business plan. Only through KUPS can communities receive training and other support to market their timber and non-timber forest products. Success is then evaluated based on the degree of economic development on a scale from blue (newly established and having a clear business plan) to platinum (self-sufficient and profitable). Success is evaluated based on the development of the enterprise and ranked from blue to platinum based on legality and capacity to access capital and global markets. With social forestry business groups typically being local, rural, and with limited capacity, it is not surprising that few attain platinum level, in essence, 0.6% of the 10,297 KUPS established by the end of 2023 (Republik Indonesia, 2023). In other words, SF as stated in this law is evaluated on the basis of commercialization and competition in the global market, regardless of the relative benefits it brings to local communities (Li, 2021).

Since 2020, SF is also expected to be managed as Integrated Area Development (IAD), following the global trend in a landscape approach to forest and land government. SF is expected to be integrated into village and regional development in coordination with non-forest sectoral agencies, the private sector, universities, and non-governmental organizations. As a concept, IAD integrates social, ecological, and economic aspects with emphasis on regional economic development. The govern-

ment is testing the SF-IAD models in 25 locations (20 provinces) as of mid-2023. While the role of the state is obscured through the language of business models and agreements, the implementation and coupling of SF with IAD appears to suggest a process of re-centralisation. Whereas SF is planned and implemented at village level, IAD re-centralizes the process to district and provincial levels on the grounds of a regional integrated approach (Presidential Regulation No.28, 2023, article 12). This raises familiar cross-sectoral and cross-level institutional issues, and confusion at community level, particularly as the priority over the past decade has been the rapid issuance of permits.

The understanding and practice of SF as a neoliberal enterprise with forest-based businesses and communities entering into partnerships with corporations promises a new avenue for local economic development, and suggests a bottom-up approach. Yet, the reality of this 'new' SF in Indonesia raises several concerns: Firstly, monetary values and valuations have become the norm, as encapsulated in 'platinum' standards, and often at the expense of local and social values for cultural or conservation benefits that were the heart in the original intent of SF (Erbaugh, 2019; Sahide and Giessen, 2015; Wong et al., 2020). Secondly, transforming a social forest into a business enterprise also implies changing social relations, with new SF enterprises replacing existing cooperative structures and/or marginalising existing groups (Moeliono et al., 2023; Sahide et al., 2020). And thirdly, power asymmetries between emerging local forest businesses and their partnerships with larger corporations risk to repeat business as usual situations when it comes to the question of who will benefit from this development (Miller, 2022). Yet, there are also interesting forms of resistance emerging. In Sulawesi, for example, researchers found multiple locations where communities 'silently' oppose the established arrangements and have effectively transformed SF into what might be referred to as 'new commons' (Batiran et al., 2021; Faturachmat, 2023; Herrawan et al., 2022; Sirimorok, 2023).

2.4.2 Landscape approaches in Ghana: International finance versus devolved authority

The Ghana Cocoa Forest REDD+ Programme (GCFRP), launched in 2019, represents a pioneering effort to implement landscape approaches as a dominant land use strategy. The goal of this strategy is to improve coordination and cooperation among different actors and interests operating in Ghana's productive cocoa forest landscapes. This has involved creating Hotspot Intervention Areas (HIAs), covering 200,000-350,000 hectares. These HIAs involve the collaboration of state, private, and NGO organizations, collectively, to develop and support Community Resource Management Areas (CREMAs) and to scale them into multi-tier landscape management forums that support sustainable land use practices. The processes involved are resource demanding; three out of six planned HIAs are ongoing.

Despite some positive developments, realizing effective HIAs in Ghana has been challenging. HIAs are designed to align with international carbon and climate finance objectives, which often contrast with local needs and priorities. Collaboration between cocoa and forest stakeholders has improved through HIAs, but there are various structural limitations to the devolution of rights under the CREMAs structure. These include farmers' limited access to living income (Adams and Carodenuto, 2023), their lack of ownership rights to naturally regenerated trees (van der Haar et al., 2023), and persistent food insecurity, particularly affecting vulnerable groups like tenant farmers and sharecroppers (Amfo et al., 2021; Dompreh et al., 2021; Iddrisu et al., 2020). Yet, these issues, including the need for fundamental reforms to tree and land tenure, remain largely unaddressed within ongoing HIA processes.

2.4.3 Sylvo-pastoral systems in Argentina: Cattle to stop deforestation?

South America, particularly Brazil and Argentina, is a key region for cattle production, hosting approximately 27% of the global cattle stock (FAO, n.d.; Fernández et al., 2020). The importance of cattle ranching in the region has been growing in the last decades, emerging as a major driver of deforestation in different regions such as the Amazon and the Gran Chaco (Fernández et al., 2020). As a consequence, several international initiatives have aimed at establishing zero-deforestation cattle commitments, mainly aiming at large, multinational companies (Levy et al., 2023).

In Argentina, approximately 60% of the natural forests host some type of livestock production, with varying levels of intensity and planning, ranging from extensive community forestry farming to more concentrated, intensive models (Peri et al., 2022). Between 1998 and 2018, Argentina lost 6.5 million hectares of natural forests mainly due to the expansion of the agriculture frontier, turning the Gran Chaco, South America's second-largest forest, into a global deforestation hotspot (Zalles et al., 2021). Deforestation in the Chaco has led to

large socio-ecological conflicts, negatively affecting forest users, particularly Indigenous peoples and criollo smallholder farmers (Mosciaro et al., 2022; Tschopp et al., 2020).

As a response to the high deforestation rates, in 2007 Argentina adopted a new forest law (Law 26/331) which promotes the conservation of natural forests through land use planning establishing three conservation categories: Category I (red) of high conservation value, where forest management is prohibited; Category II (yellow) with moderate conservation value, permitting forest management under an approved sustainable forest management plan; and Category III (green) of low conservation value, where forests can be converted to alternative land uses, such as agriculture (Burns and Giessen, 2016). However, deforestation rates were not reduced. In 2015, the national government, aiming to address deforestation and forest degradation, while simultaneously offering viable solutions to smallholders, approved a new institutional agreement between the Ministry of Agriculture, Livestock and Fisheries, the Ministry of Environment and Sustainable Development, and the National Institute of Agricultural Technology, allowing sylvopastoral systems in forests in Category II under the label of "Forest Management with Integrated Livestock" or MBGI for its acronym in Spanish (Huaranca et al., 2019; Peri et al., 2022).

As a component of Argentina's REDD+ strategy, MBGI was proposed within the REDD+ Results-Based Payments approved by the Green Climate Fund in 2020. This strategy aims to expand the MBGI area by a minimum of 300,000 hectares by 2027, with a particular emphasis on engaging criollo smallholders as one of the main target groups of this policy (Tschopp et al., 2020). Establishing 7 guiding principles, as well as a set of indicators at the farm level, this policy has been greatly praised in the country as a way of linking conservation and production interests, following a land-sharing approach where agriculture and conservation practices take place in one same landscape; contrary to land-sparing approaches where agriculture is segregated from conservation activities by using intensive forms of production (Huaranca et al., 2019). However, the effects on deforestation and carbon mitigation of scaling the initiative at larger geographical scales is still unclear (Castro-Nunez et al., 2021). Additional critics have focused on the risks of the generalization of the plan across different regions of the country with very different forest dynamics, where the effects of such interventions have been less studied.

In sum, there is some evidence that the adoption of sustainable sylvopastoral systems, exemplified by initiatives such as MBGI, could improve livelihoods, ecosystem services, and carbon sequestration in specific regions if it is carefully tailored to local context (Castro-Nunez et al., 2021). More generally, this case highlights the importance of decentralized approaches that are sensitive to regional differences within country boundaries rather than generalized approaches that are meant to be applied uniformly across various ecological and social contexts.

2.4.4 Nature Recovery in Scotland: Whose nature on whose land?

'Nature recovery' and the related concept of 'rewilding' are gaining increasing social and political momentum in the United Kingdom. These terms refer to efforts to restore natural processes and ecosystem functionality (Perino et al., 2019; Pettorelli et al., 2019), often based on a perceived human/nature duality (Lorimer, 2015). Proponents of rewilding may also encourage the engagement of local communities (Martin et al., 2021; Wynne-Jones et al., 2020). However, some critics argue that these social objectives sit uneasily within a movement defined by the absence of humans on the landscape, and an emphasis on scientific over local knowledge and experience (Martin et al., 2021).

These tensions are particularly pronounced in Scotland, a land with a complex and contentious history of Highland and Lowland Clearances (forced evictions and relocations of tenant farmers and communities), and a culture of land use decisions being dominated by large estates owned by wealthy individuals and institutions (Geisler, 2015). Despite continuous efforts for land reform (Bryden and Geisler, 2007; Glenn et al., 2019), these patterns have contributed to significant concentrated land ownership, which has implications for the disempowerment and disenfranchising of rural communities in land use decisions.

The rise of new markets for carbon and biodiversity add additional sources of tension. Already concentrated land ownership has facilitated large land purchases by so-called "Green Lairds", aiming to rewild estates and capture benefits from new ecosystem services markets (McIntosh, 2023). At the same time, and as a countertrend, Scotland's upcoming 2023 Land Reform Bill commits to increasing community ownership powers and rights, and there is rising popular pressure to integrate ecological restoration with community well-being, community ownership of land and agency over decision-making, in order to respect and protect

human connections to the land and address historical inequalities. Some stakeholders have promoted the concept of proactive community rights over land use and ownership, envisioning a future where community organisations have significant authority over land, enabling them to acquire, develop, and shape land use according to their needs (Doyle, 2023).

Despite these countertrends, inherited and pervasive inequalities of land access continue to undermine opportunities for more participatory and collaborative approaches to the governance of nature recovery. For example, Martin and colleagues concluded that community participation in rewilding in Scotland has been highly "variable, selective, and conditional" (Martin et al., 2023, p. 88), and found a range of barriers to meaningful and inclusive participatory decision-making. This included a strong conservation imperative which highlighted a tension between the need for action to address biodiversity loss, versus the perceived value of community engagement and agency; participation was perceived as complicated, time consuming, and a distraction from the urgent biodiversity crisis (Martin et al., 2023; Tozer et al., 2020).

The Scottish case highlights important questions for IFG globally. To what extent is it possible or desirable that concepts such as 'rewilding' and 'nature recovery' be socially inclusive, and embed pluralistic understandings of nature, and of the role of humans in it (Martin et al., 2021; Wynne-Jones et al., 2018)? Some argue that actively involving and empowering rural communities is essential not only to address ecological concerns, but also to achieve broader social, economic, and cultural transformations.

2.4.5 Finland's forest-based bioeconomy: Fertilizing forests for climate change?

The Finnish government is committed to achieving carbon neutrality by 2035. Meanwhile, demand for forest-based products is expected to rise as a result of factors such as the energy crisis, a desire to become self-sufficient, and a higher demand for bio-based products across different sectors. A forest-based bioeconomy is the country's main strategy to enable this transition and respond to the demands. The Ministry of Agriculture and Forestry (MAF) has taken the initiative to promote forest fertilization as one of the main measures to boost increased forest productivity, in addition to timely forest management and tree breeding (MAF, 2023). The National Forest Strategy 2035, which was published at the end of 2022, outlined three key priority projects to guide the use of Finnish forests: i) Growth of Forests, ii) Biodiversity in Commercial Forests, and iii) Renewal and Competitiveness of the Forest Sector (MAF, 2022). The key project Growth of Forests aims to increase carbon sequestration and wood production with responsible forest fertilization, which is a new addition to the strategy that was not included in the previous version published in 2019. The strategy does not specify the extent of the area to be fertilised or whether it should be on state or private land, but one aspect of the initiative is to educate forest owners about forest fertilizing.

Fertilizing is supported as a silvicultural method in both state- and privately owned forests in Finland through programmes and advisory services. Forest fertilization peaked in the early 1970's, when excessive fertilisers ended up in water bodies causing eutrophication (YLE, 2018). Since then, fertilizing has been monitored more strictly to avoid harmful effects, and for example, both PEFC and FSC have standards for fertiliser use in certified forests. The Catch the Carbon Research and Innovation Programme is part of the MAF's set of climate measures in the land use sector, aimed at reaching the carbon-neutral Finland target by 2035. The Catch the Carbon programme frames fertilization as climate action and aims to assess its impact on biodiversity and water bodies in forest environments, as well as to set incentives and drawing recommendations for forest fertilizing based on research findings (MAF, 2021). According to Metsähallitus, a state-owned corporation that manages state-owned forests, fertilization is an investment in forest development and health (Metsähallitus, 2024). Metsähallitus intends to increase the annual area of fertilised forest in state-owned forests from 15,000 to 30,000 hectares (YLE, 2021). Annually, 75,000 hectares of Finland's 26 million hectares of forest are fertilised (Metsäkeskus, 2022). The Finnish Forest Centre is an advisory body for forest owners on the management, use, and protection of forests, directed and financed under the MAF. According to the Forest Centre, fertilizing is the fastest approach to increase forest growth, improve profitability of forestry, and increase forest carbon sinks (Metsäkeskus, 2022).

Yet, while fertiliser use today in Finnish forests is firmly placed within a climate mitigation agenda, there is little discussion in Finnish policy and public on the greenhouse gas emissions associated with the production and transport (including application through, for example, helicopter use), and our review of the Finnish forest science literature did not produce many results. Common forest fertilisers used in Finland contain energy-intensive

nitrogen and phosphorous, that has been mined for and transported from elsewhere. Snyder et al. (2009, p. 263) suggested a range "from 2.6 to 3.2 kg CO_2 equivalents per kg of N for anhydrous NH_3 and urea", but flagged that it can be much higher for sources containing NO_3^-. A global assessment by Menegat et al. (2022) highlighted that on global average, production and transport of fertilisers alone might account to more than 40% of all emissions related to fertilisers. The authors point out that reducing overall production and use of synthetic N fertilisers offers large mitigation potential. In addition, discussions about recurring negative effects through increased fertilization levels for biodiversity and water basins remain to be largely absent in Finnish forest policy processes. A study from 2014 (Högberg et al., 2014) found that fertilization negatively affects reindeer herding, as fertilisers have a direct negative impact on growth of lichen that reindeers feed on. A study conducted in Sweden discovered that nitrogen fertilization reduced berry production by 70%, resulted in lesser biodiversity when compared to non-fertilised forests, and resulted in long-term residual effects of nitrogen fertilization on ground vegetation (Strengbom and Nordin, 2008).

In summary, forest fertilization has been reintroduced in the Finnish forest policy arena. Less attention is given to the negative climate effects related to the full life cycle of fertiliser production, transport, and use, and the question whether forest fertilization is consistent with sustainable forest management principles and biodiversity preservation. It seems that the ongoing climate crisis has, to some extent, legitimized excessive forest management techniques, such as fertilization, which has been placed on the political agenda as a means of achieving climate advantages.

2.5 Summary and Conclusion

Following on Rayner et al. (2010), this chapter has traced the continued expansion of the actors, interests, ideas, and institutions involved in IFG across global, regional, bilateral, and unilateral scales. Together they provide increasingly comprehensive coverage of forest-related environmental, social, and economic values. This comprehensiveness, however, masks ongoing contentions over who writes the rules of IFG, for what purpose and priority, and for whose benefit.

In parallel with the expansion of IFG there are rapid advances in science and technology that enable ever more precise measurement of certain forest values (e.g., forest cover change) while others remain in relative obscurity (e.g., biodiversity, social values). While there is a recent counter-trend (e.g., under IPBES, Indigenous forums, and elsewhere) towards integrating local and traditional forms of knowledge to redress these knowledge lacunae and power imbalances, the combination of calls for rapid action, and the financialization of IFG, drive demand for standardised, scientific data and create barriers to the integration of locally contextualised knowledge co-production.

Meanwhile, global dissatisfaction with progress in IFG is palpable in the face of accelerating climate change, biodiversity loss, and rising income inequalities within and between countries. This has driven a rapid proliferation of targets, from the New York Declaration on Forests to the Glasgow Forest Pledge, Bonn Challenge, Kunming Declaration, Net Zero emissions, Zero hunger, etc. This focus on singular, reductionist targets means they often work in parallel to each other, generating a correspondingly rapid growth of science and technology to measure and model progress towards individual targets in ways that obscure the tensions between them.

A sense of growing urgency and political pressure also further spurs the strategic shifting of different coalitions of actors across scales and across regions as they seek various venues for influence.

While the UNFCCC and CBD remain the core global intergovernmental agreements of direct relevance to forests, at least in terms of global-scale political and financial investments, they continue to develop largely in parallel, with conflicting emphasis on finance for forest carbon and biodiversity protection, respectively. The 2014 UN SDGs and emerging concepts such as landscape approaches and NbS represent efforts to bridge the broader diversity of forest-related goals and priorities.

At the same time, a perceived lack of progress in intergovernmental agreements to agree on binding rules and burden sharing, combined with the perceived need and incentives to attract finance from powerful actors, and the quantification of forest values has driven a further financialization of IFG. This is epitomized in the growth of public and private forest carbon and other ecosystem services markets, and what some authors call the 'climatization' or 'hollowing out' of IFG (Singer and Giessen, 2017).

Section 2.3 of this Chapter highlighted another key trend of IFG in the form of increasing regionalism, bilateralism, and unilateralism. These smaller 'coalitions of the willing' serve in part as a means to bypass international stalemate and focus on differing priorities. These may range from regional integration, such as the case of the EU or ASEAN, or VPAs between the EU and tropical timber produc-


GLOBAL
UN Goal-setting/ Pledges
The Bonn Challenge
New York Forest Declaration
Sustainable Development Goals
UNFF
CBD
Aichi Targets
UNFCCC
Cancun REDD+ Safeguards
Warsaw Framework, sets rules for REDD+ MRV
Paris Agreement
Standards
Verra, takes over mgmt. of Climate, Community and Biodiversity standards
2010
2011
2012
2013
2014
2015
REGIONAL
Africa
COMIFAC Convergence Plan
EU
EU Timber Regulation
Latin America
Amazonian Strategic Cooperation Agenda
SE Asia

Table 2.1

Timeline of key institutional developments in IFG, 2010–2022, addressed in Chapter 2

2016	2017	2018	2019	2020	2021	2022
			Decade of Ecosystem Restoration Proclaimed for 2021–2030		Glasgow Forest Declaration	
	UN Strategic Plan for Forests					
						Kunming – Montreal GBF
					Article 6 on ITMOs agreed	
				Verra Landscape Standards Launched		
			EU Green Deal	EU Taxonomy for sustainable activities	EU Forest Strategy	EU Deforestation Regulation
ASEAN Strategic Plan on forestry cooperation						

ing countries. The rise of unilateral trade-based measures, such as the EUTR and EUDR focused on illegal logging and no deforestation commodities respectively, bypass international negotiations altogether in an effort to impose external priorities. While the EUTR focuses, at least in principle, on reinforcing sovereign forest laws, the EUDR prioritises deforestation-free trade with the EU regardless of whether the deforestation is legal or illegal.

In broad conclusion, while IFG has gained considerable attention and momentum over the last ten years, we have yet to see signs of major transformational change. In terms of biophysical outcomes, global rates of deforestation have slowed to some degree (FAO, 2020), but it is difficult to know how much of this is attributable to IFG versus other factors. At the same time, social inequalities persist, further aggravated by external factors such as geopolitical tensions, global pandemics, and climate change.

Nevertheless, and as captured in Rayner et al.'s (2010) call for "Embracing Complexity", the very complexity of IFG includes within it ongoing struggles, counter-trends, and counter movements. Arguably, these represent critical sources of positive change and transformation, through the co-creation and sharing of power, benefits, and knowledge, both within and beyond IFG.

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3

Chapter 3

The Forest-related Finance Landscape and Potential for Just Investments

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CONTENTS

Abstract

Over the past decade, the *forest*[1]-related finance landscape has further grown in complexity. While public and private sources provide financial incentives in support of forested lands and forest-reliant people, financial interests simultaneously drive forest conversion and its attendant negative impacts on society and nature. In this Chapter, we examine the implications of current forest-related finance landscape on social and environmental justice and pathways that could fundamentally transform this financial landscape. Based on a careful review of studies, we find an orchestra of forest-related finance – to halt *deforestation* and degradation, as well as to grow trees and forests. Part of this finance is led by states (e.g., through taxes, loans, grants), while others are based on markets (e.g., equities), philanthropy (e.g., grants), or community-led finance. The related finance instruments range from those that adjust or augment markets (e.g., carbon tax and land tax) to those that create new markets (e.g., emissions trading schemes). Finance related to markets and a growing financialisation of the forest sector (and forest lands) that prioritises short-term financial gains have been criticised for either neglecting, or perpetuating inequalities, and have been shown to be a major driver of deforestation and biodiversity loss. Alternative finance that includes global mechanisms, state-based tax mechanisms, philanthropy, and community-led mechanisms that aim explicitly for social and environmental justice may be more effective to directly redress inequalities and tackle the driving forces behind the triple problem of deforestation, biodiversity loss, and unsustainability. The review of the literature indicates that market-adjusting and -augmenting measures persist, alongside a rapid rise of market-creating sources of finance. Alternative, just finance and the financing of market-resisting activities to halt forest loss and enable reforestation are, at present, still marginal.

3.1 Introduction

For decades, the forest-related finance landscape has grown in complexity. To this day, it spans a wide array of actors, instruments, and objectives, from regulating access to forests and forest lands, incentivising growth of the forestry sector, to funding efforts and instruments to halt the loss of forests for biodiversity and the climate. Yet, according to the 2023 report on the state of finance for nature (UNEP, 2023), finance for agriculture and forestry driving negative impacts on nature is greater than financial flows to halt deforestation and maintain or enhance biodiversity (UNEP, 2023), and reproduces existing inequalities (Brockhaus et al., 2021; Clapp and Purugganan, 2020). This begs the question of how to finance, and what types of finance are needed for alternative and just forest *governance* practices.

In this chapter, we aim to tackle this question by examining the forest-related finance landscape and implications for social and environmental justice. Addressing these issues must entail untangling the complex power relations about the actors, their interests, values and activities in the forestry sector. The report "Embracing Complexity: Meeting the Challenges of International Forest Governance" (Rayner et al., 2010) addressed some of these questions. We take stock of the forest-finance landscape since the report's publication more than a decade ago. Building on a review of the literature and open access databases, we examine the instruments and objectives pursued by these, the main actor-led (state, markets, philanthropy, and community-led) efforts to conserve, restore, manage, and industrially use and extract forest resources.

There is a plethora of forest-related finance that aim to support or incentivize alternative governance, including the Green Climate Fund, voluntary carbon markets, philanthropic 'aid', bilateral and multilateral funding initiatives, and mechanisms such as Reducing Emissions from Deforestation and Forest Degradation (REDD+), *Forest Landscape Restoration, Payments for Ecosystem Services*, as well as fiscal transfers and financial and distributive instruments such as instruments to govern supply-chains associated with deforestation. New pledges and initiatives for more financing have spiralled on the global stage, such as the Global

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

Forest Finance Pledge made at the Glasgow COP26, or the Investor Initiative for Sustainable Forests (Muller and Robins, 2022). But recent research (e.g., Forest Declaration Platform, 2022) questions the accountability of these commitments. Philanthropy has (re)entered current forest governance debates, for example with the Bezos Earth Fund becoming the main funder of REDD+ in the Democratic Republic of the Congo (DRC), with nearly USD 30 million (Atmadja, 2023). Another more recent development is the proliferation of sustainability coalitions and initiatives in the financial sector over the last decade.

This rapidly evolving financial landscape demonstrates a growing interest in blended public and private finance to support a sustainability transition, and new initiatives are often led or championed by an assemblage of central bankers, finance ministers, institutional investors, asset managers, and broad international coalitions (Crona et al., 2021). However, the clamour for green finance overlooks some of the more complex political and economic drivers that undermine the protection and stewardship of forests, *ecosystems*, and biodiversity, such as perverse subsidies, tax avoidance and evasion, and national debt (Dempsey et al., 2022; Galaz et al., 2018; Meyfroidt, 2018). The finance question in this chapter, therefore, takes seriously the issues of risk sharing or risk avoiding, incentives, and disincentives in forest-finance research (e.g., Crona et al., 2021).

We carry out a comprehensive review of existing literature in the academic, media and policy outlets, and open access databases such as the United Nations Forum on Forests (UNFF) Clearing House for Forest Finance. A comprehensive review of other studies about the finance-forestry landscape is preferred to a systematic review because of its well-known strength to include studies that are published in the form of books, reports, and other sources not indexed in traditional databases. Doing so also ensures more reliability and includes a variety of issues or topics in assessing the state of the forest-finance landscape since 'Embracing Complexity' was published some 14 years ago. This chapter is organised in three main parts. Sections 3.2 and 3.3 introduce the forest-finance landscape and its evolution, and provides an overview of existing types of finance. Section 3.4 discusses the implications of current forest-finance for social and environmental justice. The chapter concludes with Section 3.5 emphasising key themes that have dominated the literature, and those that hold the potential to more fundamentally transform the financing of forests.

3.2 The forest-related finance landscape

The report "Embracing Complexity: Meeting the Challenges of International Forest Governance" (Rayner et al., 2010) was commissioned by the Collaborative Partnership on Forests' Global Forest Expert Panels (GFEP) Initiative, and highlighted the high degree of complexity of International Forest Governance – and with it, of forest-related finance. Many more actors beyond the forest sector are now involved. These actors outside the forest sector are mainly within the international trade, agriculture, energy production, mining, and infrastructure sectors. During the early 2000s, the overall forest-finance landscape was predominantly state-led and market-based, including through Official Development Assistance (ODA), company bonds, certification, and the emerging Clean Development Mechanism (CDM) and REDD+. In addition, Rayner et al. (2010) identified philanthropy-led forest finance as being of growing importance within the forest and climate domain and beyond. Discussions of (new) forest-related finance at that time were dominated by the introduction of market-based funding mechanisms related to *climate change* mitigation and the adaptation of forests and people. The CDM, as argued by Rayner et al. (2010, p. 48), had been considered "unsuccessful in raising significant funds" for A/R *(Afforestation/Reforestation)* projects. Then, REDD+ emerged in the early 2000s as an additional policy and finance tool in the climate and forest policy arena (see Box 3.1 on REDD+ Finance). Initially envisioned as a form of a global, market-based payment for environmental services scheme for forests in *Low- and Middle-Income Countries*, it was considered a cheap, quick, and easy mechanism in efforts to mitigate climate change (Angelsen et al., 2009).

Today, almost everywhere, forest-related finance has become the focus of much attention. Public, private, and blended forest-related finance flow across multiple levels of governance, and often over large distances (Liu et al., 2013; see also Box 3.2 on tree plantations in Pitas, and Box 2.1 in Chapter 2 on REDD+ finance in Mai-Ndombe). In the finance literature, approaches to map the forest-related finance landscape typically differentiate sources and intermediaries (e.g., governments, financial sector, producers/corporates, social groups), and include details on type (public, private, blended) and scale (domestic, international) (Humphreys et al., 2019; Singer, 2016). Objectives, types, and targets of the financial instrument are also part of the analysis and tracking of forest-related finance. Examples of this are the Land-use

Box 3.1

REDD+ Finance: Projects, credits, and transactions – from market registries to blockchain technology

The International Database on REDD+ projects and programmes (ID-RECCO) contains information on more than 600 REDD+ projects across 56 countries, including the number of carbon credits retired by projects per year. Converting this information into USD is difficult because data on prices are very scarce: Voluntary Carbon Market (VCM) registries (such as Verra, PlanVivo, or Gold Standard) do not publicly share information on transaction prices, they only share information on the magnitude of carbon credits transacted. Nevertheless, paid services to access the data exist, for example private companies such as S&P Global Commodity and Xpansiv provide such market intelligence services to their clients.

During the early phases of REDD+ projects in the VCM, carbon credit purchases were mainly business-to-business deals, involving large amounts (more than 10,000 million tCO_2eq) of offsets. Nowadays, carbon credit purchase is increasingly popular: demand is rising from individual buyers and corporations alike, and companies are trying various ways to make carbon markets accessible for a variety of buyers. While business-to-business purchases continue to exist, increasing interest by individuals to offset their personal emission has opened opportunities for new carbon-credit retail services to cater for those trying to offset small (e.g., 1-10 tonnes) amounts of greenhouse gases emissions through mobile apps such as Klima (by Climate Labs GmbH) and My Tree. Carbon trading/brokerage companies link carbon buyers to sellers, either working independently, or as part of a network. For example, Plan Vivo works with resellers (Plan Vivo, n.d.) that help link buyers to sellers.

Private companies are becoming more involved in a wider range of functions beyond financing REDD+ projects, and some are closely affiliated with particular projects and function as fundraiser, transaction advisor, marketer, technical advisor, and project developer (e.g., Permian Global, South Pole, VNV Advisory). Blockchain technology has been developed by some companies (e.g., Toucan.earth, Roxi.Earth) to 'tokenize' (i.e., standardize) carbon credits from various projects, and sell them as cryptocurrency. The move to tokenize carbon credits, including from REDD+ projects, has been controversial, and received pushback from carbon standards such as Verra (Chow, 2022). Other platforms, such as CarbonPlace, also try to connect buyers to sellers, and are backed by well-established commercial banks such as BNP Paribas, UBS, or Standard Chartered. Note that the definition of terms such as "credits", "tokens", or "certificates" are part of an emerging concept in quantifying nature to stimulate investments in nature and are still new and not agreed upon (GEF, 2024).

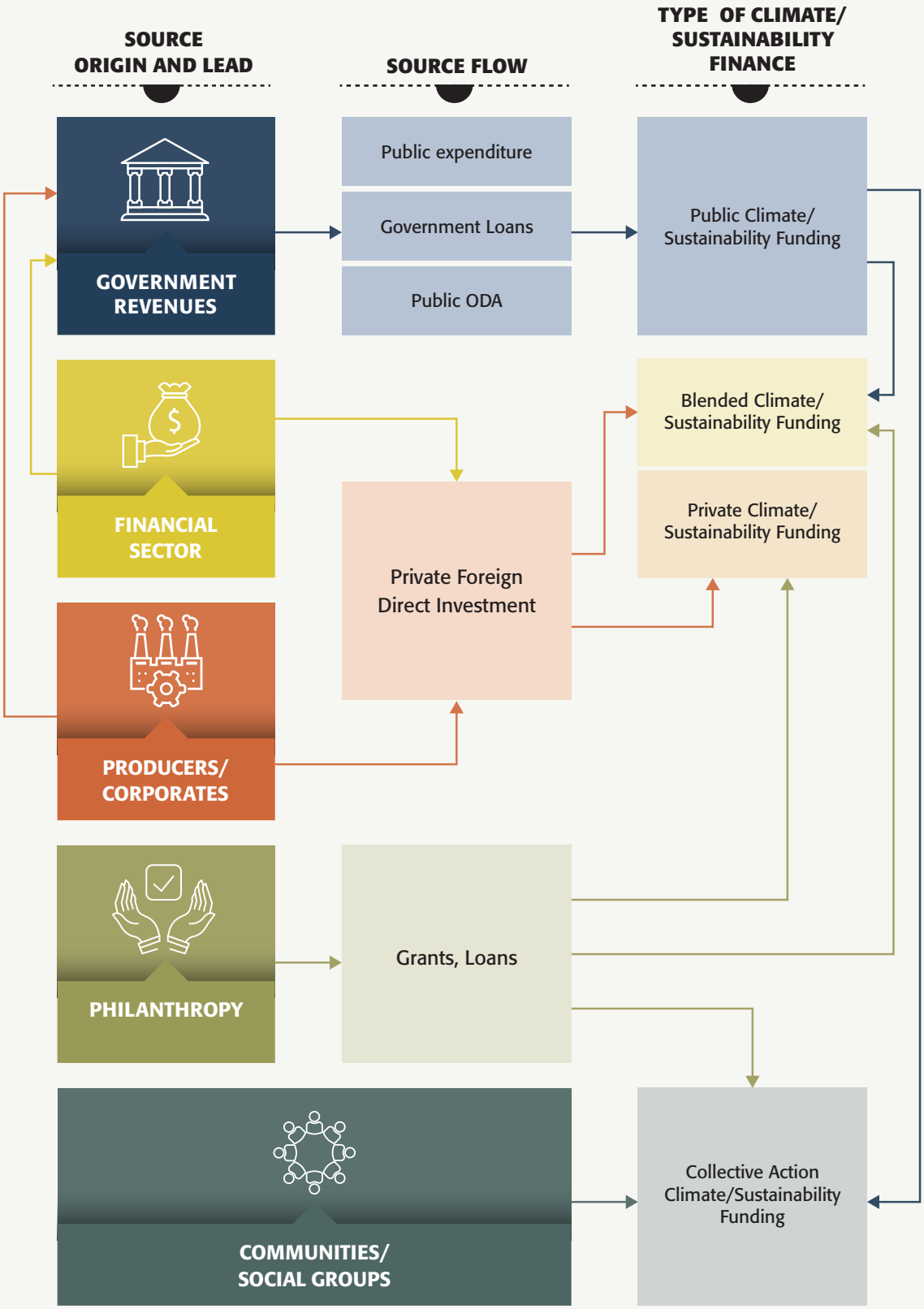
Finance Tracker (EFI and CPI, 2023), GCP's Little Finance Book (Oakes et al., 2012), or UNFF's Issue Brief on Forest Finance (UNFF, 2016).

Figure 3.1 shows these different sources, including government revenues (state income generated from taxes or loans), the financial sector (institutions and firms receiving income through the provision of financial services such as banks, or timber investment management organisations), and the production and corporate sector (for example, concession holders generating income from the extraction of timber, or companies producing pulp and paper). In addition, sources of forest finance can also include philanthropy (foundations built with capital originating from for-profit activities that provide grants in support of, for example, local groups or researchers), and communities that collect funds from their members, crowd-funding initiatives, or saving clubs, and use them for machinery, infrastructure, etc.). The Figure also shows how these different sources provide different types of funding. For example, state-led funding mainly flowing through public expenditures, loans, and grants, partly for public climate and sustainability goals.

Forest-related finance can come in the form of development assistance or as direct investments for rural and industry development, infrastruc-

Figure 3.1

Origins, flows, and types of forest-related finance, and specifically, climate/sustainability funding: public and private finance including philanthropy, community, and social group finance.



Source: Adapted from CPI, 2023; Parker et al., 2009; UNFF, 2016

ture, climate mitigation and adaptation, sustainability, environmental protection, research, capacity building, community empowerment, and many more specific objectives. Finance is provided through loans, grants, bonds, equities, and more recently, also as results-based payments. In addition to state-led forest-related finance, both supporting the forestry sector and realising and protecting socio-environmental goals, we see increasing (carbon) market-based initiatives and philanthropy being engaged in the forest-finance landscape. Community-led finance, with its partial links to philanthropy-led initiatives, is receiving renewed attention (Rights + Resources, n.d.).

In 2015, the UNFF established the Global Forest Financing Facilitation Network to facilitate access to and effective use of funding for forests, to share data and best practices on forest financing, and ultimately, to contribute to the achievement of the Global Forest Goals of the United Nations (UN) Strategic Plan for Forests 2030 (UN, 2017). Information on forest finance is collected by the UNFF Clearing House of Forest Financing (UNFF, n.d.), where 161 entries were available at the time of writing. Nevertheless, a major limitation of the database is the lack of availability of the volume of actually disbursed finance. However, the following figures (Figures 3.2, 3.3, and 3.4), showing types, overall theme, or goals of the finance and their recipients provide us with an overview of the diverse channels through which finance flows. One key finding of our review is the diversity of different types, themes, and goals recorded in the database, revealing a few dominant elements showing up in more than half of the entries. For example, Figure 3.2 shows that grants and loans represent more than half of all recorded funding types in the Clearing House database, followed by technical assistance and equities (covering another quarter of types). This gives an idea of the relative size of funding sources represented in Figure 3.1, meaning that the state finance and corporate sectors provide the largest number of funding types. However, these are only estimates, as the database does not provide full information on volumes and time spans covered by the different types of finance.

Figure 3.3 shows the wide array of themes that the recorded forest finance covers. Here, the dominant entries are forest conservation and management, biodiversity conservation, and forest landscape restoration, together with sustainable land use, and private sector/industry activities. REDD+ features as a theme in less than 10% of the entries in the database. However, it should be noted that the very prominent forest landscape restoration, while not labelled as REDD+ in the funding reports, does represent one of the increasingly prominent activities under the mechanism (McDermott et al., 2022).

More than half of the recorded finance in the database indicate that Non-Governmental Organisations (NGOs – including interest organisations), governments, and businesses, receive the largest and relatively equal shares (Figure 3.4).

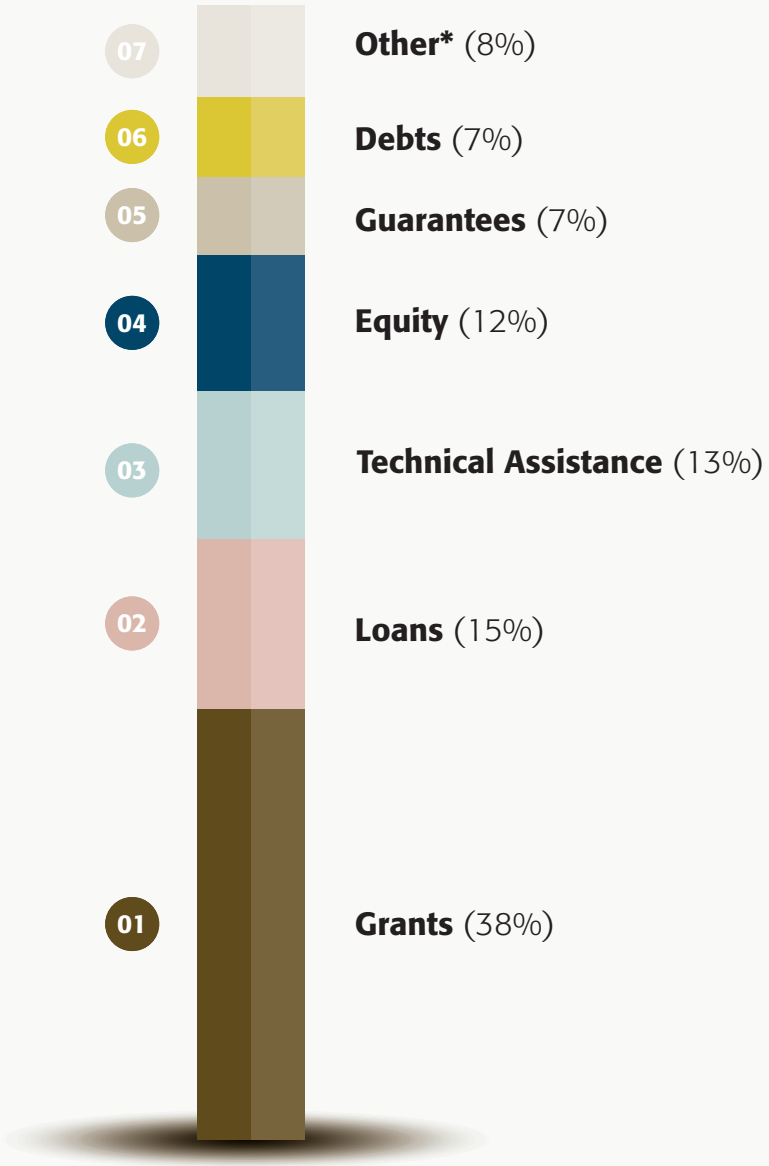
We show the increasingly complex finance landscape and the often-overlapping sources, themes, and flows through the example of REDD+. Financial flows for REDD+ can be defined in two ways: First, direct REDD+ finance, defined as financing for projects and programmes that are explicitly aligned to the global and national REDD+ agenda ("direct REDD+" or "REDD+ aligned" finance); second, indirect REDD+ finance for activities that support the objectives of reducing greenhouse gas emissions from various activities that reduce forest cover and quality from deforestation and *forest degradation*, enhancing forest carbon stocks (e.g., forest restoration, afforestation/reforestation), and sustainably managing existing forests (European Commission, 2018). In the literature, REDD+ finance has been characterized in several ways (e.g., European Commission, 2018; Lujan and Silva-Chávez, 2018): i) by financing source, divided into public (multilateral, bilateral, domestic), private (foundations and companies), and public-private sources; ii) by type, divided into grants (payments not conditional on emission reduction), results-based payments (RBP) conditional on emission reduction, equity investment, and (recently) loans; iii) by financed activity phase, divided into Jurisdictional REDD+ (readiness, implementation, and RBP phases), and REDD+ finance and carbon accreditation (preparation, certification, post-certification). However, these characteristics tend to overlap over time.

These different sources and the often-overlapping flows towards different objectives reflect the complexities of the forest finance landscape. Yet, what remains most challenging for efforts to unpack the forest-related finance landscape is the quantification of sources and flows with scarce and dispersed data and lack of transparency. This seems to persistently characterise the overall forest-related finance sector (Humphreys et al., 2019). For example, for the case of REDD+, assessing the magnitude and flows (from whom to whom, for doing what) of the different types of REDD+ financial flows is challenging because of its diversity, and because datasets that separate what is REDD+ and what is not REDD+ are not readily available. Even more challenging is quantifying the role of domestic funding such as fiscal transfers for

REDD+ actions, in-kind state contribution, and finance through domestic carbon markets (Atmadja et al., 2018). Attempts to estimate REDD+ finance have thus far provided a fragmented picture. These attempts relied on either reviewing financial information from individual REDD+ funding sources (e.g., annual reports, financial disclosure statements) and surveys of actors in the voluntary carbon market (e.g., Ecosystem Marketplace, 2023, who surveys voluntary carbon market actors), or country-based case studies (e.g., studies in Côte d'Ivoire by Falconer et al., 2017; Indonesia by Tänzler and Maulidia, 2013; or multiple countries by Wolosin et al., 2016). Some studies (e.g.,

Figure 3.2

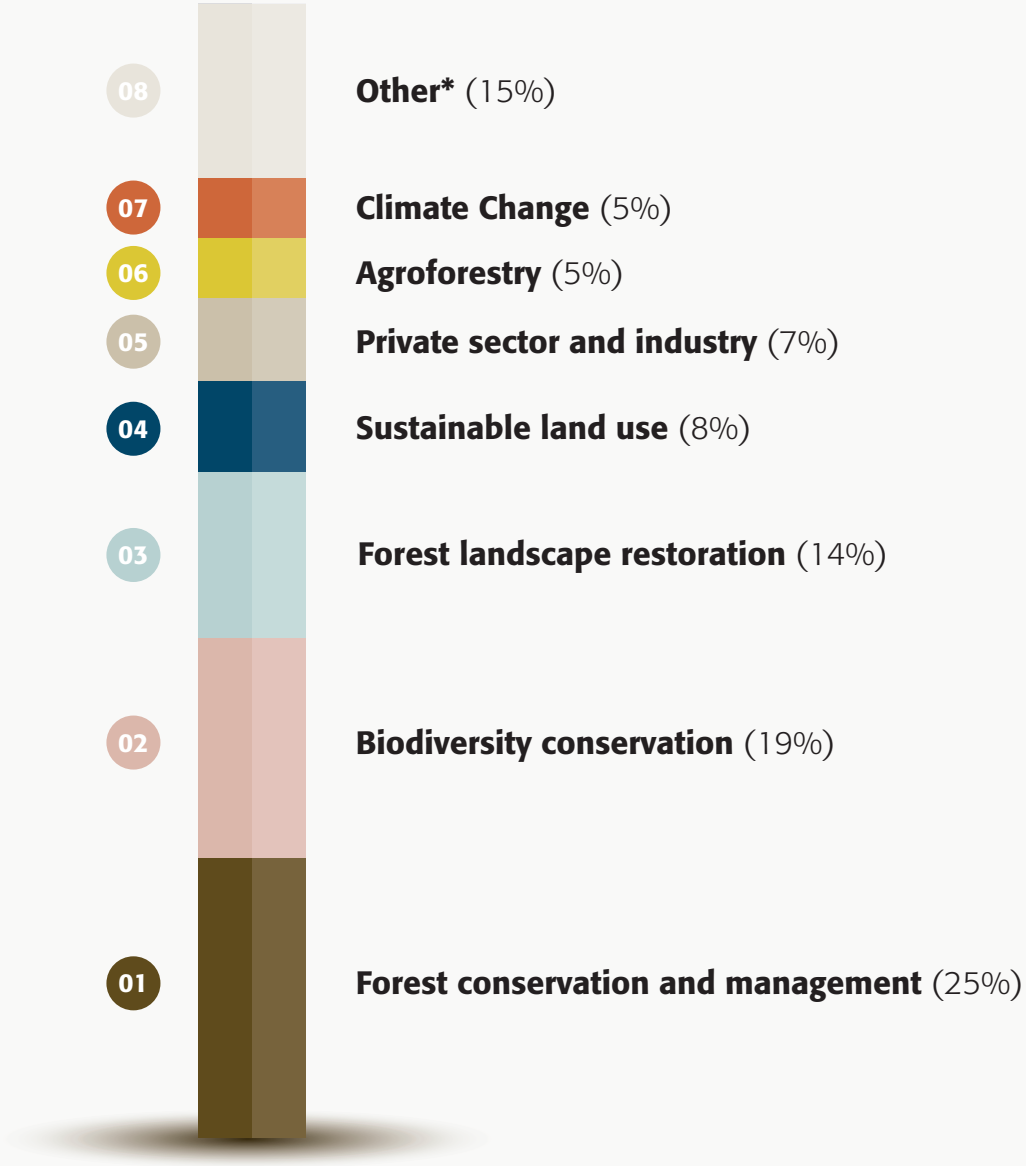
Type of forest finance as registered in the UNFF Forest Finance Clearing House



* Capacity building, Bonds, Result-based payments, Blended finance, Mezzanine finance, Advisory services, Awards, Contributions, Fellowships, Funding allocations, Project development, Project financing, Risk insurance, Verification of Credit Purchase

Figure 3.3

Themes covered by Forest Finance as registered in the UNFF forest finance Clearing House



* REDD+, Community forestry, Rural development, Forest law enforcement, governance and trade (FLEGT), Forest management certification, Renewable energy, Soil and water conservation, Financing policies and mechanisms, Eco-tourism, Forest conservation, Payment for ecosystem services (PES), Forest restoration, Sustaining cultural diversity

Figure 3.4

Recipients of finance flows as registered in the UNFF Forest Finance Clearing House

* Foundations, IOs, Associations, Conversation organisations, Early-career conservationists, Entrepreneurs, Groups, Impact investors, Indigenous organizations, Institutional investors, Land owners, N/A, Networks, Private equity funds, Public companies, Regional projects, Research groups, SMEs, Social enterprises, Start-up, Students, Thematic projects, Think tanks, Trade associatons

Norman and Nakhooda, 2015) use different sources to estimate different types of funding flows. Global, open-access datasets are available, but are either designed to track financial flows not specific to REDD+ (e.g., OECD, n.d.), or are specific to REDD+ but not designed to track financial flows (IDREC-CO, 2022). The Creditor Reporting System (CRS) of the Organisation for Economic Co-operation and Development (OECD) shows financial flows between OECD countries and (a small number of) private foundations and non-OECD countries, and includes various financial types (e.g., grants, loans, equity, export credit).

3.3 States, communities, philanthropy, and markets: Business as usual or social and environmental justice?

Despite the absence of more systematic data on amounts and flows, the literature offers insights and estimates of financial flows into forestry and forest lands, and their socially and environmentally positive (e.g., increased biodiversity) and negative (e.g., loss of IPLC's lands for environmentally harmful land uses) impacts and intersections. The global, institutional investment in forestry and forests is substantially rising, and has surged from an estimated USD 10-15 billion in the early 2000s, to over USD 100 billion today (PRI, n.d.). Linking forest-related finance to objectives of sustainability, climate, and carbon markets has been increasingly popular in the scientific literature, without much detail on who carries the costs of such developments (e.g., Silva et al., 2019). However, some work has been done with a focus on green and sustainable finance, examining Environmental, Social, and Governance (ESG) issues and the underlying risks and implications for social and environmental justice (e.g., Crona et al., 2021; Galaz et al., 2018; Meyfroidt, 2018; Singer, 2016).

More specifically, there is growing attention on the governance of supply chains (Gardner et al., 2019) and on the European Union (EU) sustainable finance framework, which aims to facilitate private finance for green and transition investments. The EU Taxonomy, with its aim to offer a common dictionary for economic activities substantially contributing to the EU's climate and environmental objectives, is also subject to research (e.g., Begemann et al., 2023), which indicates the large lobbying attention the taxonomy has received from the forest sector and related financial interests (IM, 2020). In the broader finance and nature landscape, it is estimated that USD 7 trillion of public and private finance are invested in activities considered to have negative impacts for nature. In comparison, only USD 140 billion have flowed into *nature-based solutions* (UNEP, 2023). Evidence from Singer (2016) and Humphreys et al. (2019) suggested a similar relationship of forest-related finance fuelling both sustainable and unsustainable *forest management* and exploitation. The 2023 State of Finance for Nature report (UNEP, 2023) drew attention to the negative role of public finance for forestry, defined as support for logging and timber products that incentivises harvest above sustainable rates. The report identified USD 160 billion as environmentally harmful flows of public finance into forestry. While that report did not provide estimates for private forest-related finance, Castrén et al. (2014) suggested that these comprised an annual investment of USD 1.8 billion (nearly double the investments in tropical forest conservation through the voluntary forest carbon market and REDD+). Atmadja (2023) tagged financial flows supporting direct REDD+ activities, and identified approximately USD 9 billion committed between 2010 until 2021, with USD 8.3 billion actually disbursed for direct REDD+.

Other private (and public) investments flow into the forest sector in the *Global South*, and are directed towards industrial tree plantation forestry, for example for pulp and woodchip production (see Box 3.2 on tree plantations in Pitas). While the above estimates of forest-related finance types and, specifically, the direct REDD+ funding are often only estimates, they do help to understand the relative volume of finance and objectives – and hence, the relative financial attention that is given to different interests.

Overall, recurrent themes can be found in the literature, namely state-led, market-based, and philanthropy-led forest finance, with community-led finance representing a much less prominent fourth theme that delivers on social and environmental justice, and that seems to diverge from markets without being statist. Figure 3.5 shows these different types of finance and their lead actors, as well as the main intersecting objectives. Empowerment and justice is explicitly aimed at in community-led initiatives, as well as in the intersection with philanthropy, and to some extent, in state-led and market-based initiatives, for example when emphasis is given to safeguards in REDD+ (Lofts et al., 2021), even though the effectiveness of safeguards is contested (Arhin, 2014; Hjort, 2021). While state-led finance can protect long-term interests in standing forests, current fiscal and monetary policies, incentive structures, and state-led funds often continue to support forestry business-as-usual,

Box 3.2

The financial landscape in Pitas: A contested frontier of forest plantations

The conversion of Southeast Asia's forests and agricultural lands has a long history of contestation. Dynamics related to land use change and the allocation of resources are influenced by a myriad of actors – policy makers, development agencies, local communities, and private companies – often with overlapping claims and discourses, and with their interests leveraged by finance and capital flows. This case study highlights how policies and finance – and their underlying politics – have transformed the district of Pitas in Sabah, East Malaysia, into a hotspot of *Acacia mangium* and *Eucalyptus pellita* plantations, but where the returns have not benefitted local communities, which are amongst the poorest in the country.

From local practices to global plantations

To halt the 'primitive' practice of shifting cultivation by the Rungus people in the Bengkoka Peninsula of Pitas, the Sabah Forestry Development Authority (SAFODA) was instructed by the State Government to establish 100,000 acres (40,468 ha) of plantations with *Acacia mangium* trees under the Afforestation and Settlement Scheme for the People in Bengkoka, and involve 2,000 households (SAFODA, 1984). The SAFODA scheme was initially funded by the World Bank through its forest development programme, in line with the Bank's thrust towards sustainable and "people-oriented" forestry (World Bank, 1992, p. 12) to address the growing demand of wood for industrial purposes. The Bank cancelled its funding plans in 1992, after an assessment showed that the endeavour would have little commercial success (World Bank, 1992), leaving 90% of the households stranded.

The existing management of the acacia plantation has evolved from the original SAFODA project with multiple structural changes and takeovers (Adibah and Toh, 2012; Ali and Varkkey, 2023). The company Hijauan Bengkoka Plantations (HBP) now holds the timber harvesting rights for the nowadays mature stands (15,361 ha with Forest Stewardship Council certification), while Acacia Forest Industries (AFI), a joint-venture company between SAFODA and HBP, is responsible for the reforestation and harvesting of replanted areas and any new plantation areas, which in 2019 totalled approximately 25,000 ha. There have been diverse capital flows into HBP/SAFODA/AFI, increasingly coming from equity and investment funds such as the Dasos Timberland Fund 11 (almost USD 13 million into HBP parent company in 2007) and New Forests' Tropical Asia Forest Fund 2 (TAFF 2) (WWF, 2020). In 2018, New Forests made additional equity investments into the Hijauan Group, resulting in TAFF having 84% of AFI's asset ownership (New Forests, 2018; WWF, 2020).

Local contestations and dynamic politics: An ongoing battle

At the outset of the SAFODA scheme, villagers were promised tangible socio-economic benefits and that their customary lands – on which the plantations were largely developed – would be returned to them once the trees were harvested. As such, villagers resumed their agricultural activities after the first round of harvesting. No written record exists for such assurances however, and contestations over land claims have been heated (Lasimbang and Nicholas, 2006). In 2017, SAFODA and AFI sued the villagers claiming trespass into plantation lands and destruction of property. The State High Court ruled in favour of the villagers as the lands were part of their Native Customary Rights (NCR) (Daily Express, 2017), which entails the "permanent heritable and transferable right of use and occupancy" of land by a native Sabahan, even if he or she does not hold a formal title to it (Wong-Adamal, 1998, p. 236). However, in 2020, the Kota Kinabalu Sessions Court sided with SAFODA and AFI, and directed the villagers to vacate the Kamanchi-Gandawari village located within the SAFODA gazetted territory (AFI, 2020; National Archives of Malaysia, 2018).

An inquiry by the Human Rights Commission of Malaysia (SUHAKAM) into Indigenous land rights in Malaysia concluded that "[…] current development models that are proposed or practised by the authorities [in

Sabah] are mainly large-scale and exploitative in nature, and do not meet the needs and requirements of Indigenous peoples […] do not guarantee land tenure security, and instead, can actually result in loss of land by Indigenous peoples" (SUHAKAM, 2013, p. 102), further stating that "many business enterprises established by influential and rich individuals have been granted licences and permits to establish land-scale land development projects [in Sabah], often on NCR land claimed by Indigenous peoples" (SUHAKAM, 2013, p. 103). SUHAKAM also acknowledged that the SAFODA Enactment 1981 designated SAFODA as a "native" entity in laws related to land, and could be interpreted as having priority over even the indigenous locals occupying the NCR land. Moreover, it highlights that there is currently no mechanism that requires informing the Indigenous communities when the said land is issued to SAFODA (SUHAKAM, 2021). This was evident with the interview findings in which local people stated that they were not aware of the introduction of *Eucalyptus pellita*, which was planted across the Bengkoka Peninsula starting in 2015. In this case, forestry finance has simply reinforced structures of inequalities.

reflected in the continuous focus on increased yields of biomass and short-term benefits, and referred to as an ongoing trend of financialisation (Engels et al., 2023; Humphreys et al., 2019; see also Chapter 2). Financialisation refers to the growing importance of financial markets, actors, and institutions (Epstein, 2006; Sullivan, 2013), and the related maximisation of shareholder values as the main motive driving decision-making, in our case, in the forest and land sector.

With most private forest-related finance being directed at either forest product-adjusting and/or forest (carbon) market-creating efforts, and most blended finance aimed at generating both returns and sustainable outcomes, we find limited or no data regarding finance invested in non-market models. Even though some public finance (e.g., parts of the Norway's International Climate and Forest Initiative) has been earmarked explicitly for the strengthening of Civil Society, such initiatives also target the support of a (forest carbon) market system. Notable exceptions are the renewed interest in community-led funding, such as The Community Land Rights and Conservation Finance Initiative (Rights + Resources, n.d.), which aims to allocate up to USD 10 billion by 2030 to existing Indigenous, Afro-descendant, local, and women-led organizations rather than implementing projects directly. It aims to provide grants of USD 100,000 to USD 50 million. Other community-led forest-related finance exists at a much smaller scale, such as crowd-funding initiatives (e.g., Ekō, formerly SUMofUS) at grassroots levels.

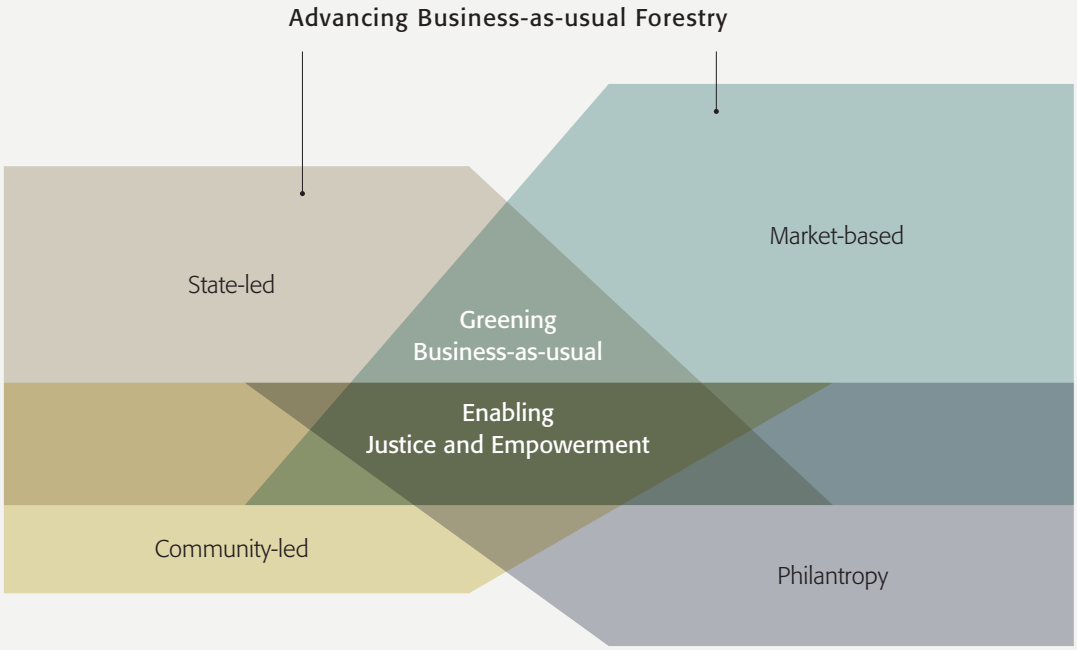
In the following Sections, we briefly map out the different finance sources and lead actors for forests and the forestry business (state-led finance, markets, philanthropy, and community-led finance). We highlight how these are related and create intersections that aim to green (or risk to green-wash) businesses and forests for climate change and sustainability objectives, and which enable empowerment and social and environmental justice (Figure 3.5).

3.3.1 Advancing and greening forest business-as-usual

The literature suggests that **state-led, forest-related finance** takes the form of taxes (export-, local-, and import-based taxes), royalties, fees, and performance bonds levied on extraction behaviour and profits. Research on public policies and taxes since the 1980s (e.g., Repetto and Gillis, 1988), suggests a major focus on two key questions: one set is centred on taxation design; the other on the implementation challenges of taxation. In terms of design, research has investigated optimal taxation rates to achieve specific outcomes, from capturing economic rent and incentivising sustainable forest management, to increasing revenue for forest policy (Hansen and Lund, 2018; Karsenty, 2010). The success of taxation depends on factors such as the level of taxes, the structure of the tax system, and whether taxes are used alone or in combination with other instruments (Karsenty, 2010). As one review concluded, "The forest taxation literature focuses largely on timber" (Hansen and Lund, 2018, p. 23), broadly ignoring the existing orchestra of forest-related taxes that exist. As such, neither the political/economic motivations for, nor implications of, this varied forest tax landscape are well examined (Assembe-Mvondo et al., 2013; Hansen and Lund, 2018).

Figure 3.5

Forest-related finance and intersecting objectives



Note that the sizes of each type are only relative based on our assessment of available data, and do not reflect actual measured volumes.

To illustrate this with empirical literature, consider a major study that draws on data from 45 Community Forestry User Groups (CFUGs) and 1,111 CFUG member households in Nepal (Lund et al., 2014 is mentioned here). Most of the taxes these groups encounter are on forest products such as timber, firewood, poles, and other wood and non-wood products such as grasses, leaf litter, resin, stones, bamboo, tree fodder, seedlings, and clay. Revenues from these sources are quite substantial, but the sharing of benefits is skewed. The poorest of the poor benefit from the communal investments arising from such taxation, but those linked to the executive committee of CFUG benefit even more. Racial minorities are poorly represented on such executive committees. Also, members of racial minority groups, such as the Dalits in Nepal, receive the least of revenues from taxation. In terms of investing taxation revenues, decisions are also skewed in favour of the relatively better-off and majority racial groups, highlighting the reinforcement of institutional inequalities through financial instruments.

Market-based forest-related finance is mainly concerned with conventional forestry business and related markets, as well as newly created forest carbon markets. Wood-based products for construction, energy, paper, textiles, and many other purposes feature in markets throughout the Global South and Global North (Hetemäki and Hurmekoski, 2016), and global trade of wood products has increased by more than 150% since 1990, and is estimated at above USD 1,000 billion (TBRC, 2024). Overall, the global (forest) carbon markets – created under the Kyoto Protocol (see Box 3.3 From Kyoto to Paris) and including cap-and-trade systems, Emissions Trading Schemes (ETS), performance bonds, and the like – have also substantially expanded over the years (e.g., Bryant, 2019; High-Level Commission on Carbon Prices., 2017; Stilwell, 2011). Globally, "emissions trading schemes are now valued just under USD 50 billion worldwide, and account for 12% of global greenhouse gas emissions" (Muûls et al., 2016. p. 3). While REDD+ has grown to an established forest-related finance channel (see Box 3.1 on REDD+ Finance), there has been a push to look beyond REDD+. In the literature, this has been partially attributed to economic/geopolitical uncertainty and their destabilising effects on carbon trading (Adediran and Swaray, 2023; High-Level Commission on Carbon Prices., 2017), as well as adminis-

trative bottlenecks in the REDD+ finance system (e.g., Kibii, 2022). The phrase 'climate business', used by the International Finance Corporation, connotes an expansionary role for business and markets in forests.

Box 3.3

From Kyoto to Paris: A new great transformation, or more markets, less taxes?

The Kyoto Protocol seems to have strengthened the arm of governments in the fight against climate change. Agreements about market-based financing mechanisms were announced, but markets would mainly support states. Taxes would be more central. Criticisms followed, ranging from the theoretical to the empirical. The theory against taxing business is linked to the work of Laffer (2004, 1981). According to this view, after a certain point, more taxes on business yield negative tax returns, as governments receive less tax revenues. A form of 'government failure', state intervention fails to change market behaviour, which is vitally important to financing forestry. What holds true for society also holds true for the environment. Market incentives were deemed superior to state planning. The main implication of this chain of reasoning has been to enhance the position of free markets in financing sustainability. To illustrate this, the emergence of REDD+ can serve as an example to reflect this shift. REDD+ was initially envisioned as a complete market mechanism – modelled on the cap-and-trade programme of acid rain pollutants, and the creation of a market exchange in the US that successfully reduced the pollutant emissions from 1980 till 2010 (Angelsen, 2008). But without a clear cap on greenhouse gases emissions, it was mostly a willingness to pay a price of approximately USD 5 per tonne. Now, we see REDD+ as mostly funded by multilateral donors, with states maintaining a central role (Angelsen et al., 2017).

While for some, REDD+ is 'dead' (Fletcher et al., 2016), for others the REDD+ experiment has never been fully tested (Angelsen et al., 2017). Market interests are increasing again, and the voluntary carbon market is a major vehicle for carbon offsetting labelled as REDD+ and related revenues, with major concerns regarding the credibility of such credits (Balmford et al., 2023).

It was in this context that the Paris Agreement was negotiated. As noted in the High-Level Commission on Carbon Prices. (2017), markets were given a new mandate. Forests would become one of the four domains for rapid action, and the focus would become "optimizing landscapes, by preserving and improving natural carbon sinks – through the creation of 'climate-friendly' landscapes, the management of forests and other kinds of vegetation and soils, and changes in agricultural practices" (High-Level Commission on Carbon Prices., 2017, p. 7). Carbon trading in carbon markets became the new phase of the fight against deforestation and the climate crisis generally. Carbon pricing would be preferably obtained through a cap-and-trade system, and removing subsidies would play a complementary role in increasing finance for forests.

From this, three insights emerge: First, market-adjusting finance has remained a traditional tool. Second, market-creating finance has spiked. Third, just finance has attracted attention, but it remains marginal. In addition, the credibility of green and sustainable finance is questioned.

With the emergence of REDD+, early analysis pointed to inconsistencies and contradictions, for example when perverse incentives for an increased production of deforestation-driving commodities such as pulp and paper, soy, palm oil, and cattle clashed with investments in deforestation-halting activities (Di Gregorio et al., 2012; Kanninen et al., 2007). Directing the financial power of large investors to divest away from such deforestation-driving businesses (e.g., the Norwegian Pension Fund) can send an important market signal. However, what directs forest-related finance to decrease deforestation is, according to market advocates, to get the carbon prices right. As not-

ed by The Economist (2021, p. 13), "a carbon price would align the profit incentive with the goal of reducing greenhouse gases. The financial system would then amplify the signal sent by the price of carbon" because "there has been little incentive for poor countries to protect their forests when they could instead profit by chopping them down for timber or clearing them for farming" (The Economist, 2021, p. 30). With this market-based logic, financial instruments such as ESG bonds and green bonds have taken hold, and are often proposed as a way forward. The Swedish Landshypotek Bank was the first issuer in 2018 of USD 560 million (SEK 6 billion) green-covered bonds that exclusively finance sustainable forestry (Nordea, 2023). The Government of Gabon used a debt-for-nature swap to refinance USD 500 million of the country's debt through 'blue' bonds to finance marine conservation (Horner, 2023), suggesting a path forward for other countries with significant forest cover. The financial sector, however, should have a responsibility to make sure that investments and actions integrate equity concerns (Galaz, 2022). The use of green debt to mobilize funds can also exacerbate the debt crisis of vulnerable nations. Another recent narrative is linked to 'environmentalism that builds', with the African Union as one of the most recent advocates. In its Nairobi Declaration (African Union, 2023), it seeks to portray Africa as a large environmental market waiting for investment. In its words, given "Africa's vast forests [...] and the important ecosystem services provided by Africa's vast savannahs, [...] it is time that Africa's natural capital wealth is properly measured by recognizing its contribution to reducing global carbon emissions" (point 16). The African Union calls for more free trade among African countries (point 28), free trade with other countries in the Global South (point 40), and "a mix of measures that elevate Africa's share of carbon markets" (point 49, subpoint viii). With this strong support for a financing system that reflects market finance, markets have crossed arguably the last 'obstacle' to marketising forests.

There are strong reactions against the marketisation of forest carbon. The online media platform OpenDemocracy echoed that African grassroots and campaigners claim that "carbon markets that benefit the West will not solve Africa's climate crisis" (Nasike and Osogo, 2023). These markets certainly benefit Western societies, but it is doubtful that they can address Western environmental crises (e.g., Bryant, 2019; Herro and Obeng-Odoom, 2019; Kröger, 2013; Stilwell, 2011). Critics' concerns range from the inability of prices or markets to create fundamental transformation, to arguments that the narratives of markets are capitalist and, hence, prone to capitalist economic and ecological crises. Other critics pointed out that the finance sector overall has become more powerful and less accountable in the forest-related finance space (Meyfroidt, 2018). For example, a handful of financial actors in international banking and institutional investors, such as asset managers and pension funds, have disproportionate influence over large parts of the tropical Amazon and the boreal Russian and Canadian forests (Galaz et al., 2018). This becomes a risk when shareholders, timberland managers, or a state, as the formal owners of forests in the Global South (Skyrman, 2022; Viitala, 2016; Wahyudi and Mumbunan, 2013), all favour maximising short-term profits over social and environmental goals. A similar goal (and risk) can be seen when public and private funding is blended to plant trees on 'abandoned' land in the Global South, as proposed by Silva et al. (2019).

While sustainability seems to have permeated forest finance and related markets, concerns and confusion over what sustainable forest-related finance actually means, and for whom, are widespread among forest experts (Begemann et al., 2023). Within the sustainability and ESG finance sector, concerns over reporting and disclosure practices risk undermining credibility and highlighting the risk of green washing of the sector (e.g., Baldi and Pandimiglio, 2022; Boffo and Patalano, 2020). While there is a growing body of literature regarding risks for investors, including loss of corporate image due to lack of transparency and credibility, the literature remains scarce on the risks and uncertainties of forest-related finance, unsustainable and sustainable alike, for *forest-dependent people* and local communities. A notable exception is the emerging body of literature in intersecting business, law, and social and environmental justice studies that aim to link the human rights agenda with environmental due diligence as an attempt to enhance accountability and enable redress in case of harm (Deva, 2023; Schilling-Vacaflor and Lenschow, 2023).

Another silence in the forest-related finance landscape refers to illicit financial flows, resource-backed loans, and odious debts. While the existence of such illicit flows is well-documented for market-and state-based forest-related finance (e.g., Barr et al., 2010), we find surprisingly little or no information on how forest-related finance is directed to activities that aim to tackle these well-documented issues, and to increase ethics and financial integrity. The same is valid for social finance instruments, which are lacking in the toolbox of instruments in the market-based finance,

including in the intersection with statist finance. The literature on financial integrity and the forest sector remains limited, despite their importance for mechanisms such as REDD+ and restoration, as Luttrell and colleagues showed for the case of Indonesia's anti-corruption agency and REDD+ (Luttrell et al., 2014). Illicit finance has become a major driver of inequalities within Africa, and between Africa and the rest of the world (Obeng-Odoom, 2020). Between 1970 and 2018, illicit flows and their interests cost Africa USD 2.4 trillion (Ndikumana et al., 2022; Shaxson, 2021). Not only do these outflows weaken African economies, but they also strengthen metropolitan economies in the Global North (Obeng-Odoom, 2023). In turn, they deepen inequalities and further diminish the limited transformative potential of state-based forest taxation instruments.

3.3.2 Enabling justice and empowerment

Among other issues, justice and empowerment are important topics for many actors in the intersection of philanthropy, community-, and state-led finance. Silva-Chávez et al. (2015) pointed out that a range of not-for-profit private foundations and other **philanthropies** are active in providing finance for forests (and forestry). While some foundations are more exclusively funding forest business and sustainability initiatives, the majority of the foundations listed in the UNFF Clearing House aim at (partly community-based) forest conservation. Listed in order of the magnitude of their funding between 2009 and 2014, these include the Moore Foundation (USD 88 million), Climate and Land Use Alliance (a consortium of foundations) (USD 33 million), Climate Works (USD 18 million), Ford Foundation (USD 14 million), Packard Foundation (USD 10 million), Buffett Foundation (USD 2 million), Rockefeller Foundation (USD 1 million), A.V. Jensen (USD 0.7 million), McCall mACbAIN (USD 0.7 million), MacArthur (USD 0.3 million), and Christensen Foundation (USD 0.3 million). Despite the diversity of philanthropic actions, the funds are overshadowed by the other forms of financing as discussed previously.

The book "Sponsoring nature: environmental philanthropy for conservation" (Ramutsindela et al., 2011) documented the place of philanthropy in forest financing. Philanthropy has long played a substantial role in forest conservation, including The Global Environment Facility, which has been used as a pathway to finance conservation in the Global South (Ramutsindela et al., 2011). More recent research shows that philanthropy still remains as a source of financing forests and forestry. For example, a study of sustainability philanthropy in China (Ni et al., 2023, p. 454) found that "Among the four subfields, forest is traditionally the most preferred field in philanthropy, and both organizational development and enabling environment belong to the category of 'strategy/policy/tools' and are focused more on improving the internal development of charities". Such philanthropy is common in Africa as well. As reported by Collins (2023), donors, governments, and climate partners came together to create a EUR 105 million fund, to which France committed EUR 50 million, followed by Conservation International with EUR 30 million and the Walton Foundation with EUR 20 million. The funds seek to incentivise preserving and conserving forests. By giving 'exemplary countries' 'biodiversity certificates', the fund is supposed to encourage African countries to protect their forests. The certificates are to be sold to private companies whose purchase is to signify their corporate social responsibility.

Community forestry and **community-led finance** has been regarded as particularly important in directly benefitting local communities, and improving the management of protected forests (Djezou, 2014; Sze et al., 2022). Recent types of community finance schemes are the Unlocking Forest Finance (UFF) project (2013-2019), and financing associated with the Rights and Resources Initiative (RRI). The former has focused on Brazil (States of Acre and Mato Grosso) and Peru (Department of San Martín), which are hotspots of deforestation. A clear example of blended finance at the community level, UFF was financed by the Government of Germany through its International Climate Initiative, coordinated by the NGO Global Canopy, and implemented by a consortium of 12 institutions, with local partners active in UFF field stations (Rode et al., 2019). There, UFF provided funding for sustainable agriculture and the reuse of degraded land to serve as alternatives to logging (Rode et al., 2019). "Investment in the supply chains will cost over USD 300 million. A bond issue in international markets will access billions in global debt capital and provide necessary funding to local financial institutions, which will use the funding to invest in targeted supply chains" (Palmer, 2016, p. 18).

The approach of RRI is rather different, it seeks to strengthen community-based land tenure. Between 2014 and 2017, it provided funding for titling in six countries: Cameroon, Indonesia, Liberia, Mali, Panama, and Peru. In 2017, RRI es-

tablished the International Land and Forest Tenure Facility, which since its establishment has provided more than USD 20 million to local NGOs and Indigenous peoples. Between 2019 and 2022, this funding helped to title some 8.3 million hectares of land. Simultaneously, the facility has helped to clarify the forest rights of over 10 million hectares of community land (Rights and Resources Initiative, 2023). At the 2021 COP26, national governments and philanthropists together pledged USD 1.7 billion to support the titling of community land tenure. This finance will fund additional land titling activities until 2025 (Rights and Resources Initiative, 2023). Such forest-related finance seeks to strengthen the place of communities in national, sustainable development. In the intersection of state-led and community-led finance, the 'social forestry' agenda is a case in point, as for example in Indonesia, with emphasis on community empowerment, though often through a market-based development lens.

Yet, forest-related finance in the state-community intersection, as well as in the intersection with philanthropy, remains too often rooted in narratives of entrepreneurship and growth. A United Nations Meeting in New York in September 2023 produced strong statements about financing sustainability (UN Press, 2023), but these entail extending the reaches of markets. In a push for an Accelerating Agenda, Secretary General Guterres, called for "overhauling the business models of Multilateral Development Banks, so that they leverage far more private finance at reasonable cost to developing countries" (Guterres, 2023, online statement). A more thorough overhauling and transformation would involve moving beyond the 'funding gap', development aid, and philanthropy for sustainability. More fundamental transformation would need to extend beyond market-based and voluntary efforts towards "strong state and multilateral action to regulate and redirect those flows of biodiversity and community-degrading finance, and a reasserted emphasis on shoring up public and multilateral institutions capable of rectifying past and present global inequalities" (Biodiversity Capital Research Collective, 2021, p. 90). On these grounds, recognizing that discourses of entrepreneurship, growth, and extending markets institutionalise ecological imperialism is only one step towards transformation. New narratives and new strategies for just finance could include ecological reparations, 'radical philanthropy', and funding mechanisms that move beyond market-adjustments and market creation, towards a 'commoning' in the governance of forests.

3.4 Just finance and the implications of potential new sources of finance

Just finance can be seen to mean anything from community finance to philanthropy. However, regardless of the finance sources, the underlying common ground is the objective to pursue social inclusion, redress some form of social-environmental injustice and histories, protect rights of resource-dependent communities, and support transition towards a more just future within climatic and other risks (e.g., Galaz, 2022; Ouma, 2016; Perry, 2021).

Nevertheless, just (forest) finance is neither charity, philanthropy, nor corporate social responsibility. Systematic research (Bond et al., 2023; Herro and Obeng-Odoom, 2019; Ramutsindela, 2015; Wilson, 2016) showed how the 'philantrocapitalism' of Bill Gates and other similar forms of philanthropy have been limited precisely because by thinking about social-environmental problems as represented only in the present and the future, they ignore unequal risks and social stratifications that were stirred in the past, sharpened in the present, and are potentially cyclically reinforced by the financed institutional structures.

Just finance must be global, historical, and relevant to present political-economic conditions (Crosby, 2004; Daughton, 2021). For that purpose, just finance would be distinct from existing climate finance that is based on either vulnerability, poverty, low income, the Global North's ability to pay, or the Global North's empathy. Just finance is intended to redesign the world system. Muller and Robins (2022) identified three principles to achieve a just transition at the interface of climate, biodiversity, and sustainability: i) human rights and labour standards, ii) social risks and opportunities, and iii) meaningful participation and inclusive partnership. They also identified ending deforestation as one of four key sectors for action. As such, they argue that the financial sector must include these just transition principles in their plans for 'net zero', set these expectations for the businesses they lend to and invest in, purposefully channel finance to companies committed to a just nature transition, and include just transition factors in reporting and transparency frameworks. Yet, these principles risk to fall short on tackling the underlying inequalities that define the finance in the forest and land use sector when they add to the plethora of existing commitments, and engage in a 'net-zero' narrative without radically transforming the finance sector.

Not only should just finance address inequalities (Galaz, 2022), but there is a wider call for reparations to redress historical and present injustices that can be designed to create a more sustainable world (Táíwò, 2022). This is reflected in climate loss and damage debates, and in a call for reparations within sustainability finance (Perry, 2021) that is supported by scholarship on the topic of how histories of colonization and reinforcing mechanisms of inequalities have led to certain societies' reduced resilience to global change (Hamann et al., 2018), as well as unequal access to forests and land, and selective scientific knowledge of forest empires (Brockhaus et al., 2021; Vandergeest and Peluso, 2006).

Other forms of just finance relate to the cancellation of debt. The grounds are usually that such debts are odious, so they must be repudiated (e.g., Gadha et al., 2021; Ndikumana et al., 2022; Pigeaud and Sylla, 2021). The literature does not specifically focus on forestry, but the resulting finance could be put to the course of forests. Sometimes, debt cancellation itself has been seen as reparations, which can take various forms, but must always acknowledge, heal, and stop the problems of inequality, social stratification, and ecological imperialism (Balce and Subramaniam, 2022; Chen, 2022; Frame, 2022).

3.5 Conclusion

Over the past decade, the forest-related finance landscape has become ever more complex with new variations of public, private, and blended finance. While state financing of forests has persisted over time, market-based finance continues to increase, especially in the intersections of the climate and sustainability policy arenas. We identified flows of public and private forest-related finance that largely aim at augmenting and adjusting markets, for example with finance aiming to correct for undesired environmental or social consequences (and costs) of forestry activities, or with flows directed towards industry to enable green(er) transitions. We highlighted the varied forms of blended finance in creating new markets, for example green forest carbon markets. Revenues from taxation, mainly of forest products, remain present, and state development banks continue to finance forests as part of a new form of 'developmentalism' in their policy instrument toolkit, but the State is no longer as dominant. Market-adjusting finance, however, means much more than taxation. State development banks play a role here, too, but many of these programmes have been criticised on account of their inefficiencies.

By far, the most significant change since Rayner et al. (2010) was published has been the large increase in blended and market-creating finance (e.g., carbon and biodiversity markets), combined with an ongoing financialisation of the forest sector (see also Chapter 2). Simultaneously, justice perspectives have become popular within forest-related finance narratives, often accompanying new commitments. Varied forms of green forest-related finance are now the face of forest financing globally. These programmes, however, are often contradictory. On the one hand, some financial instruments have generated economic growth with some progress in sustainability, and on the other hand, other growth-oriented finance has not only done little to reduce inequalities, but is instead often criticised for doing a lot more to drive inequality and unsustainability. The lack of effective ESG metrics hampers accountability for governing the world's changing forests. In addition, new legislative initiatives for mandatory due diligence still fail to transform business as usual in the forest and land sector by not effectively linking these measures to human rights and environmental and climate change. Hence, there is a risk that these attempts create an illusion of change without providing the necessary positive impacts on the ground. Finance models arising from the discourses of 'Degrowth' and 'No growth' are rare, but philanthropy has emerged as an alternative. Yet, 'radical philanthropy' that actually transforms the forestry landscape remains marginal. Humanist giving is notable, but hardly transformative.

Hence, in light of these developments and changes of the forest and finance landscape – how to finance and what types of finance are needed for alternative and just forest governance practices – are still core questions. Community-led finance that emphasises a shift in power relations away from a business-as-usual of forest exploitation and its often-distant beneficiaries, and that counters current financialisation trends by favouring long-term investments over short-term profits, is perhaps the most promising avenue for change in the forest-finance landscape. Increased financing flows to communities without the overwhelming conditionalities of market-based development and entrepreneurship will be an important step. There is an urgent need for just finance to invest in accountability structures globally, and in communities and societies in the Global South as a way to tackle institutional and historical inequalities, and reduce risks to people and the environment, but also to enable the best chances for transformation.

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4

Chapter 4

Current Forest-related Discourses

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Abstract

Discourses about forests matter as they mediate or shape action. Chapter 4 presents an update to the work of Arts et al. (2010), which used a longitudinal analysis of global forest[1](-related) discourses and interrelated meta- and regulatory discourses and their prevalence over time take stock of the discursive shifts that emerge from the literature. This is based on a literature search in Google Scholar, Scopus, and ISI Web of Science for the time from January 2011 to June 2023. The results were discussed with experts in the field to understand whether: i) important themes were missing, and ii) discursive dynamics were misrepresented or misinterpreted. In addition, main framing devices that have recently appeared were identified.

The analysis found that a 'climatization' of the environmental meta-discourse clearly has taken place, and has had an impact on how forests are problematized and understood to provide climate solutions. It identified also a refurbished discourse on 'ecological modernisation' with a neoliberal twist, and several of growth-based discourses that stretch from de-growth to pro-growth, as well as transition discourses that centre around civic environmentalism and justice. Regulatory discourses were found to not have changed considerably, but new modes of governance based on markets have become more common. New and refurbished forest-related discourses were also identified along several framings that impact forests, such as seeing forests as carbon sinks, ecosystem service providers, landscape managers, and suppliers of nature-based solutions in actual political debates.

Mechanisms of power are particularly pronounced in procedures of exclusion. Knowing forests and giving meaning to forest-related activities steers the way we see and use forests. Therefore, the chapter analyses results around frames of 'constantly better knowledge' about forests, the commodification of forests into 'tradable entities', as well as silences (i.e., not addressing certain aspects of forests). These frames are seen as forms of power expression. The Chapter concludes that, while the academic literature and debates mostly reflect current dynamics in decision-making, this analysis shows that there is an ongoing polarization between different actor positions, which is likely to increase as discourses drift apart or confront each other. Therefore, finding common positions and compromise could become more complex and difficult in the future.

4.1 Introduction

Discourses, frames, and narratives are now regarded as playing important roles in the formation of public policies, including on forests (Fischer and Forester, 1993; Fischer and Gottweis, 2012). Heightened interest in the role of language in policy-making has led to the production of a variety of understandings of the term "discourse" itself (Leipold, 2014). It stretches from understanding it as synonymous with "discussion", to viewing it from a Foucauldian perspective as a system of ideas and practices that construct 'truths' about objects, subjects, and social realities. Consequently, problems are understood as constructed, and policy processes are conducted according to specific ideas (Hajer, 1993). Building on Arts et al. (2010), this Chapter understands discourses as "an ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities" (Hajer and Versteeg, 2005, p. 175).

Dominant discourses and frames typically shape and narrow the range of governance mechanisms as they "operate as tools from which problems are constructed and acted upon" (Bidone, 2022, p. 112; Reinecke and Blum, 2018). They arise at a particular time and place under specific cultural and socio-historical conditions, and are observable and describable as "regulated practices of sign usage" (Holmgren, 2013, p. 370). Actors form coalitions based on shared discourses and overlapping perceptions (Hajer, 1995; Nielsen, 2014; Rantala et al., 2022) in order to navigate complexity (Hajer, 1995). According to social constructivism, reality is perceived as relying on "shared assumptions" (Bidone, 2023, p. 4; Nielsen, 2016), while narratives provide explanations of causes and effects, and assign roles to different actors in complex forest-policy making processes (Beymer-Farris and Bassett, 2012).

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

Many approaches to analyse discourses have been developed over time. These have been influenced by different philosophical and disciplinary traditions (Leipold et al., 2019; Wagenaar, 2014). Arts et al. (2010) differentiated between 'thin' and 'thick' discourse analysis: while 'thin approaches' consider discourse "as one factor among others" and thus, also include agency, resources, and rules in their analysis of politics, 'thick approaches' build on Foucault's post-structuralist philosophy and define discourses as 'disciplinary' ensembles of language, knowledge, and power (Bidone, 2023).

The analysis of discourses reveals how "relationships of dominance, discrimination, power, and control" are manifested in language (Fairclough, 2012; Wodak, 1995, p. 204). This relates to the Foucauldian concept of governmentality, referring to subtle techniques of controlling the conduct of individuals and making them "governable". This is intrinsically linked to (neo)liberalism, as it "identifies a domain outside of politics and seeks to manage it without destroying its existence and autonomy" (Foucault et al., 2009; Rose and Miller, 2010, p. 278). Arts and Buizer (2009), along with many other authors, differentiated between discourses understood as communication, texts, frames, and social practices. Discourses are, thus, both, an expression of, and a prerequisite for, social interaction (Holmgren, 2015; Kleinschmit et al., 2017, p. 44).

Box 4.1

What are frames?

Rein and Schön (1993, p. 146) defined frames as "a way of selecting, organizing, interpreting, and making sense of a complex reality to provide guideposts for knowing, analysing, persuading, and acting". They are diagnostic and prescriptive stories and give coherence to the analysis of an issue, often through reliance on unifying metaphors (Leach et al., 2010; Rein and Schön, 1996, 1993). Goffman conceptualised frames as essential to structuring experience around core metaphors (Goffman, 1974; Jameson, 1976), which also opens the perspective of the effects of culture on shared understandings and the formation of frames.

The process of discursive construction is essentially one of perceiving and framing problems, of including certain aspects in a frame and excluding others; ideas supporting specific discourses also change over time (Bidone, 2022). Framing processes not only construct meaning, but also have a mobilizing function, allowing for collective action (Benford and Snow, 2000). Several frames provide meaning to forests, amplifying ideas inscribed in forest-related discourses often within a single concept, and exposing core ideological traits of related meta-discourses – and on many instances, also manifesting Western ideals.

The different frames emphasize different qualities of forests and their values (in a qualitative and quantitative understanding) for human societies. It does not assume that ecological or economic problems do not exist or are purely constructed. Rather, it acknowledges that they become a matter for society and politics by way of analysing, defining, explaining, and relating. Therefore, all of these frames are naturally contested, not only regarding the definition of the problem (diagnostic framing), but also concerning the best way to address the problem (motivational framing) (Benford and Snow, 2000; Vanhala and Hestbaek, 2016).

The main aim of this Chapter is to identify discourses and framings that are found in the academic literature from 2011 till June 2023. It is thus a continuation of the work done by Arts et al. (2010) in their longitudinal analysis of global forest(-related) discourses, including meta- and regulatory discourses. As an update rather than stock-taking from 2011, analysis was aimed at establishing which discourses are still prevalent or have newly emerged in academic literature, as it analyses, discusses and critically engages with the goals, instruments, and effects of global forest governance.

The literature search was done in Google Scholar, Scopus, and ISI Web of Science. We used the terms "global", "forest", "discourse", "governance", *"regime"*, "instrument", "actor", and their synonyms/combinations for the time from January 2011- June 2023. Critical policy analysis studies always take a critical perspective on the researchers and the way they analyse and interpret results. Therefore, these results were discussed with several experts in the field to understand whether: i) important themes were missing, and ii) discursive dynamics were misrepresented or misinterpreted.

The literature (210 articles, drawing on journals and publications in the area of forestry and forest policy, environmental science, sustainability studies, *climate change*, management and regulation, development and critical African studies, political economy, and economics) was then analysed and inductively coded with MAXQDA, relying on discourses already identified and named in the literature, along with new codes to identify new or major shifts in dominant discourses that appeared in the analysed time period. Still, the result is not a discourse analysis, but a review of literature on global forest(-related) discourses (also including critical approaches) and, as such, it is a work in progress.

In addition, we describe main framing devices that are used in new forest-related discourses, as those have important implications for forest policy-making. On a more critical note, we finally address the intricate connection between power and knowledge as it emerges from the analysed discourses, in particular mechanisms of exclusion. While we acknowledge that our focus on publications in English is a limitation and excludes valuable insights published in other languages, we consider English to be the lingua franca of global academic debate and exchange, and, thus, best suited to capture prevalent (global) discourses and framings.

4.2 Overview of meta-, regulatory, and forest-related discourses

4.2.1 Brief overview of meta- and regulatory discourses from 1960s-2010

According to Arts et al. (2010) meta-discourses are related to global economics, politics, and culture in general. They are not to be understood as specific for, and limited to, forests alone, but are influential across different policy fields. The authors identified seven meta-discourses that have gained prominence since the 1960s (for a summary see Table 4.1). In addition, they found discourses of a regulatory nature which relate to state regulation, hard law, de-regulation, self-regulation and soft law, and smart regulation and instrument mixes.

Table 4.1

Meta-Environmental discourses (1960s-2010)	
Modernity	Focused on economic growth, industrialisation, and control over natural resources (prevalent in the middle of the 20th century).
Limits to growth	Emerged as a critical response to the modernisation discourse, triggered by perception of ecological crisis and suggesting absolute limits to economic growth (late 1960s and early 1970s).
Ecological modernisation	Combines technological progress within capitalist political economies and argues that economic growth can be achieved while protecting the environment – nature as resources and pollutant recycler – and shifting from 'government' to 'governance'.
Sustainable development	Draws on ecological modernisation discourse and aims at solving global environmental and development problems through a more equitable (and also inter-generational) and co-operative approach.

Neoliberalism	Emphasizes the role of market incentives, 'empowerment' (i.e., emphasising individual action and responsibility) and the private sector, as well as voluntary and non-binding agreements (deregulation) for solving environmental and economic issues, and builds on 'technological' rather than 'political' solutions.
Civic environmentalism	Speaks the language of stakeholders to increase the legitimacy and accountability of multilateral institutions, and focuses on democratic efficiency, bottom-up approaches, and governance arrangements, while not necessarily challenging neoliberal dynamics or persistent power relations.
Global governance	Engages with the global dynamics of governing common problems (environmental, but also economic challenges) through a diversity of rules and actors by also trying to establish norms for 'good' governance.

Source: Arts et al. (2010)

According to Leipold et al. (2019, p. 452), earlier environmental discourses are still playing their role. But, over time, "a considerable spatial and temporal variation in the articulation and institutionalization of environmental policy discourses" has happened. This is convincingly supported through comparative case analysis by various authors (e.g., Beland Lindahl et al., 2017; Edwards et al., 2022). Recently, four important changes to these earlier discourses have emerged.

4.2.2 New discourse developments

4.2.2.1 The 'climatization' of environmental meta-discourses

The "drama of climate change" (Holmgren, 2013, p. 373) has prompted the 'climatization' of already existing meta-discourses, and has also caused the emergence of new meta-discourses. The increasing urgency of the "battle against climate change" and the understanding that there is limited time available to solve the crisis (Holmgren, 2013, p. 373) over the last decade has given environmental discourses new visibility, and greatly privileged climate change centred environmentalism. The question of how to address, mitigate, and adapt to anthropogenic climate change is regarded as the key challenge of the 21st century (e.g., Buizer et al., 2014; Hoogeveen and Verkooijen, 2011). Climate change has reached the top of the political agenda (Wolfslehner et al., 2020), as it holds serious implications for the political and social order (Aykut, 2016).

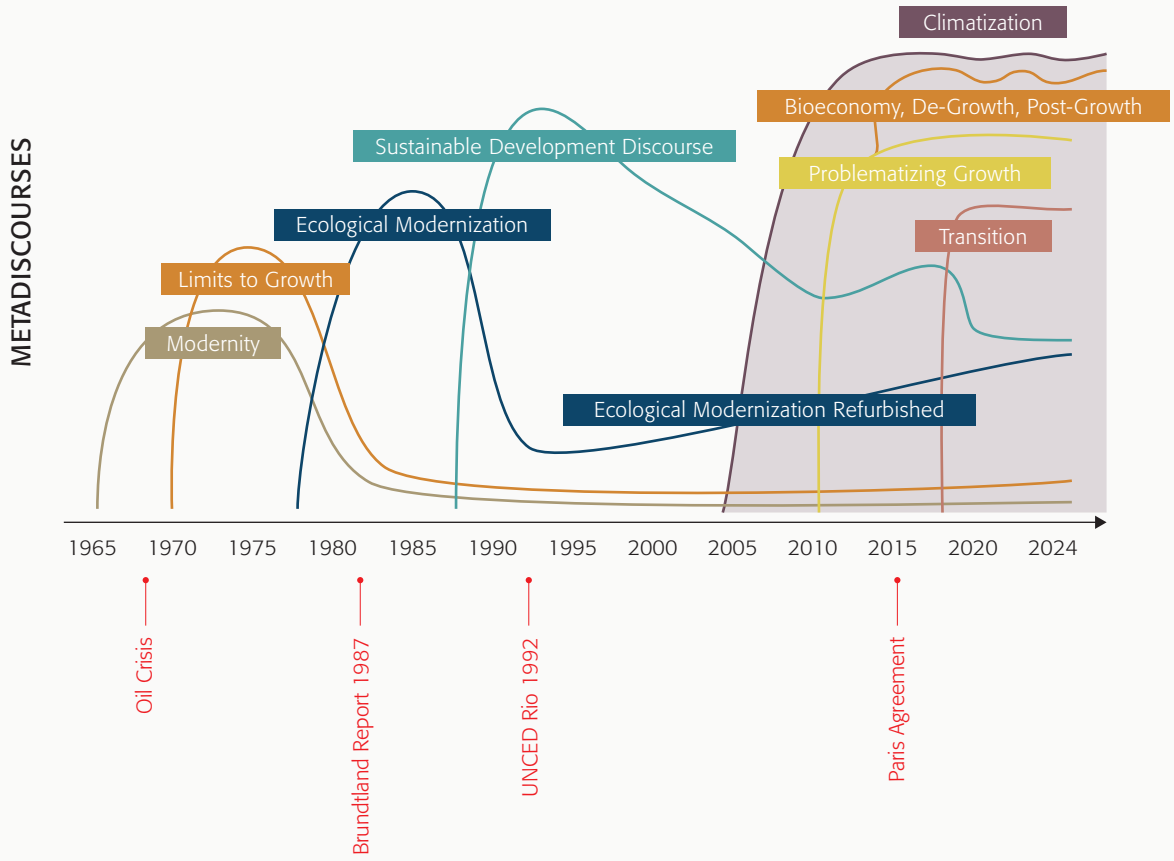
When categorizing this discourse, we see that the 'logic of markets' prevails (neoliberalism and ecological modernisation), while at the same time 'avenues of resistance' to a commodified climate change regime are opened up through a discursive mix on sustainable development, de-growth, civic environmentalism, and environmental justice. This conforms with the findings of Bäckstrand and Lövbrand (2019) that green governmentality (based on a Foucauldian approach to governing), ecological modernization, and civic environmentalism inform climate governance by being incorporated in a "liberal environmental" compromise, which becomes pervasive as it broadens the range of actors, but nevertheless relies on economic rationalities. It is challenged by a climate justice movement and a renewed discourse of civic environmentalism from the left, but these discourses are subjugated, they remain "active, but also sidelined" (Bäckstrand and Lövbrand, 2019; Leipold et al., 2019, p. 452).

Based in the logic of the Stern Report (Stern, 2006), which emphasised the economic costs of inaction in the face of climate change, climate change is constructed as "business opportunity" (Holmgren and Arora-Jonsson, 2015, p. 244), building on the ideas of markets and their capacities for innovation and efficient resource

allocation (Nielsen, 2014), and redefining nature in terms of "ecosystem services" (Nelson, 2015). This deploys a neoliberal logic of market efficiency and monetary value on 'ecological commodities' and endorses the idea that "nature can be saved by selling it" (Buizer et al., 2014, p. 4). This framing of climate change, and what is consequently considered a remedy, effectively shapes the design of institutions and the governance modes applied.

Figure 4.1

Old and new discourse developments over the years (1960-2024)



The Kyoto Protocol has been characterized as an instrument of neoliberal environmental governance, allowing industrialized countries to reduce their emissions cost-effectively while remaining geographically flexible (Osborne, 2015). It is now argued by some, that this neoliberal governance has been further institutionalised with the Paris Agreement (Ciplet and Roberts, 2017). It builds on a 'technocratic rationale' (Nielsen, 2014), by emphasizing capacities and measurement capabilities, and thus, holding a tendency of "de-politicisation" (Brockhaus et al., 2021; Müller, 2017, p. 187; Skutsch and Turnhout, 2020) as it turns the greening of economies into a technical and scientific issue (Holmgren, 2013). But it should not be overlooked that the turn from Kyoto to Paris also heralded a return of radical civic environmentalism, which is critical of inequitable power structures and emphasises aspects of climate justice, demanding better representation for vulnerable groups. Climate activists now demand to move beyond Paris, to "reflect the structural change invoked by the climate justice terminology" (Bäckstrand and Lövbrand, 2019, p. 526).

4.2.2.2 The refurbished ecological modernisation discourse

Control over resources to stimulate economic growth, which has been characteristic of the modernisation discourse in the 20th century, still plays an unabated role in decision-making. De-

spite that it has been led also to a refurbished discourse on **'ecological modernisation'** with a neoliberal twist, by further emphasising the importance of market incentives, the reliance on profit-maximising rational market actors and a framing of climate mitigation and sustainability as business opportunities.

The ecological modernisation discourse proposes, at a minimum, 'win-win' solutions (ecological and economic) (Edwards et al., 2022; Rahmani et al., 2022), but with the potential to efficiently tackle also social and developmental issues (quadruple wins). Its pragmatist and reformist approach to ecological and climate crises aims at decoupling economic growth from environmental degradation by making environmental damage calculable (Rossita et al., 2021). Nature conservation consequently is framed in utilitarian terms (Bidone, 2023, 2022).

As a collective action problem, better coordination and better incentive setting, as well as technological and social innovation, are seen to lead the way to a green economy (Hajer, 2020), which uses markets to manage nature and climate change without major changes to existing institutions and power structures (Gibbs, 2020). Market environmentalism recognises nature as a constraint or opportunity for economic activity, thus providing it with a market value and splitting complex ecosystems into economically tradable property rights, for example, carbon markets (Beymer-Farris and Bassett, 2012).

4.2.2.3 Problematizing growth: Pro-/de-growth and bioeconomy discourses

The **'economic growth'** discourse continues to increase in salience, but has also been recently contested. Alternative growth discourses were identified during the literature analysis for this chapter:

The **'pro-growth'** discourse is mainly concerned with unlocking and commercializing the potential of biological resources and their functions through knowledge and innovation (emphasising new materials, biofuels, etc.), seeing economic growth as a prerequisite for solving environmental problems, and in this discourse scenarios of 'more-of-everything' (win-win) prevail (Holmgren et al., 2020; Kröger, 2016; Kröger and Raitio, 2017; Pülzl et al., 2014). Within this pro-growth discourse, there is an increasing emphasis on behavioural nudging (= influencing one's choice in a specific way) and Nature-based Solutions. The neoclassical and neo-institutional foundations of the old pro-growth discourses have expanded to cover the environmentalism of behavioural economists (Obeng-Odoom, 2022a, 2022b). As such, pro-growth orthodoxy has also been described as an outgrowth of neoliberal economic motives and practices (Ramcilovic-Suominen et al., 2022) focusing only on the outputs of forest ecosystems with monetary or market value (Hanzu, 2018).

As the awareness increases that planetary boundaries (Rockström et al., 2009) are interactive, and that the combination of crossing several boundaries at once will cause rapid and non-linear change (Reischl, 2012), the term "sustainability" and (competing) pathways on how to achieve it, will become increasingly contested and lead to tensions and struggles. Sustainability, practiced through regenerative development, aligns human consciousness and actions with living systems principles (Gibbons, 2020). Two approaches to sustainability are discernible: on the one hand, a 'sustainability branding' with a narrow, utilitarian, and instrumental understanding of sustainability to legitimise 'business as usual'; on the other hand, a 'deep sustainability' approach advocating radical, social change, such as de-growth (Leipold et al., 2019; Pülzl et al., 2014; Ramcilovic-Suominen et al., 2022). The first approach conforms to a pro-growth discourse. But newer studies doubt the possibility of a 'green' growth (Hickel and Kallis, 2020) that is linked to a green economy, or deny the compatibility of 'green growth' with 'social equity' (D'Alessandro et al., 2020; King et al., 2023). Here, current political power relations become contested (Bidone, 2023), and the need to balance social, ecological, and economic dimensions is stressed (Holmgren et al., 2020). Growing out from the 'limits to growth' literature is a more radical **'de-growth'** discourse, which is no longer content with notions of a "steady state" or no-growth (Frame, 2022; Obeng-Odoom, 2021). This sets a (renewed) focus on planetary boundaries and consequently rejects the neoliberal and utilitarian form of sustainability as put forward by pro-growth advocates.

Although multifaceted, the radical de-growth discourse seeks to define human well-being as decoupled from economic growth, that aims to reduce environmental impacts to a sustainable level allowing for ecological regeneration, while at the same time creating socially just societies within 'safe operating spaces', as defined by the planetary boundaries (Cosme et al., 2017; Martínez-Alier et al., 2010). In other words, current social-economic systems and nature-society relations should not be simply adapted to current capitalistic or neoliberal ideas, but completely transformed.

Interestingly, the increasingly prominent **'bioeconomy'** discourse includes elements of the 'limits to growth' discourse, such as resource scarcity, limits to fossil-based resources, depletion of natural resources, and expected population growth (Pülzl et al., 2014), and regards a 'sustainable economy' as an overarching goal (Kleinschmit et al., 2017), but also merges and reframes the content of other previously identified meta-discourses as it relies on market mechanisms and 'eco-services' to achieve sustainable and climate-friendly development (Beland Lindahl et al., 2017; Pülzl et al., 2014).

Some scholars (Goven and Pavone, 2015; Staffas et al., 2013) call it a political project to find solutions to global challenges building on biotechnological knowledge, renewable biomass, and particular political-institutional configurations to facilitate the development of profitable technological solutions. It is also particularly relevant in light of the climate change debate (Edwards et al., 2022).

Holmgren et al. (2022) identified three main strands of this bioeconomy discourse in the literature: i) a vision focusing on new science and technologies (Organisation for Economic Co-operation and Development – OECD, USA); ii) a vision centred on biomass, developing industries, and value chains based on renewable resources (European Union) (for forest-based circular economy see e.g., Hetemäki et al., 2017; Toppinen et al., 2020); and iii) a vision highlighting the limits of natural resource extraction, and questioning the unequal distribution of wealth between populations and generations (no geographical focus). The first two strands show that bioeconomy cannot be considered "self-evidently sustainable" (Kleinschmit et al., 2017, p. 42). The discourse resembles the ecological modernisation discourse (Beland Lindahl et al., 2017). It is thus amenable to actors previously promoting the concepts of green growth and sustainable development (Ramcilovic-Suominen et al., 2022), although sustainability is often reduced to renewable bio-based products and sustained yields of biomass (Holmgren et al., 2020).

An additional variant presents the **'pro-planetary boundaries'** bioeconomy discourse, which ascribes key importance to circularity and sufficiency relating to the work of de-growth scholars (Ramcilovic-Suominen et al., 2022). It advocates a more radical re-orientation beyond capitalist and growth-oriented societies (Holmgren et al., 2020). By building on feminist and decolonial schools of thought, the importance of 'planetary justice' is stressed, as is the importance of power relations (Ramcilovic-Suominen et al., 2022).

4.2.2.4 Transition discourses: Civic and justice environmentalism

The **'civic environmentalism'** discourse remains a critical counter-discourse to ecological modernization, and stresses the non-marketable values of nature and forests (Nielsen, 2014; Reinecke and Blum, 2018). It argues against ecological modernization's technocratic and de-politicizing tendencies by stressing the 'political' of citizen participation, transparent governance, and demands for social justice and fairness (Bidone, 2023; Delabre et al., 2020; Mustalahti, 2018), also recognising the 'ecological debt' owed by the Global North to the Global South (Newell et al., 2021).

This is particularly important as the discourse on **'environmental justice'** has also gained new momentum with the problematization of climate justice and just transition, stressing the differences in the impact of climate change, not only in a North-South perspective, but also among different social groups and communities, taking into account the multitude of human dimensions of climate change (Bolin and Tassa, 2012).

This discourse rejects an understanding of nature as "wilderness" (as a conservation discourse separating people from nature), but as a place where "people live, work, and play" (Schlosberg and Collins, 2014), thus challenging the colonial legacies and Western approaches not only to resource governance (Bidone, 2022; Brockhaus et al., 2021), but also to nature protection. Here, forests are understood as political-ecological entities shaping every-day practices of power, access to resources, and claims to territory, and highlights the co-production of these practices by Western environmentalist actors (Leipold, 2014), but also by local forest residents, state bureaucrats, and conservation organisations (Devine and Baca, 2020). It is criticised that while the language of justice is routinely made use of in political and legal documents, practices of justice preserve dominant concentrations of elite power and are often based on universalistic assumptions about global (distributive) justice emanating from the Global North (Newell et al., 2021).

Market-oriented approaches to environmental and social problems are discerned as privileging economic efficiency and development, while perpetuating histories of colonial conservation and extractivism, assuming the universality of European science and knowledge (Ramcilovic-Suominen et al., 2022) while alternative values and experiences, as well as alternative dimensions of justice, are neglected and excluded (Dawson et al., 2018; Martin et al., 2013).

An environmental justice discourse emerged from the realisation of the disproportionate effect of pollution, climate change, and environmental damage on the poor. This raised concerns about a liberal and individualist concept of justice, and instead introduced a relational idea of justice focusing on the relation between individual action (consumption) and its effects, not only on other (poorer) human beings, but also on other species and nature (the planet) more generally (Winter and Schlosberg, 2023). Emerging from an **'environmentalism of the poor'** literature (Guha, 2002; Martínez-Alier, 2014, 2003), it has spiralled and morphed into de-growth literature (see above), albeit with a stronger focus on the Global South.

But these radical discourses are more environmental than socio-environmental. Thus, they tend to approach racialised inequalities and global social stratification as secondary, or as subordinate concerns. Many critics, drawing among others on stratification economics (Goubert, 2022), traditional and Indigenous knowledge (Kim et al., 2017; Sinthumule and Mashau, 2020), and matter-centred approaches (Winter and Schlosberg, 2023) put the case for developing an alternative approach to environmental justice. The **'just sustainability'** discourse tries to address such gaps. Agyeman and Evans (2004) argued that concepts of sustainability have to be extended beyond 'environmental sustainability', and 'environmental justice' should transcend social sustainability and its structural root causes of injustice (Agyeman and Evans, 2004). It highlights inequality and imperialism as core problem, and inclusion, along with autonomy, as a central lever in the process of strengthening sustainability (Agyeman, 2013). While it has been recognised that the burden of climate change is unequally distributed (those who have least contributed, often face the biggest climate change risks), there is still less attention paid to the inequalities of transition towards a more ecologically sustainable and less carbon-intensive economy, and, for example, a reliance on renewable energy could enforce existing exploitative mechanisms (Kojola and Agyeman, 2021).

By now, the just sustainability discourse has become more visible, stressing inequality and social stratification at local and global levels as deleterious, not only to climate change, but also to biodiversity loss, dispossession, and displacement (Agyeman, 2013; Obeng-Odoom, 2022a, 2022b, 2021). Compared to earlier forms of environmental justice discourses, this one has also moved more strongly into the realm of ecological imperialism with radically different demands for truly transformative ecological and economic approaches. Classical and conventional mechanisms of restoration or redistribution are criticised as veiling continued practices of dominance, unsustainability, and inequality (Chen, 2022; Frame, 2023; Obeng-Odoom, 2022a).

Overall, these discourses are truly global, in terms of theorising, historicising, and analysing the ramifications of ecological problems. Within this sphere is ecological imperialism and its radically different focus, seeking to challenge not only existing global political-economic structures of production and distribution, but also the science of climate change itself. A radical demand is usually ecological reparations (Obeng-Odoom, 2023a, 2023b; Táíwò, 2022), rarely the focus of other discourses.

4.2.3 Existing regulatory discourses with new twists

In the historical overview of the development of regulatory discourses, Arts et al. (2010) showed the move from state regulation and hard law (defining states as the main responsible actors) in the 1960s and 1970s towards a more 'neoliberal' way of governing based on self-regulation (with reference to corporate and social responsibility), de-regulation (relying on voluntary mechanisms, criteria, and indicators), and finally ending up with a 'mix' of top-down regulation and bottom-up coordination in the sense of 'smart' regulation. This shift in regulatory dynamics can be related to a move from government towards 'governance' and 'governmentality' (for a more detailed analysis on forest governance see Arts, 2014; Arts and Visseren-Hamdkers, 2012; Sergent et al., 2018), which can also be related to the dominant meta-discourses over time (see Table 4.2).

The move towards more 'governance' (in line with the discourse on de-regulation, self-regulation, and voluntary instruments) ushers in a stronger reliance on markets, but also civil society initiatives and voluntary partnerships among various actors. Payments for ecosystems services, emission trading, and certification schemes (e.g., for forest-related products and services) rely not only on mechanisms of commodification, but also on market mechanisms of supply and demand, with prices attached to "forest commodities and services" other than timber. This is informed by a neoliberal discourse on self-regulating markets (Osborne, 2015, p. 67), which are assumed to be more efficient in resource allocation and benefit provision and provide new opportunities to private actors. Given that the state, but also Non-Governmental Organisations (NGOs) and

Table 4.2

Regulatory discourses (1960s-2010)	
State regulation and hard law	States are the main actors in decision-making.
De-regulation, self-regulation, and soft law	Rolling back the state including corporations regulating own matters, as well as new self-steering governance modes such as certification and labelling appear.
Smart regulation	A policy instrument mix with top-down and bottom-up regulation.

Source: Arts et al. (2010)

large corporations, develop new forms of (self/co-) governance, different arenas of governance and actors emerge. In this regard, new forms of 'orchestration' in political processes become more prominent (Kleinschmit et al., 2018). This new plurality gives rise to opportunities of co-optation of various demands and the accommodation of difference (Howarth, 2010) in issue coalitions as demands overlap, at least partly. In combination with practices of 'anti-politics' (rendering issues technical, and thus, a matter for experts), it can additionally contribute to the silencing of more radical (e.g., justice) demands (Lewis and Bulkan, 2022). A consensus on climate governance is constructed as politics is replaced by social administration and technological fixes (Swyngedouw, 2011), and issues of contestation are silenced and framed as irrationally ideological.

Fragmentation presents one key-framing used in forest governance and regime analysis (Rodríguez Fernández-Blanco et al., 2019) in relation to the non-integration of international regimes (e.g., forest issues that are dealt with by the Convention on Biological Diversity – CBD, the United Nations Framework Convention on Climate Change – UNFCCC, and the United Nations Forum on Forests – UNFF). The UNFF is defined as a "set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge" (Krasner, 1982, p. 186). In this regard, the lens of regime complexity or understanding a regime as experimentalist is also used. According to Overdevest and Zeitlin (2014. p. 23), regime complexity is defined as "a situation in which there is no single, unified body of hierarchically imposed rules governing a transnational issue area or policy domain, but instead a set of parallel or overlapping regulatory institutions". This can result in productive experimentation, and stipulates cross-fertilization and horizontal learning. Loosely coupled regime complexes may also be more flexible across issues and adaptable over time. This seems particularly well-suited to transnational domains, where the diversity of local conditions and practices makes adoption and enforcement of uniform fixed rules unfeasible (Overdevest and Zeitlin, 2014). Harini Nagendra and Eleanor Ostrom regarded **'polycentricity'** as an important concept to analyse the governance of forest ecosystems, as most collective problems involve "finding ways of providing diverse goods and services at multiple scales", in particular for "complex resources", as it enables resource users and managers to relate to the multiple scales of ecological functioning (Nagendra and Ostrom, 2012, p. 115).

The Foucauldian term of **'governmentality'** is crucial for apprehending the hybridity of forest governance (Arts, 2014), drawing on an understanding "of decentralized and omnipresent power, combining numerous technologies and practices" (Winkel, 2012, p. 84). Therefore, **'green governmentality'** engages with a form of power "tied to the modern administrative state, mega science, and big business, linking knowledge (eco-knowledge) and expertise to a bio-political management of life", but also marginalizing (silencing) alternative understandings of the natural world (Bäckstrand and Lövbrand, 2006, p. 54). Agrawal (2005) had earlier coined the term **'environmentality'**, combing governmentality with the environment. From his point of view, environmentality focuses on the production of 'environmental subjects' (concerned about the environment) through technologies of self- and social practices. Conceptualizing the Reducing Emis-

sions from Deforestation and Forest Degradation (REDD+) mechanism through the lens of multiple environmentalities, Collins (2020, p. 341) showed how forest communities are "whipped into shape to make them suitable for REDD+'s payments for forest conservation mandate".

Summing up, the originally identified regulatory discourses are still valid, but further nuances appear in the literature as regulatory governance tends to become more complex globally.

4.2.4 Forest-related discourses: Refurbished 'old' and new ones

Arts et al. (2010) identified ten forest-related discourses, which are summarized in table 4.3 below.

Table 4.3

Forest-related discourses	
Industrial forestry	Links up with the modernisation discourse and connects forests to economic development. It is supported by scientific forestry with the aim to maximise long-term economic return.
Woodfuel crisis	As an increasing number of people in developing countries were becoming dependent on wood fuel for energy needs during the 1970s, the depletion of forest resources was anticipated.
Deforestation	Emerged during the 1980s mainly in relation to tropical rainforests, and later including boreal forests. It was linked to issues of biodiversity loss, poverty reduction, and climate change.
Conservation in protected areas	Emerged in the 1980s, first being dominated by the idea of "people-free-parks" and later shaped by narratives on sustainable forest management.
Forest decline	Emerged as part of the "acid rain debate" and focused on factors negatively affecting forests.
Forest biodiversity	Addresses not only conservation issues and problems of social justice, but is also linked to access to resources and technology. Thus, also framed as ecological neoliberalism.
Forests and climate change	Gained prominence with the Clean Development Mechanism (CDM) and Reduced Emissions from Deforestation and Forest Degradation (REDD), and it is strongly influenced by neoliberal discourse.
Sustainable forest management	Congruent with the meta-discourse on sustainable development, it raised issues of participation, distribution, and (over-)consumption. A discourse on ecosystem management rejects a purely utilitarian perspective on nature.

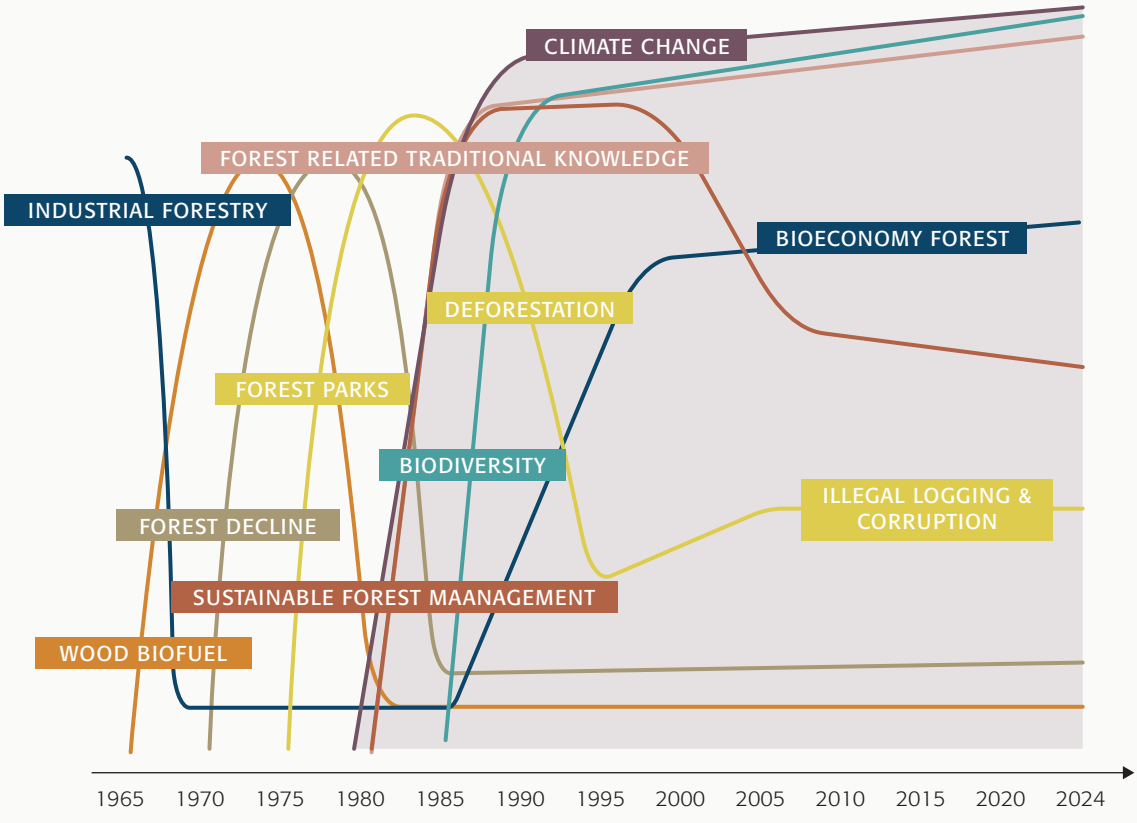
Forest-related traditional knowledge	Focuses on low- and middle-income countries and local forest-communities, sustainable use, and Indigenous Peoples as conservationists, and frames forests as "cultured spaces".
Illegal logging	Centres around a process of Forest Law Enforcement and Governance (FLEG) and the European Union Forest Law Enforcement, Governance, and Trade (FLEGT) action plan to combat negative effects of illegal logging.

Source: Arts et al. (2010); the last four discourses are the forest-related discourses that have changed from 2010 onwards in the scientific literature, others remained the same.

Since 2010, most of these forest-related discourses have been influenced by the new focus on climate change, thus stressing the role of trees and green areas for climate change mitigation, highlighting the role of forests as carbon sinks, as a source of renewable energy, and as vulnerable objects themselves (Edwards et al., 2022; Nielsen, 2014). The text below only deals with the new developments (last four discourses in Table 4.3) and therefore does not provide summaries of others that have not changed or were discontinued. Throughout the text, various boxes are included to exemplify how discourses matter in countries and regions throughout the world.

Figure 4.2

Forest discourses in the global governance literature updated



4.2.4.1 Forests and climate change

The so-called 'climatization' of forests is also found in forest specific discourses as forests are "at the core of climate change problems and solutions" (Paim, 2021, p. 229). They are embedded in a managerial discourse which links forests discursively to climate change at all levels (de Koning et al., 2014), stressing the soil and water protection function of forests and trees (Melo et al., 2021; Miura et al., 2015). The nexus between forests and climate change is constructed through three different narratives: i) problematizing the contribution of *deforestation and forest degradation* to climate change (Bidone, 2022); ii) seeing the potential of forests to mitigate climate change; while iii) acknowledging also the effects of climate change on global forests (Buizer et al., 2014).

Climate change is expected to exacerbate social, economic, and political problems that drive deforestation and degradation (Long, 2013), thus increasing the salience of the concept of resilience (Sakschewski et al., 2016; Stevens-Rumann et al., 2018). An increase in global temperature will exacerbate the risk of forest fires, and consequently release additional atmospheric carbon (Buizer et al., 2014) and decrease the resilience of *forest-dependent* communities (Akamani, 2012; Lyon and Parkins, 2013).

REDD+ is regarded as providing the most prominent intersection of governance of climate change, biodiversity, forestry, and development (Singer and Giessen, 2017; Zelli et al., 2019), and Article 5 (para. 2) of the Paris Agreement specifically encourages "results-based payments" for the reduction of greenhouse gas emissions, as deforestation is framed as one of the main sources of greenhouse gas emissions (Holmgren, 2013; Park et al., 2023), but also a cause of habitat and biodiversity loss (Pendrill et al., 2019). It emphasizes the "responsibility of local forest-dependent communities" by working through market incentives (Holmgren, 2013, p. 375). Therefore, it can be seen as a typical example of a market-reliant instrument that uses economic incentives (payments for ecosystem services schemes, carbon market finance options) and relies on science, technology, and expert-led processes (Bayrak and Marafa, 2016; Bidone, 2022; Martin et al., 2013; Nielsen, 2014). This clearly demonstrates the way the neoliberal meta-discourse, with its emphasis on marketization, gives an enhanced role to the private sector, deregulation, and voluntarism (Humphreys, 2009), which influences and defines the limits of international forest policy (Hogl et al., 2016; Leipold et al., 2019).

Ample criticism is found in the scientific literature on REDD+'s seemingly narrow focus on tradable forest values (Buizer et al., 2014), its failure to take socio-cultural and ideological values of ecosystems into account (Bayrak and Marafa, 2016), and its reduction of forest policies to questions of finance (Delabre et al., 2020) and investment protection (McDermott, 2014). By providing 'services to the global green economy', it enables the global economy to 'continue in its current inequitable structure' (Godden and Tehan, 2016).

Two further critical takes about REDD+ appear. From the perspective of climate justice, REDD+ is seen as globalizing Western and modernistic notions of forests (González and Kröger, 2020), establishing a type of 'carbon colonialism' by promising 'win-win' outcomes instead of problematizing trade-offs between spheres of economic, social, and environmental sustainability (Osborne, 2015). The 'beyond markets' narrative (Nielsen, 2014) is critical of the idea of carbon markets as means for equitable distribution. REDD+ is seen as ignoring the exacerbation of social and environmental problems in local communities. Its value attribution to land for environmental services including carbon is regarded as further contributing to the marginalization of economically less powerful groups (Bolin and Tassa, 2012; McCall, 2016). Additionally, local communities are often framed as victims of climate change (turning them into objects), while neglecting their potential to substantially not only contribute, but initiate actions to mitigate climate change (Ramos-Castillo et al., 2017).

4.2.4.2 Sustainable forest management discourse continues

The **sustainable forest management** discourse, becoming dominant during the 1990s (Edwards et al., 2022), continues to promote responsible forest resource use and recognises the multiple contributions of forests (Kadam et al., 2021), including climate adaptation and biodiversity conservation (Wolfslehner et al., 2020), while being closely related to a 'multi-functional forestry' frame (Hogl et al., 2016). Synergies have been identified with REDD+ (Long, 2013) to reduce pressures on ecosystem services caused by deforestation (Cadman et al., 2017). It also touches upon the question of resilience as a 'capacity' of ecological and forest production systems to recover from climate shocks (Keenan, 2015).

Sustainable forest management has been criticized in several ways: Firstly, for being mostly Western (Pülzl et al., 2014); secondly, for its vagueness

Box 4.2

Forest discourses in Australia and New Zealand

While Australia and New Zealand have some widely shared commonalities, they have been influenced by different forest discourses over time. New Zealand has embraced an *afforestation/reforestation* discourse since the early 20th century, when it realized that timber supplies would likely run out. Since then, additional rationales such as erosion control, regional development, biodiversity, and carbon sequestration have underpinned this discourse (Bayne et al., 2020). In the 1980s, New Zealand began to subscribe to a form of ecological modernization, where there has been a complete separation of conservation and production forests (Roche, 2017). The analogous ecological modernization discourse in Australia saw widescale harvesting and conversion of native forests (Kanowski, 2017). The climate change and forests discourse has recently been gaining prominence in both countries. Carbon sequestration (tradeable in New Zealand) is the only ecosystem service recognized from plantation forests in New Zealand and Australia (Kanowski and Edwards, 2021). In addition to the climate discourse, Australia has embraced discourses of landscape restoration through Landcare, which was a response to loss of ecosystem function, productivity value, and land clearing (Kanowski, 2017).

allowing an increase in prominence of "sustaining carbon stocks over time"; and thirdly, for sidelining a broader definition including local communities, sustainable forest utilisation, and conservation (Reischl, 2012, p. 37). Despite its transition to multiple objectives and planning at multiple spatial scales (Lazdinis et al., 2019), it is still also referred to in the debate as fulfilling a demand for 'feel good' rhetoric. This results in a symbolic forest policy and management changes to suit sectoral purposes and interests (Sotirov and Arts, 2018), and allows continued business-as-usual for the forest industry (Edwards and Kleinschmit, 2013).

Box 4.3

Forest discourses in Indonesia

During the Dutch Administration, the forest sector in Indonesia was only focused on managing teak forests on Java, regulated by the 1865 "*Boschreglement*" law. At the beginning of Indonesia's independence in 1945, forestry was still a peripheral economic sector. Forest resources began to be utilized economically in 1967 to support foreign exchange growth. In 1970, a Government Regulation concerning Forest Concessions was issued, and between 1970-1980 the forest discourse in Indonesia was dominated by timber extraction for national economic development (Nurrochmat, 2005).

In 1980, the government issued a policy to ban log exports and to support the growth of the domestic timber industries. Forestry shifted towards increasing the added value of wood processing and marketing processed wood products. Environmental awareness became stronger after the Indonesian government ratified United Nations conventions and forest certification began to enliven a different forest discourse in Indonesia.

The economic and monetary crisis at the end of 1998 drastically impacted the centralized *forest management* policy and made it become more decentralized. Social forestry, which started to emerge in the mid-1990s, became increasingly more prominent in the 2000s.
In 2007, the United Nations held its climate COP13 in Bali, and the issue of climate change rose in importance in the country. At that time, the forest discourse was still governed by sustainable forest management, including the issue of timber legality certification (Nurrochmat et al., 2016). The issue of climate change became more dominant after the publication of

the Paris Agreement in 2015. It has continued to grow after the Indonesian government established the Forest and Other Land Use Net Sink 2030 policy in 2021. Climate change in forest discourse became also widely linked to the economic growth target to achieve a "Golden Indonesia", launched by the Indonesian government (Nurrochmat et al., 2023).

4.2.4.3 Updated forest-related traditional knowledge discourse

The discourse on forest-related traditional knowledge is closely related to the two preceding discourses, first appearing in the early 1990s, and linked to the meta-discourse of civic participation (Pülzl et al., 2014). This discourse continues to frame Indigenous populations as sources of local ecological knowledge leading to higher levels of biodiversity (Carson et al., 2018). Promoted by NGOs, the inclusion of traditional knowledge of communities depending on forests is seen as leading to i) more sound management practices (De Royer et al., 2018); ii) effective solutions to climate change mitigation and adaption (Bayrak and Marafa, 2016); and iii) resilience and socio-environmentally just solutions (González and Kröger, 2020).

This refreshed discourse contributes to a 'beyond carbon' framing that emphasizes biodiversity, ecosystem services, and participation (Zelli et al., 2019), as 'forest-dependent communities might not want to see forests just as carbon containers' (Bayrak and Marafa, 2016). From a bioeconomic perspective, products deriving from traditional knowledge (like medicinal extracts from forests) are conducive to producing development gains, while at the same time, causing less direct trespassing of ecological and climate limits (Ramcilovic-Suominen et al., 2022).

But this 'romanticized' conceptualisation of local communities as resource sparing and biodiversity protecting forest dwellers are also challenged as Western myths. Global forest definitions are often at odds with Indigenous forest definitions (González and Kröger, 2020). Communities living in or near forests do not necessarily aim at sustaining forests, as conversion of forests to agroforestry and agricultural uses are part of their livelihood repertoires (De Royer et al., 2018). This perspective demands for the hearing of local voices and the allowance of a variety of values and knowledges to inform forest policy (Delabre et al., 2020; Melo et al., 2021). REDD+ has also triggered a renewed problematization of traditional knowledge and forest use practices, as the fixation on carbon sequestration and monetary benefits has intended and unintended socio-cultural consequences (Bayrak and Marafa, 2016). Furthermore, it has been criticized that only a few conservation programmes promote "different ways of knowing", including concepts of bio-cultural diversity (Martin et al., 2013, p. 128), but also the instrumentality of using 'particular' (in the sense of traditional) knowledge by making forest-dependent communities responsible for keeping forest intact (Holmgren, 2013). This problematizes specific land-use practices and ignores power imbalances (Brockhaus et al., 2021).

4.2.4.4 Illegal logging and corruption

The climatization of forests has also introduced new aspects to the discourse on **illegal logging**, and has heightened the awareness of corruption risks. Since the 1990s, illegal logging has received increased attention, and a 'timber legality regime' has emerged building on, for example, Forest Law Enforcement and Governance (FLEG), Forest Law Enforcement, Governance, and Trade (FLEGT), the US Lacey Act, and timber certification schemes with the aim to make 'land use and forest governance clearer and fairer', and create conditions conducive to sustainable forestry (Bartley, 2014; Haug and Gupta, 2013; Kraxner et al., 2013).

Nowadays, however, the academic literature highlights an increased salience of corruption risks associated with the distribution of forest carbon rights through, for example, REDD+ schemes. Funds might get pocketed by local officials (Sundström, 2016) following lacking land tenure security of local communities and the resulting potential for land and benefit grabbing (Streck, 2020). The discourse problematizes the issue of elite capture, referring to a process by which local elites take advantage of their positions to secure a large share of resources, or financial flows for their own benefit (Persha and Andersson, 2014). This also calls into question decentralisation endeavours: while on the one hand it is framed as an incentive for local communities to actively engage and participate (and contribute their knowledge), on the other hand it provides new opportunities for local elites (and thus, lo-

Box 4.4

Forest discourses in the Republic of Korea

The Republic of Korea has had three dominant forest discourses since the 1970s. The first discourse was the reforestation discourse. After the Korean War (1950-1953), forest rehabilitation for land recovery was highlighted with the First National Forest Development Plan (1973-1978) and the Second National Forest Development Plan (1979-1987). The Republic of Korea followed the state policy pathway of forest transition with the reforestation discourse against deforestation and forest degradation (Park and Youn, 2017). The second discourse was the sustainable forest management discourse of the 1990s, based on successful reforestation and the global trend of sustainable development in forestry. The sustainable forest management discourse includes shifting the focus of forest policy from economic functions to the multiple functions of forests. The forest ecosystem service approach was introduced, emphasizing multiple benefits of forests. In particular, the forest's function as a carbon sink has been highlighted within a global climate discourse, linking with the fifth National Forest Development Plan (2008-2017). The third forest discourse is now the forest welfare discourse. Following sustainable forest management, this forest welfare discourse began in the 2000s, focusing on the cultural services of forests. The forest welfare discourse highlights the functions of forest recreation, tourism, therapy, and healing (Koo et al., 2013). In particular, the COVID-19 pandemic strengthened this forest welfare discourse by highlighting the contribution of forests to human health.

cal power networks) to profit from their intimate knowledge of, and power over, local constituencies to capture financial and other benefits (for a more detailed analysis on how decentralisation provides opportunities to local leaders, see Persha and Andersson, 2014). But corruption does not arise only from government failure, but may also result from past colonial policies and practices of transnational corporations (e.g., Njoh, 2022).

Besides negative ecological effects, corruption also increases social inequalities in local contexts (Sundström, 2016). It excludes poorer and less influential community members not only from benefits, but also from participation in decision making (Forsyth and Sikor, 2013). Ongolo coins the term 'Gecko politics' highlighting a discourse (often prevalent in states with lacking administrative capacities and weak accountability mechanisms), where the rhetoric of participation and inclusion adapts to international demands as required, but remains out of sync with reality (Ehrnström-Fuentes and Kröger, 2017; Morin and Orsini, 2013; Ongolo, 2015; Sayer and Collins, 2012). Corrupt governance practices are defined as "abuse of entrusted power for private gain" (definition by Transparency International, but for a critical approach, see Doshi and Ranganathan, 2019). An alliance between the private sector and powerful bureaucratic and government allies (Larson et al., 2021) can, in this way, hamper the elimination of unsustainable forest practices, or obstruct mechanisms of verification through, for example, measurements and data collection (Buizer et al., 2014).

4.2.4.5 The 'bioeconomic' forest

While the previous sections highlighted changes and layering of older forest discourses mainly resulting from new perspectives on forests under climate change conditions, the **bioeconomic forest** discourse opens a new field of forest discourse. Holmgren et al. (2020) identified in their literature review three types of rationales evident in a forest-based bioeconomy: i) decarbonization and maintenance of economic growth; ii) fundamental societal transformation; and iii) pathways towards sustainability (Holmgren et al., 2020).

Comparative studies also highlight the different roles national strategies ascribe to forests in the shift toward bioeconomy (Kleinschmit et al., 2017). In the case of a techno-bureaucratic framing of bioeconomy, industrial perspectives and the commodification of forest services prevails (Kröger and Raitio, 2017; Mustalahti, 2018), but also ideas of intensification can be linked to a bioeconomy discourse, aiming at higher rates of carbon uptake and substitution of fossil fuels, and building with wood, clearly showing the tensions immanent in the discourse (Lazdinis et al., 2019).

As a motor for innovation and a source of renewable materials, the discourse conceptualises the forest sector as crucial for the development

Box 4.5

Forest discourse in Argentina

The implementation of neoliberal economic reforms in Argentina during the 1990s resulted in the dismantling of the national forest bureaucracy. With this action, the country followed an ecological modernization discourse with a complete separation of production (associated with industrial plantation forests), and conservation (associated with natural forests) (Burns and Giessen, 2016). Influenced by afforestation discourses, plantation forests in the country have been seen as a source of raw material, gradually incorporating elements from pro-economic growth and bioeconomy discourses (Mijailoff and Burns, 2023). Alternatively, concerned with natural forests and their conservation, other forest-related discourses emerged ranging from sustainable development to broad civic environmentalism discourses. The former expects to tackle deforestation through production with conservation, for instance through the current movement promoting forest management with integrated livestock (Peri et al., 2021). Related to traditional knowledge discourses, Indigenous Peoples and Local Communities' livelihoods are seen as an end and a means for forest conservation (Seghezzo et al., 2011). Despite the differences in natural and plantation forests, both are strongly influenced by the climate discourse, nurtured by ideas on common but differentiated responsibilities, and increasingly focused on carbon-based metrics (Bull and Aguilar-Støen, 2014).

of bioeconomy (Park et al., 2023; Pietarinen et al., 2023), thus also highlighting the tensions between a conservative model of industrial growth and long-term sustainability. The concept of bio-based economy seems to be gaining strength to the detriment of discourses on sustainability and multifunctionality (Sotirov and Arts, 2018).

4.3 Seeing the forests through different framings

The discourses presented in the text above engage forests from different perspectives. These perspectives have implications on the role forests play. This Chapter, however, aims to single out four specific frames that play a particular role in current political debates and are much discussed in the literature (forests as ecosystem service providers, as carbon sinks, as landscape managers, and as suppliers of Nature-based Solutions). Through framing forests mainly as carbon sinks or suppliers of Nature-based Solutions, other forms of forest use become excluded. This has consequences for how forests are governed. Here, frames are considered as analytical devices of discourses.

4.3.1 Forests as ecosystem services providers

The idea of ecosystem services provided by forests is firmly embedded in the market logic. It broadens the perspective to distinct components of the forest ecosystem in the form of provisioning services (e.g., food, fuel, fibres, water), regulatory services (e.g., water purification, climate regulation), supporting services (e.g., production of soil and oxygen), and cultural services (e.g., recreation) (Lazdinis et al., 2019; Pramova et al., 2012; Roessing Neto, 2015; Winkel et al., 2022). Ecosystems, thus, provide local, regional, national, and global goods.

Payments for these ecosystem services translate them into a marketable value, linking the managers of these services with the beneficiaries, and, at the same time, overcoming cooperation dilemmas by connecting global demands for ecosystem services with local providers (Alix-Garcia and Wolff, 2014). Environmental protection becomes compatible with liberal economic goals (Bernstein and Cashore, 2012) and market mechanisms. Again, a win-win scenario is constructed: the restoration and conservation of ecosystems also contributes to the reduction of vulnerabilities of populations to climate change, as it increases ecosystem resilience (Park et al., 2023).

At the same time, mechanisms of exclusion are created, as those not able to afford to pay are unable to derive benefits from forests (Adhikari and Baral, 2018). But different ecosystem services can also compete (Falk et al., 2018), confronting forest managers and owners with conflicting demands ranging from providing biodiversity to allowing the transition to renewable energy

(Beland Lindahl et al., 2017). It also contributes to a marginalisation of values not suited for conversions into payable services (Buizer et al., 2014). Tensions exist between the economic and social assessment of ecosystem services, raising the question of which voices (e.g., experts, conservationists, forest dwellers) are to be included in the assessments (Felipe-Lucia et al., 2015).

This idea of forests as ecosystem services providers is related to a multiple-use forestry, which has gained momentum with the discourse of sustainable forest management (Hoogstra-Klein et al., 2017). Winkel and Sotirov (2016) characterized this, therefore, as a 'discursive weapon', serving as a political rhetoric tool without clashing with involved stakeholder interests (Hoogstra-Klein et al., 2017). To conclude, the ecosystem service framing around forests clearly ties in different discourses that are linked to a win-win logic, while at the same time framing forests as providing different products and services and not, for instance, highlighting that they themselves are under threat.

4.3.2 Forests as tradeable carbon sinks

In line with the economic modernisation discourse, and building on neoliberal market logic, forests are converted into a forest carbon commodity (ecologic and economic), potentially fully fungible to be traded on global markets (Zelli et al., 2019). In this form, forests fully enact their role in global climate governance (Buizer et al., 2014). The Intergovernmental Panel on Climate Change (established in 1988) and the United Nations Framework Convention on Climate Change (established in 1992) initiated the framing of forests as carbon stocks (Chazdon et al., 2016). This gave way to highly technical concepts (reference levels; Monitoring, Reporting, and Verification – MRV) difficult to contest, as based on scientific claims, expert assessments, and performance-based payment schemes (Nielsen, 2014). For example, REDD+ builds on this logic of market transactions based on a single exchange value in the form of carbon credits; thus, a monetary fixation on nature (Bayrak and Marafa, 2016). REDD+ action, as part of Nationally Determined Contributions in the framework of the Paris Agreement, and improved methodologies for carbon accounting in forestry projects, should increase the mitigation potential of forests (van der Gaast et al., 2018) and provide income-generating opportunities for local communities (Senadheera et al., 2019).

Carbon storage and sequestration can be converted into a business proposition where global sustainability governance frames forests as natural capital and favours market-based solutions (payments for ecosystem services, or certification standards). In this way, climate change becomes 'governable' by relying on mechanisms of accounting (Delabre et al., 2020; Lövbrand and Stripple, 2011). However, some authors single out an opposing framing that problematizes the effect of carbon commodification on local communities, as they disregard the complexity of socio-cultural and ecological values (Bayrak and Marafa, 2016; Delabre et al., 2020). Existing social safeguards remain insufficient, and mechanisms of free, prior, informed consent remain ineffective (Suiseeya, 2017) when it comes to avoiding 'carbon colonialism' (understood as continued domination and imposition of standards on Southern and poorer countries, who did not create the problem of man-made climate change in the first place) (Forsyth and Sikor, 2013; Nielsen, 2014).

4.3.3 Forests as landscapes

While the term "landscape" has been increasingly replaced by "ecosystem" in the discourse on conservation (Sayer and Collins, 2012), it is closely related to it. It aims to reflect a more integrative approach towards natural environments with different livelihood systems and social interactions (Nielsen, 2016), connecting nature and people. The landscape approach towards forests follows the idea of "internally interactive" landscapes (Chazdon et al., 2016, p. 539), and seems to "end the debate that pits agriculture against forests" (Buizer et al., 2014; McCall, 2016, p. 68). It overcomes this sectorial approach to land management separating forestry from agriculture and other land uses by applying a more holistic approach, also presenting forests as part of "larger and fluid" ecosystems (Nielsen, 2016, p. 180). While an emphasis on conservation and forest protection largely ignored agricultural activities and requirements of forest-dependent people, a re-framing of forests as landscapes allows for the integration of economic activities within forest management and governance practices. This more holistic approach builds on multi-faceted governance and management techniques.

Forest landscapes are sometimes characterised as only vaguely defined "boundary objects" (McCall, 2016, p. 59), or a 'floating signifier' (Reinecke and Blum, 2018), and consequently are seemingly flexible enough to be used by different actors almost all-inclusively. Arts et al. (2017, p. 457) highlighted how a landscape, as a boundary concept, allows for "discursive spaces for (re)

interpretation, (re)negotiation, and consensus formation among different domains", bringing together different disciplinary concepts.

Approaching forests from a landscape perspective promises triple wins (mitigation, adaptation, and development) (Nielsen, 2016), or even quadruple wins, adding the conservation of biodiversity (Reinecke and Blum, 2018). It is regarded as helping to overcome "integrative and operational gaps encountered in the ecosystem services framework", as they emphasise human-environment interaction (Angelstam et al., 2019, p. 1445). Additionally, it is mainly linked to the discourse of sustainable development, as it builds on cross-sectoral and multi-stakeholder engagement (Arts et al., 2017; Axelsson et al., 2011). Still, there is also criticism concerning the integrated landscape approach representing the "diffusion of data-driven technocratic and neoliberal governance from […] forests onto entire landscapes, under the mantle of environmentally sustainable development" (Nielsen, 2016, p. 181). While claiming better integration of different demands, and a more holistic perspective on connected ecosystems, emphasis remains on the useability of forest products and services. Thus, the re-framing as landscape approach is suspected to be just old wine in new wineskins.

4.3.4 Forests as providers of Nature-based Solutions

Nature-based Solutions are 'inspired and supported by nature' (European Commission, 2015) to provide environmental, social, and economic benefits, to build resilience, and to maintain or enhance ecosystem services. The core idea is the use of ecosystem services to address societal challenges (e.g., climate change) (Cohen-Shacham et al., 2019) by promoting the maintenance, enhancement, and restoration of biodiversity and ecosystems as a whole to simultaneously address multiple concerns (Kabisch et al., 2016). It turns nature into a multiple service provider (Babí Almenar et al., 2021) to solve human (and human-induced) problems, as nature is seen as working for the benefit of society (Welden et al., 2021).

This multifunctionality idea is crucial here as forest ecosystems (natural, managed, or urban forests) are considered multifunctional providers of Nature-based Solutions (Salvatori and Pallante, 2021). While related practices (in the sense of working with nature to cope with impacts of natural disasters or climate variability) have always been used (e.g., planting of trees for flood protection), putting a scientific name to it is a more recent development (Seddon et al., 2021). Already a normalisation process is ongoing, evidenced by the development of related global standards developed by the International Union for Conservation of Nature (Cohen-Shacham et al., 2019). However, so far it is still underspecified what counts as Nature-based Solution (Seddon et al., 2021). For example, reforestation and 'improved' forest management modes can represent related forms of Nature-based Solutions to tackle climate change and halt biodiversity loss (Folkard-Tapp et al., 2021).

Seddon et al. (2020) highlighted several risks associated with the reliance on forests for greenhouse gas mitigation: i) if not grounded in sound ecosystem and biodiversity science, preference for monocultures vulnerable to diseases and loss of biodiversity might be the result; ii) financial incentives may compromise local land rights and lead to land grabbing; iii) tree plantations might encroach onto other ecosystems with devastating impacts on biodiversity; and iv) the strong reliance on Nature-based Solutions as technical fixes might distract from the necessity to decarbonize the economy.

Consequently, two opposing framings can be identified: on the one hand, pointing to the 'leveraging power of nature', and on the other hand, conceptualising Nature-based Solutions as a dangerous distraction, as they are "co-opted to continue with what is seen as unsustainable, unjust, status-quo" (Melanidis and Hagerman, 2022, p. 275). These two comments can probably be merged together as the growing importance of the climate change discourse having contributed to a different and innovative framing of forests (e.g., ecosystem services, Nature-based Solutions), and putting more salience on their various contributions to mitigate climate change. This has allowed for new processes of democratisation and civic engagement, but also for new approaches to Indigenous knowledge and justice. However, as discussed in the previous Sections, old problems remain and new critical developments emerge, which is accordingly emphasised in the analysed literature.

4.4 Emerging from the discourses: The intimate linkage between forest knowledge, power, and mechanisms of exclusion

Without neglecting the fact that power has a material basis, a discourse analytic approach calls upon us to take into account not only how discourses and frames shape actions and beliefs,

but also how subjects and social practices are constructed. Foucault famously described this as the Power-Knowledge Nexus, in what counts as truth and knowledge is ultimately an effect of power (Digeser, 1992). Knowledge and power are intimately connected in discourses, as the "power of definition excludes alternative realities", and discourses create and destroy "time and location-bound rationalities" (Winkel, 2012, p. 82). Different ways to know forests (traditional ecological knowledge versus statistical or numerical knowledge) give rise to different subjective relationships with forests and with different techniques of governing forests (Agrawal, 2005b). The issue of power is clearly linked to the 'art of governing', as discourse analytic approaches not only allow to bring clarity into understanding how processes of meaning-making (by producing, processing, and institutionalising knowledge) contribute to institutional stability and change (Kaufmann and Wiering, 2022), but also how governance is exercised through micro-level interactions (Edkins, 2007; McDermott, 2014) intending to create subjects internalising specific values and norms (in the sense of Foucault's governmentality) (Fletcher and Cortes-Vazquez, 2020).

Mechanisms of power are particularly pronounced in procedures of exclusion, as "in every society, the production of discourse is at once controlled, selected, organised, and redistributed" by different procedures. These operate not only though mechanisms of prohibition and rejection (of 'unreasonable' utterance), but through a "will to truth", in the sense of mechanisms and instances within societies distinguishing true from false statements, including techniques and procedures to obtain truth (Foucault, 1980, p. 53).

A Foucauldian forest policy analysis is thus also geared towards unmasking the subversive forces of discursive power, the exclusion of specific groups, and oppressive forest governance (Winkel, 2012). It also gears us towards understanding political power as a way of governing through complex bodies of knowledge (Rose and Miller, 2010). However, we aim to dive deeper into forests and discursive ways of knowing forests, what commodification of forests can do, as well as critically address silence or discursive omissions as forms of power. While it addresses some aspects that have been mentioned before, here the focus is on how knowledge and meaning making is an expression and perpetuation of power relations.

4.4.1 Knowing forests

Framing forests as carbon sinks and deploying governance modes like carbon accounting for 'green transformations' to counter climate change requires a constant production and flow of information – and the incentivisation of actors to act based on the provided knowledge (Müller, 2017). This also carries the confidence that indicators and monitoring techniques provide appropriate means to oversee forest carbon changes (Zelli et al., 2019).

Different framings of 'forest knowledge' also show the link between specific forms of knowledge and (em)power(ment). The need for 'constantly better knowledge' also allows local (traditional) knowledge to gain recognition in addition to satellite monitoring of forest cover for the effective implementation of programs such as REDD+, as low-cost, accurate, and rapid information on areas of forest degradation and regrowth (Nagendra and Ostrom, 2012). It also allows to de-construct power relations hidden in the term "resilience". Contrary to the term "vulnerability", which appeals to global solidarity, resilience relies on a set of different ideas that stretch from engineering, ecological, and social-ecological ideas that often get intermixed (Nikinmaa et al., 2020). Underlying educational ideas imply that change and potential capacity transfer are possible, and portrait autonomous populations as no longer in need of solidarity (Müller, 2017). Social-ecological resilience perfectly resonates with a neoliberal discourse, as it puts emphasis on private (market) actors and their capability (responsibility) to build their capacities.

The perpetuation of dominant ways of knowing also reinforces injustice, as it leads to the exclusion of alternative knowledge systems (Martin et al., 2013). Education replicates specific forms of knowledge. Modern forest planning can prolong colonial mechanisms through its construction of space and definition of forests, and therefore, it can have oppressive effects on different social and cultural groups (Winkel, 2012). The literature problematises how 'political forests' (as political-ecological entities) emerged in a recombination of colonial discourses, territorial governance strategies, scientific forestry, and conservation demands, always connected to a civilizing mission (Devine and Baca, 2020). Sungusia et al. (2020, p. 366) described mechanisms of exclusion as the "omission of social sciences, humanities, and Indigenous forestry knowledge from forestry curriculums". This not only perpetuates a supremacy of

scientific forestry knowledge, but also deprives students of opportunities to reflect and disrupt dominant views in forestry. It continues to reproduce 'techno-bureaucratic fixes', as neoliberal reforms further erode the conditions of de-colonizing forestry education in certain countries (Sungusia et al., 2020).

Knowing forests means also sharing knowledge and scientific results about forests more globally, and thus, mapping out forest functions and ecosystem functionalities across diversified forests, as well as providing profound insights into the social and economic roles forest and forested landscapes have. Knowing forests more in-depth also allows for being able to take better care of them.

4.4.2 Commodification

The translation of forests and their products and services into 'tradable entities' is closely related to practices of power and knowledge. All market participants and trading parties necessarily have to perceive and define an object as tradable in order to create a market for these new commodities (e.g., ecosystem services). While this is part of the 'political' (which is always an arena of contestation), over time, established markets become part of the 'social', and represent sets of sedimented practices (Laclau and Mouffe, 1991; Stephan, 2012). Verifying activities (and mechanisms of knowing forests and their services) through measuring, for example, forest carbon/biodiversity stored in forests become in this regard an additional requirement for commodification (Stephan, 2012). Commodification can also be positive, as it can create employment and social livelihood in rural areas, especially in *low- and middle-income countries*. It can create perspectives that may be well based on already established practices. But social commodification activities can also appear globally, when for instance vulnerability is turned into a commodity. It is done to serve national elites in their negotiations over climate finance (supported by indexes and vulnerability rankings as mechanisms of knowing – Olympics of Vulnerability), but often disconnected from local levels and leaving root causes of vulnerability unchallenged (Brockhaus et al., 2021).

4.4.3 Invisibility and exclusion

Power is strongest when it is invisible, and therefore, unresisted. 'The will to truth' is, according to Foucault, one of the biggest systems of exclusion. Established institutional practices, delimitations of methods and objects of knowledge, and how subjects are constructed by discourses, exclude simultaneously other possibilities of meaning-making. They also exclude other 'truths' and 'seeing and understanding' objects and actor positions (Foucault, 1980). As an example of this, Ramcilovic-Suominen et al. (2022) problematized the lack of attention to mechanisms of silencing and misrepresenting in the formation and implementation of a European Union bioeconomy, but also the lack of consideration for locally embedded ideas and knowledge. The technical fix of replacing oil with bio-sources allows to blind out power issues, questions of distribution, or related social problems (Bolin and Tassa, 2012; Newell et al., 2021; Suiseeya, 2017), and hinders the proper recognition of claims for justice.

Social safeguards, as introduced in the context of REDD+, are regarded as only weak interpretations of recognition-based norms and representing a 'do-no-harm' principle rather than a progressive realisation of human rights, failing to address injustice in practice (Dawson et al., 2018; Godden and Tehan, 2016). "Recognition is about seeking equality between different ways of knowing" (Martin et al., 2013, p. 124). Misrepresentation, and thus, misrecognition, perpetuates invisibility. Access to, and usage of land are determined through discursive mechanisms of exclusion: Bose (2023), for instance, described how Indigenous communities' resistance to mining is de-legitimised by two narratives: first, from an economic perspective mining is seen as the region's development interest, and those resisting are against development; second, Indigenous communities are reimbursed for giving up land rights for reforestation projects. Also, the depiction of forest dwellers as 'invaders and destroyers' (Beymer-Farris and Bassett, 2012; Carson et al., 2018) contributes to mechanisms of injustice, exclusion, and the manifestation of unequal power relations.

International forest governance builds on particular 'ways of knowing', understanding, and regulating forests and human-nature interactions. In line with capitalist modes of production and neoliberal discourses, it is "the market" understood as practice of commodification, which links knowledge (on forest data and values) with power (access to resources and price mechanisms). Mechanisms of exclusion perpetuate existing power and knowledge inequalities. Research shows that Western actors have more power in setting the forestry and ecological agendas (Masood, 2018). Structural issues (like English language proficiency, the dynam-

ics of scientific and expert networks, or access to funds) contribute to silencing or dismissing other forms of knowledge and other interests. Similar patterns apply to scientific publications. The top papers in the most visible outlet for climate, forest, and nature research (the scientific journal Nature) are dominated by the West and the Global North more widely (Van Noorden et al., 2014).

Box 4.6

Examples of forest-related land tenure discourses in Africa

A central discourse about forests and forestry in Africa is security of land tenure. The protection from eviction, questions about equity in ownership, and puzzles about autonomy in control of forests, land, and livelihoods are all critical themes around forest governance in large parts of sub-Saharan Africa (Obeng-Odoom and Stilwell, 2013). Tenure was an issue at the heart of the enslavement of Africans, a central question in colonialism, and a pivotal matter in the post-colonial period (Forstater, 2023). This problem persists. The question of is how best to secure tenure to enable forests to flourish and social forestry to thrive is central to African political economy. Most Western agencies, including the World Bank, NGOs, and governments champion private, individualised property in land, transforming land into a commodity. Connected to the commodification of forests is a development approach in which landed property should be mortgaged to access finance. But such marketisation has triggered widespread displacement and deforestation (Njoh, 2022).

An alternative discourse prioritises community over commodity (Sinthumule and Mashau, 2020). Strongly Afrocentric, traditional systems of land tenure, Indigenous governance, conflict-resolution mechanisms, and African notions of space, nature, and justice are prioritised. The market is not the arbiter of tensions and contradictions in forestry governance, but rather African systems and symbols guide the resolution of conflicts. Such systems prioritise autonomy and sovereignty. The Afro-barometer surveys reveal that Africans have more trust in their traditional systems of land management and governance (Honig, 2022). Econometric evidence shows that such collective African tenure systems might hold the key to the future of African forests (Djezou, 2014).

4.5 Conclusions

In 2010, Arts et al. concluded their chapter on "Discourses, actors, and instruments in international forest governance" with the following insights:

- Various meta- and regulatory discourses have influenced and changed more specific local and global forest-related discourses over time. While initiated in sequence, they continue to exist in parallel, with sustainable forest management being particularly dominant by bringing together the discourses of climate change, forest-related traditional knowledge, and biodiversity.
- With the increasing prominence of an ecological modernisation and a sustainable development discourse, the role of non-state actors such as NGOs has grown significantly.
- Soft-policy instruments on forest use, management, and conservation are established besides and in addition to legally binding instruments, creating 'smart' instrument mixes.
- Thus, policy-makers have to understand and embrace the complexity and sometimes inconsistency of global forest policy-making, and be more aware of 'discursive attachments' and linkages between forest and meta-discourses in order to allow for collective reframing in open and deliberative arenas.

These conclusions remain valid today, but our findings suggest that the stakes are higher today than in 2010. The call for a transformative change is clearly evidenced in the literature rejecting incremental adaptation that does not seem satisfactory anymore in the face of the dramatic consequences of climate change (in particular for the poorest and most vulnerable groups), and

shrinking timespans. This will require innovative policy solutions to address increasingly wicked problems (characterised by many interdependent, and hard to disentangle factors, the impossibility to know ex-ante what could constitute a good solution, and increasing pressure to find solutions more quickly) (Levin et al., 2012; Peters and Tarpey, 2019). We base this on the following main findings of this work.

4.5.1 Climate change as hegemonic meta-discourse

The 'battle against climate change' is now an all-embracing meta-discourse, and regarded as key challenge of the current century (Buizer et al., 2014; Holmgren, 2015). With the Paris Agreement, an ambitious goal was set to limit global warming to 1.5°C, and to achieve a decline of greenhouse gas emissions of 43% by 2030. The importance of forests and their capacity to store carbon and mitigate climate change has thus gained clear political prominence. Globally, it has found an expression in continuous calls to stop deforestation, as well as in the REDD+ instrument, and the call to mobilise public and private financial means to protect and restore forests (Nabuurs et al., 2022). The necessity to halt climate change frames forests as carbon sinks, but also frames them as providers of services for climate regulation and adaptation, and providers of Nature-based Solutions to cope with climate variability. This demands policy solutions and instruments to fully uncover the potential of forests as climate mitigators. This demand comes with clear urgency, as the ambitious goals of the Paris Agreement still seem within reach. At the same time, other important forest functions such as forests as livelihoods and providers of tradeable goods, including wood and non-wood products, sources of energy, enhancing biodiversity, or protecting from avalanches might be regarded as secondary to climate services, and loose overall political traction. This very likely increases the potential for conflict, and increases the fear that the understanding that forests are complex ecosystems with interconnected functions gets lost.

4.5.2 Reliance on market mechanisms

Our analysis shows a dominant reliance on market mechanisms to manage nature and climate change. In this way, climate change is constructed as a business opportunity (Gibbs, 2020; Holmgren and Arora-Jonsson, 2015), putting a market value on nature, and turning it into tradeable commodities and services. In particular, we see this tendency in a refurbished discourse on ecological modernisation, with a pronounced neoliberal frame, but also in the bioeconomy discourse, which aims at overcoming the limits to growth with biotechnological innovation in order to achieve the goal of a sustainable economy that also contributes to limiting climate change. Markets are considered as opportunity structures, and the challenge is to establish regulatory mechanisms that allow markets to fully develop their innovative capacity. With an emphasis on marketization, the enhanced role for the private sector, deregulation, and voluntarism can be framed as cost-efficient strategies to address climate change, but also carry the hope of promoting local livelihoods through business opportunities, and for new alliances between climate actors, local communities, and industries, ideally resulting in a win-win situation. Two questions remain: first, whether markets can produce the politically desired outcomes in due time (taking into account the time pressures arising from climate change), and second, whether these outcomes will be socially and economically just, as markets naturally produce winners and losers.

4.5.3 A quest for justice

Several discursive strands are identified that counteract the possibility of 'green growth', and demand a more radical re-orientation that stretches beyond capitalist and growth-oriented societies (e.g., Holmgren et al., 2020). Civic environmentalism remains a critical counter-discourse, and stresses not only the non-marketable values of nature and forests (Nielsen, 2014), but also the increasing demands for environmental justice to come forward. Market-oriented approaches are criticised for perpetuating histories of colonial conservation and extractivism, and for resting on the assumption of the universality of European science and knowledge (Ramcilovic-Suominen et al., 2022). While Arts et al. (2010, p. 69) found that "current hegemonic discourses tend to exclude specific types of actors, such as those NGOs with more radical perspectives and political critiques", this picture is likely to change as calls for justice and engagement with newer concepts of justice also increase in the academic literature. This is evidenced by the extraordinary surge of literature addressing environmental justice (from just 5 papers tagged with "environmental justice" in 1990, to nearly 3,000 papers in 2022). It also leads to activism being put forward by movements such as Fridays for Future, or the climate movement Last Generation, which have not yet been fully embraced in the literature. We can also observe that some scientists tend

more towards activism themselves (e.g., Scientists for Future, social media activities), which can play a bigger role in the future.

4.5.4 Coping with polarization

The aforementioned dynamics identified in the analysis of the scientific literature can be understood as a reflection of which discourses are governing forests in the policy world. They will most likely increase the polarization. Finding common positions and compromise could become more complex and difficult given their diverging, and sometimes opposing, nature. The plural and multi-dimensional discourses identified in the literature review speak to overlapping positions, but also promote radically different and opposing ones. While we have identified a tendency towards technical market solutions for complex environmental problems, which de-politicizes and disguises power constellations, actors who propagate the de-commodification of nature, degrowth solutions for climate change, and call for justice of vulnerable groups, are naturally politicising. Forest policy-makers will face the challenge of navigating those different poles in a contested setting.

As Rayner et al. (2010)'s complexity report highlighted, we face a complex discursiveness, and any attempt to reduce the complexity would be detrimental. The complexity of the forest regime (as analysed by Overdevest and Zeitlin, 2014) is unlikely to decrease, but might be a fertile ground for further productive experimentation and learning. From their point of view, loosely coupled regime complexes might prove to be more flexible and adaptable, which might allow them to cope with polarization.

Last but not least, most of the literature reviewed has been produced and disseminated by authors from the Global North. This inequality in the production and dissemination of forest-related discourses reflect a wider 'knowledge divide', discussed by the International Social Science Council. What this review has done, is to show that, also in forest discourses, voices of researchers in the Global South are not so prominent, as they arguably either do not engage with related social science research, or do not publish in peer-reviewed journals.

In conclusion, a word of caution. Our work is based on a literature review that provides deeper, but also indirect insights into how scientists in the field of forest policy analyse the world. This helps to reflect on which discourses govern activities, as well as how they are counteracted. However, this present work cannot provide final answers on how policy-makers view the world, and how they employ those different discourses and their framings in decision-making and implementation. To answer this, a solid discourse analysis of media files and/or political documents would have to be done in the future.

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Chapter 5

International Forest Governance for the Future: From Criticism to Alternatives

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Abstract

In this Chapter, we identify and explore the major criticisms of International *Forest*[1] *Governance* (IFG). We also present alternatives to current IFG approaches. Our critiques span from technical issues embedded within the accepted IFG framework, to broader challenges of the entire IFG. In response to these critiques, a spectrum of solutions and alternative governance approaches has emerged, ranging from technical fixes and incremental changes to radical transformations. In contrast to the past debate over legally binding versus non-binding aspects of IFG, the current emphasis is on governance beyond government. Despite critiques highlighting the ineffectiveness of these new modes of governance, the scientific call for participation and integration of non-governmental actors is mainstreamed. The review identifies a shift towards 'critical critiques' that delve into fundamental governance weaknesses, advocating for radical changes to address power asymmetries and envisioning alternative governance settings. The discussion here also underscores the changing nature of critiques, moving from an environmental output focus on deforestation to a broader societal critique, emphasizing input and throughput legitimacy over output. The importance of addressing the critiques and evaluating whether solutions align with these issues is highlighted, particularly in the context of measuring and monitoring within IFG rules. Technical innovations are presented as both potential solutions and sources of new challenges. Two potential ways forward are proposed. One suggests building on existing approaches, treating them as learning experiences adaptable to diverse national and local contexts to avoid the cyclic adoption and abandonment of new processes. The other, responding to critical critiques, advocates for a radically new IFG framework, rooted in understanding the perceived problems at the local level and addressing them through deliberative and collaborative means, steering away from hegemonic discourses such as emissions-focused approaches.

5.1 Introduction

International Forest Governance (IFG) has been the subject of research for at least four decades, with increasing attention since the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. Since that time, IFG arrangements have changed substantially, going well beyond intergovernmental United Nations (UN) processes involving state actors and stakeholder organizations. In 2010, a comprehensive report providing an overview of IFG, analysing its core components and proposing options for dealing with complexity and improving the effective implementation of forest governance, was published. That report highlighted the international forest deliberations and processes and the improvement of coordination among political actors, policy instruments, and institutions (Rayner et al., 2010). Taking note of the complexity of the IFG architecture and its fragmentation, the 2010 report concluded that "the governance challenge for the future is not one of negotiating a new super-instrument, but of coordinating multiple, existing, and future initiatives" (Rayner et al., 2010, p. 140). This suggestion builds on the observation that the IFG architecture has become more complex over the years, amongst others as a result of 'policy layering' by adding new policies or modifications to existing ones without necessarily substituting them; 'policy conversion', taking up ideas beyond their original intend and area; and/or 'policy drift', with stable policies but shifting context, and thus, changing effects. These processes are partially in response to a non-existing, hard-law *regime* (Shivakoti et al., 2021). Additionally, a growing number of actors outside the traditional forest sector have become involved in forest governance. This is particularly due to the fact that more policy and governance processes include forest-related aspects, but originate from policy fields that integrate actors beyond the forestry sector. As an example, the increasing global importance of the bioeconomy concept includes forest-related governance from other policy fields such as biotechnology and energy.

Since the 2010 report was published, many changes in IFG have taken place. These include

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

shifts of governance towards legality verification driven by some nation states and regional organizations, as well as a shift towards governance with the formally announced focus on tackling deforestation as a means of tackling *climate change* and biodiversity loss (for details of these shifts, see Chapter 2 in this report). Many studies have acknowledged these changes since the 2010 report, providing an overview of IFG or focusing on specific processes (amongst many others, Bass and Guéneau, 2007; Begemann et al., 2021; Giessen, 2013; McDermott, 2014; Rodríguez Fernández-Blanco et al., 2019; Rutt et al., 2018). Many of these studies have critically assessed IFG, including studies building on critical institutionalism, political ecology, and governmentality studies (Arts et al., 2021). Few papers focus on the critique of IFG, and this criticism is often addressed as a by-product raised at the start or the end, or being hidden between the lines of diverse studies. Yet, an overview of these criticisms is missing. Hence, it is the first aim of this chapter to start out from the critique of IFG providing a structured overview, and to identify patterns.

This Chapter complements Chapter 2 in this report, but with a focus on structuring the critique of IFG more broadly. We are aware that the aim to reduce the complexity of this focus comes with the caveat of neglecting successful, effective means of IFG. We, however, perceive critique, or even more specifically, institutional critique, as an essential part of social science practices, which is fundamental for political practice in particular situations of high complexity such as IFG. This review-based overview is an organized form of different perspectives shedding light on problems of IFG, and thus, facilitating self-reflection and learning in international political processes.

We assume that critical perspectives on IFG can be looked at through different theoretical lenses. The traditional perspective on IFGs, including its criticism, is rooted in theories of International Relations (IR), including regime theories. Additionally, there has been an increasing effort of a critical emancipatory research on IFG. So far, the two perspectives are, despite their interdependencies, existing side by side with only little integration. As a pragmatic approach, we build on the famous distinction of Cox, separating problem-solving theories from critical theories (Cox, 1981). We use these labels, while being aware that they might be misleading, since problem-solving theories also address criticism, and critical theories integrate parts of problem-solving. However, their perspectives differ in their main points. Problem-solving theories "take the world as it finds it, with the prevailing social and power relationships and the institutions into which they are organized" (Cox, 1981, p. 128). It is the aim of the scholars using problem-solving theories to uncover problems to make the governance setting work. In contrast, critical theory tries to uncover the underlying power relations of the prevailing governance setting, questioning these and asking about its historical roots. Both, problem-solving and critical theory, can start from a specific subject. While the former breaks its subject matter down into a limited number of analytical variables, the latter takes a path from the specific subject to the construction of a larger picture. Furthermore, problem-solving theories are often rooted in positivistic social sciences separating facts and values, and subject and objects, while critical theories follow the emancipatory research strand as characterized by the Frankfurter School, influenced by ideas of Marxist theories (Laferrière and Stoett, 1999).

Critiques of social institutions can be assumed to be a pre-phase of presenting alternative practices. Consequently, a number of studies present alternatives by providing suggestions for responding to critiques and new approaches of governance. But here again, a structured overview is lacking. Hence, collecting and categorizing proposals for alternative international (forest) governance types/forms is the second aim of this Chapter. However, the idea is not to provide a comprehensive overview about all, most often small, changes proposed as alternative governance formats, such as suggestions to foster productivity through optimized land use and land zoning (Kraxner et al., 2013). Rather, we concentrate on those concerns that more or less directly respond to those critiques. The two branches of critique, though somewhat analytically artificial, generally demand different responses, and result in proposing a different set of alternative governance futures, ranging on a gradient from technical fixes to transformative governance that changes existing power relations. Accordingly, alternative governance futures differ as well in regard to the actors relevant in the proposed governance alternatives, raising questions on the role of the state, the role of the private sector, as well as of the increasing demand to include actors at the local level. These alternative governance proposals will be compared against the critique to understand which perspectives are taken up, and whether concerns are responded with these alternative types.

This chapter is mainly concerned with forest governance at the international level, including

intergovernmental processes, market-based and hybrid governance approaches. We, however, recognize an increasing regionalization of governance processes, and thus, we provide an example for this in the box below.

5.2 Review design

To address the two main aims of this chapter, we carry out a comprehensive review of existing scientific literature based on i) a structured review of a defined set of selected papers identified by the specific search words, and ii) additional papers appearing as references in the core set of papers, as well as those brought in by the scientific expertise of the authors of this Chapter. We follow this route rather than that of a fully systematic review as we assume that we run the risk of missing out on relevant findings when reducing the review to a pre-set explicit procedure of selecting papers only.

While addressing the first point (i), we considered papers related to IFG published in international peer-reviewed journals between 1992 and 2022 (88 papers). These papers were selected using key word search in Google Scholar and Web of Science applying: "international forest governance", "international forest regime", "international forest policy". During the review process, all papers were considered, but those studies published after 2010 (40 papers) were considered central to update the research from Rayner et al. (2010). The main literature considered in this review is published in English language. It is, however, where possible, complemented by literature published in Spanish, French, and Portuguese. This selection approach leads to a bias of perspective in this review, and should be noted.

Regarding the second point stated above (ii), the core set of papers described under the first point (i) were complemented by additional papers that either appear as a reference in the core set of papers, or were papers known by the authors based on their long experience in the field. The inclusion of the latter is based on the argument that tacit knowledge of a scientist plays a key role in science, and thus, in reviews as well (Polanyi, 1958). This applies to those papers addressing solutions and alternative approaches to international governance, as those are not limited to studies addressing forest governance, but include studies from related sectors as well, such as international environmental governance, international climate governance, other international natural resource governance settings, or general global and international governance approaches.

5.3 Results

This Section provides the results of this review of the literature on governance issues and solutions. The first part discusses criticisms of governance (Section 5.3.1), and the second part explores alternative governance (Section 5.3.2). Both parts are categorized into problem-solving and critical theory-driven criticism/alternatives. They include IFG and its related policy areas and instruments, for example forest and climate governance, or forest and trade governance. Some IFG mechanisms have received political attention in the last decade, and have at the same time received encompassing critiques, for example Reducing Emissions from Deforestation and Forest Degradation (REDD+), legality verification schemes, or the concept of *Forest Landscape Restoration* (FLR).

5.3.1 Problems and critique of International Forest Governance

This Section addresses the problems and critique in the existing IFG literature, encompassing inter-governmental processes, as well as private and hybrid governance mechanisms. The Section starts with those critiques from a problem-solving perspective.

5.3.1.1 Problem-solving perspective

➡ Limited effectiveness

The majority of scholars have generally agreed that IFG is suffering from its limited effectiveness. However, though also the term effectiveness is used, there is only a loose connection to the vibrant branch of literature on the effectiveness of international regimes supported by IR scholars for more than four decades (e.g., Young, 1999). Amongst those scholars, Underdal has most prominently provided broad conceptual and empirical research. He introduced effectiveness as a comparison of a regime "against some standard of success or accomplishment" (Underdal, 1992, p. 228). He, however, substantiated this general starting point with the need to clarify what is measured when evaluating the effectiveness of a regime. The classic categorization used by many IR scholars so far differentiates between the three dimensions of output, outcome, and impact (amongst others, Gutner and Thompson, 2010; Young, 2001). This distinction originally comes from public policy research on the evaluation of policy programs. "Output" refers to the production and number of policies, for example the agreed norms, rules, polices, programmes,

or declarations; "outcome" to the implementation and societal effects of these rules and programmes, including intended and non-intended effects regarding legal transposition and practical implementation (Panke et al., 2022); and "impact" to the contribution of these (behavioural) changes to the solution of the underlying problem. In addition to the IR literature, there are frameworks offering ways to assess forest governance specifically (Kishor and Rosenbaum, 2012; Secco et al., 2014). These are, however, related to national or sub-national governance rather than to IFG with its specific cross-boundary, cross-institutional, and actor situation. The reviewed literature follows the conceptualisation authors used in their papers.

In the IFG literature, the differentiation between the dimensions of performance is often not considered. Instead, authors generally conclude that the numerous global initiatives on forests are not leading to positive forest outcomes (Bull et al., 2018). This ineffectiveness of the IFG mostly refers to limits in achieving large-scale goals, such as ending global deforestation and degradation (Begemann et al., 2021; Mansourian and Parrotta, 2019). These studies often refer to results of reporting and monitoring data, building in particular on the Global Forest Assessments of the Food and Agriculture Organization of the United Nations (FAO), which report on global forest loss and highlight specific countries as being hotspots of deforestation (FAO, 2022). Consequences of the continued deforestation and the conversion of forests from natural forests to plantations are recognized as indirect consequences of an ineffective IFG. These refer not only to the increasing loss of biodiversity and other environmental effects such as changes in hydrological, soil, and landscape quality, but also the livelihoods of people (Arts and Babili, 2013).

Criticism of the limited effectiveness of the IFG has been particularly raised in studies that focused on specific sectoral processes and policies. These studies refer to the ineffectiveness of inter-governmental processes, as well as hybrid or private governance (Bass and Guéneau, 2007; Giessen, 2013; Singer and Giessen, 2017). Lately, since the UNCED conference in Rio de Janeiro, the main criticism of inter-governmental, forest-focused processes is the limited output in form of a hard-law regime (Bernstein and Cashore, 2004; Dimitrov, 2005). At the same time, existing hard-law institutions are often criticized for limited implementation at the domestic level, which results in modest outcomes (Perino et al., 2022). Pokorny et al. (2019a) pointed to the Convention on Biological Diversity (CBD) and the limited number of submitted post-2010 National Biodiversity Strategies and Action Plans (NBSAP). The diverse set of soft-law, including non-state, market-driven (NSMD) instruments (e.g., certification) are instead often perceived as not inducing a strong obligation to the state, and not raising the level above the lowest common denominator (Pokorny et al., 2019a).

Diverse market-driven and hybrid governance systems have been designed to fill the void of absent hard law focused on forests. These mechanisms have focused on problem areas such as reducing emissions, development, or legality verification. They, however, share the overall goal of slowing forest loss and managing forests more sustainably. At the same time, they share the critique of limited evidence in achieving their aim. Thus, rather than compensating the missing effects expected from an international governmental agreement on forests, only limited effectiveness with incremental improvements can be observed (Bass and Guéneau, 2007; McDermott, 2014; Pokorny et al., 2019a). Amongst the reasons challenging the effectiveness of these mechanisms are the high level of complexity, the dysfunction of the international market, the misplaced focus of the instruments, and the weakness of national governance. In relation to the latter, there is a whole host of reasons for ineffectiveness, such as poor legal enforcement, property rights, and corruption.

For diverse instruments, a high level of vertical and horizontal **complexity** is attested. Vertical complexity refers to the difficult interaction of global instruments with national and sub-national implementation. This is relevant in REDD+ and its uptake in different places (McDermott, 2014), but also in certification standards, which vary between countries. This creates a race to the bottom where stakeholders certify their products in countries with lower standards, and has resulted in fewer stakeholders signing up for certification (Cashore and Stone, 2012). For REDD+, the reliance on national governments and stakeholders setting their own ambitions and approaches is exacerbated by the lack of specific targets and timetables. Horizontal complexity addresses the difficulties of cross-sectoral policies addressing forest, climate, trade, etc., accompanied by an increased network of governance actors (Doherty and Schroeder, 2011; Kashwan and Holahan, 2014). Another criticism is the **dysfunction of international markets** resulting in the repeatedly asked question of funding (see Chapter 3 of this report for a detailed critical analysis of finances of IFG). In diverse circumstances, finances resulting from market mechanisms are not living up to

the expectations, and are, in the case of REDD+, leading to a continued dependency on finance through (inter)governmental funds (Arts, 2021). This contestation about the sources for REDD+ funds, whether private or public (Glück et al., 2010; Humphreys, 2008; McDermott, 2014), is interconnected with a missing long-term perspective of REDD+ and the resulting continued status of a pilot project (Pokorny et al., 2019b). For Forest Law Enforcement, Governance, and Trade (FLEGT) licenses, a mismatch between ideal and empirical reality has been observed (Polo Villanueva et al., 2023; Rutt et al., 2018). Only a few countries have signed Voluntary Partnership Agreements (VPAs) with the European Union (EU), and despite some identified non-market outcomes such as increased transparency (Cerutti et al., 2022), those countries that have signed VPAs are frustrated with the (market) outcome (Polo Villanueva et al., 2023). This includes the concern of Indonesia that the new EU Deforestation Regulation 2023/1115 (EUDR) might result in disengagement, including financial cutback from the EU (Berning and Sotirov, 2023; Rutt et al., 2018). Apart from these reasons, scholars have pointed out that the ineffectiveness might result from the **wrong focus**, or not approaching the roots of the problem of deforestation. This is how Weber (2020) explained the shift from supply-side interventions in producer countries, such as REDD+, to demand-side process and policies, such as certification or legality verification (Berning and Sotirov, 2023; Garrett et al., 2019; Villoria et al., 2022; Weber, 2020). However, the effectiveness of both is contested in the literature as well. McDermott (2014) and Pokorny et al. (2019a) argued that there is no evidence that certification or legality verification has improved the long-term goal of halting deforestation, though other improvements such as in governance and social aspects have been obtained. These mechanisms have been accused of not addressing the core causes of forest loss, which lie in the legal or illegal conversion of forest land for other purposes, in particular commercial agriculture (Cashore and Stone, 2012; McDermott, 2014; Pokorny et al., 2019a). The newly agreed EUDR takes this sector-crossing problem into account, and aims to overcome these processes through trade policy. However, so far there is only limited knowledge about implementation and impact, and their – partly foreseen – shortcomings (Hargita et al., 2020). Furthermore, the critique regarding dysfunction of international markets reminds that even though timber – and other land use products – might be legally sourced, they do not guarantee ecological and social sustainability, and hence, are not automatically effective (Derous and Verhaeghe, 2019; Hansen et al., 2018; Rutt et al., 2018).

In summary, literature that criticizes the effectiveness of IFG mainly focuses on their missing impact, particularly on deforestation. However, it is important to acknowledge that it is difficult to validate causal linkages between mechanisms and impacts, as the impact depends on various external factors. In contrast, outputs can be clearly attributed to IFG. These are, however, only in the case of the missing hard-law regime used as an indicator for ineffectiveness.

➡ Measuring and Monitoring

Strongly interrelated with the criticism of the effectiveness of IFG is the recognition of the limited evidence for the (in)effectiveness of IFG and "whether, where, and how these efforts might affect forest change" (McDermott, 2014, p. 12). These critiques address the need for measuring and monitoring. They point to the limits of measuring due to the variations, regulatory changes, and limits of established Criteria and Indicators processes, not including performance targets and missing time frames for implementation and monitoring procedures, such as in REDD+ and certification standards (Glück et al., 2010; McDermott, 2014; Pokorny et al., 2019b; Sotirov and Storch, 2018). Additional criticisms have been levied at the widely lacking institutions for measuring and monitoring the impact at the domestic level, and the lack of enforcement mechanisms (Sotirov et al., 2020), while Kankeu et al. (2020) criticized that although institutions are available in the transfer of REDD+ monitoring, reporting, and verification at the national and sub-national level, they remain dysfunctional and weak in coordination, and lack the integration of scientific knowledge. This critique on insufficient measuring is contrasted by the general critique by Zelli et al. (2019), pointing to the fact that this prevailing techno-managerial discourse of measurement ends up with a dominance of certain (REDD+) funding institutions focusing on measuring practices and remote sensing.

➡ Fragmentation

One of the main concerns about IFG is the fragmentation resulting from institutional complexity. Fragmentation is a concept that has developed over time, starting from an international law perspective (Zelli, 2011), and increasingly receiving high scientific attention through the literature on the global governance architecture (Biermann et al., 2009). This branch of literature has differentiated across types of fragmentation,

such as synergistic fragmentation, cooperative fragmentation, and conflictive fragmentation (Biermann et al., 2009). Zelli and van Asselt (2013) equated regime complexity with the concept of governance architecture, and proposed that the fragmentation resulting from this complexity is a value-free indicator to assess the quality and nature of a regime complex. Instead, Kim (2020) differentiated between the concepts of fragmentation, polycentric, and complexity. These differences are, however, not addressed in this Chapter.

Despite this idea that fragmentation is value-free, the use of fragmentation in the literature on IFG is more often seen as a normative concept strongly interlinked with ineffective governance, which is not able to address conflicts on forests in a coherent and holistic way, but is unsystematic and driven by specific interests (Bull et al., 2018). However, the argumentation about the relation between fragmentation and its resulting ineffectiveness is often vague and not systematically substantiated. Rather than a clear causality between fragmented regimes and its impacts, the failure to reduce global deforestation is often used as the guiding argument for the pervasive effects of fragmentation (amongst many others, Giessen, 2013; Sotirov et al., 2020).

IFG, as well as environmental governance in general, is characterized by a diverse set of institutions resulting from diverse forms of governance (from inter-governmental, over hybrid, to private governance processes) with different scopes, different sectors, and many actors involved (Gupta, 2012; Zelli et al., 2019). Examples of the most prominent policy instruments and processes relevant for forests in the last two decades are the climate sector (with a particular focus on REDD+) and the legality verification schemes (Begemann et al., 2021; Cadman et al., 2017; Kaisa et al., 2017; Kanowski et al., 2011; Leipold et al., 2016; McDermott, 2014; Pokorny et al., 2019b; Singer and Giessen, 2017). Knowledge and specialization resulting from fragmentation of IFG lead to further confirming and contributing to the institutional fragmentation of the sector (van Bueren et al., 2014). It can result in sustaining the problems it aims to solve, as the set of actors deal with selected, specific elements of forest governance, ranking their own goals and interests first, and thus, leading to a competition between the different areas and actors rather than to a holistic and coherent regime (Gupta, 2012).

The development of these regime complexes is described as "relatively uncoordinated processes of policy layering, or repeated bouts of policy conversion or policy drift" (Shivakoti et al., 2021, p. 2). Scholars largely agree that this complexity results amongst others from policy-making taking place in the absence of a hard-law regime. Whether this absence is an unintended effect of conflicts between different interests involved, or the strategic intention of self-interested states agreeing to establish a fragmented forest regime rather than a hard-law regime (Dimitrov, 2005; Giessen, 2013; Singer and Giessen, 2017), is not agreed upon by scholars. For example, Rodríguez Fernández-Blanco et al. (2019) differentiated between synergistic and conflicting fragmentation. They concluded that the forest regime complex shows synergistic fragmentation in cases of vague institutional elements, while conflicting fragmentation appears when these elements are more specific.

Fragmentation of IFG is partly perceived as a reason for (strengthening) **trade-offs**, or even used as a synonym to trade-off. Hence, it is not value-free, but perceived as a competition between interests, goals, and targets. More precisely, Byron and Sayer (2020) stated that one might prevail over another, either obviously or by neglecting these trade-offs. The latter is the case in the discussion around FLR not convincingly addressing the trade-offs between climate goals, local food production, and biodiversity conservation (Kleinschmit et al., 2024). In an analysis of REDD+, the clear focus ranking climate functions higher that other *Ecosystem Services* (ES) provided by forests leading to a 'carbonized' forest discourse has been criticized (Singer and Giessen, 2017). In particular, the trade-off between forest carbon and biodiversity conservation has been addressed repeatedly in the literature (Kanowski et al., 2011; Sasaki and Putz, 2009). Turnhout et al. (2017) nuanced this critique by distinguishing three approaches of taking note of ES in REDD+: i) carbon-centred (fully focusing on carbon sequestration and carbon stocks); ii) co-benefit centred (focusing on benefits for people and biodiversity, besides carbon performance); and iii) landscape-centred (focusing on integrating other land uses in the broader landscape). In a much-discussed study from 2023, West et al. stated that the actual emission reduction effects of REDD+ projects are much smaller than expected, and that they often do not have the expected positive effects on avoiding deforestation (West et al., 2023).

Fragmentation can be perceived even within the different policy areas and processes. For example, REDD+, located at the intersection of public, private, and hybrid governance processes deals with climate change, biodiversity, forestry, and development. The lack of an institutional fo-

cus for REDD+ poses challenges to its effectiveness (McDermott, 2014; Zelli et al., 2019) and is assumed to result in ambiguity and missing coherence (Pokorny et al., 2019a). The bilateral nature of VPAs, with only a limited number of countries involved, is also perceived as a contribution to a fragmented regime, provoking market distortions that might result in *leakage effects* (Cashore et al., 2016). In contrast, the scope of market actors demanded to comply with the EU Timber Regulation 995/2010 (EUTR) and to the timber legality laws in the United States and Australia is not selective. However, the leakage effect shifting timber and timber products to markets with lower standards has not been eliminated (Cashore et al., 2016; McDermott and Sotirov, 2018; Pokorny et al., 2019a; Schwer and Sotirov, 2014).

Additionally, the lack of coherence between the different levels of political decision making is addressed in different studies and within different policy areas, such as climate policy (specifically REDD+) or conservation. Here, it is criticized that there is a tension between the global agenda and its underlying global values, and the local agendas and values (Byron and Sayer, 2020).

5.3.1.2 Critical theory

IR studies focusing mainly on international law have long faced the argument that rules serve the interest of the powerful states and business actors, more than the interest of others (Dunoff et al., 2020). Essential for this conclusion is the observation that those rules are made by strong states to further their interests, and certain state and business interests might be favoured over individual human or environmental interests, both "creating clear winners and losers" (Dunoff et al., 2020, p. 28). In the 1980s, a paradigm shift was not only introduced by Cox (1981), but also in numerous other studies forming a broader critique of positivism, anchored in the field of critical theory, post-structuralism, post-colonialism, feminism, and political economy (Zehfuss, 2012). Uncovering power relations and placing questions of "ethics, justice, and legitimacy, as well as of solidarity, inequality, and sustainability" are now at the centre of critical perspectives on international governance, asking questions about the "global governance of what, for whose benefit, why, and whither?" (Gill, 2019, p. 375). IFG literature encompasses critical perspectives spanning from a more global perspective of inequalities between world regions, mainly conceptualized as *Global North* and *Global South*, to the more local effects of inequity of participation and injustices. The different areas of criticism outlined in the following - justice, postcolonialism, and exclusion – are strongly interconnected, and often rooted, in the political ecology school of thought.

➡ Justice

Following Rawls (1971, p.3), justice can be understood as "what is morally right", and as being "the first virtue of social institutions". From this perspective, governance should not only be effective, but also just (Sikor et al., 2014). In the last decade, a growing body of literature has dealt with, and further developed, the concept of justice in the direction of environmental justice (e.g., Schlosberg, 2013) and climate justice (Baxi, 2016), but also in forest governance, recognizing its complexity (Sikor et al., 2014). Within this corpus, it has been recognized that scholarly works addressing the concept of justice in IFG studies often conclude that "Despite the mainstreaming of justice obligations into the global forest governance architecture, and the proliferation of justice practices across multiple scales of governance, claims of injustice persist" (Suiseeya, 2017, p. 189). Though much of the literature taking a justice perspective addresses the rights of Indigenous peoples and local communities (Suiseeya, 2017), the problems addressed are much broader than this, addressing different levels of IFG as well as different aspects within. Due to this complexity, only a simplified review of the diverse, but often interrelated, critiques can be presented below.

Literature on IFG taking a justice perspective spans across most governance mechanisms of the last few decades, including legality verification schemes, REDD+, and FLR. In general, the win-win narratives of these mechanisms have been questioned, pointing towards the focus of these mechanisms being either environmentally, legally or technically focused but neglecting the social conflicts and injustices accompanied with these mechanisms. Hence, it is often concluded that instead of winners on all sides these mechanisms are leading to injustice with potential losses, losers and new trade-offs (Bond et al., 2019; Di Gregorio et al., 2013; Erbaugh et al., 2020; Kleinschmit et al., 2024; Mansourian, 2021; Seymour, 2020; Vetter, 2020). Though scholars recognize that there is a set of norms and rules that try to address injustices through (often only weak) governance instruments, for example, by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) but as well by REDD+, they criticize that these norms, that should guarantee fairness for individual and community, are often downscaled (Suiseeya, 2017).

Criticizing injustices is not only rooted in critical theory, but is addressed as well from a realist perspective. One example for this is the criticism of the increased demand for paper work and verification processes penalizing small suppliers, as well as livelihood interests of local communities rather than large scale (private) actors (Bartley, 2014; Begemann et al., 2021; Erbaugh et al., 2017; Nurrochmat et al., 2016).

➡ Postcolonialism

Postcolonialism analyses and challenges the complex power relationship between the so-called North (or West) and the South, mainly referring to the (continued) subordination of non-Western continents "to Europe and North America in a position of economic inequalities" (Young, 2020, p. 4). It draws attention to the extent to which today's interactions are still affected by colonial relations. Hence, the "post" in postcolonialism does not imply that it is after imperialism, but rather it points to indirect domination as in colonial times. Following Leipold (2014), studies addressing forest-relevant colonial discourses point to mechanisms of exclusion, for example the marginalization and exclusion of traditional interests in forest political decision making.

IFG has been blamed for continuing the legacy of colonialism in the existing arrangements (Brockhaus et al., 2021; Gupta, 2012). It is criticized that such governance arrangements institutionalize processes and instruments allowing former colonizers and other dominant powers to subtly impose their interests and enforce economic, political, and cultural dominance over other nations, thus creating new dependencies and global power asymmetries (Brockhaus et al., 2021). This power asymmetry in IFG is recognized as re-confirming a North-South power relation, starting with underlying discourses justifying established institutions, and thus, prioritizing specific interest over others and lacking the transparency of who really benefits (Brockhaus et al., 2021). Linked to the problems prioritized, and the narrative told, governance has focused on "administrative, technical, and financial assistance from the international community" rather than on "engagement with local practices, diverse knowledges, and needs" (Brockhaus et al., 2021, p. 2250). Though agreements, processes, and instruments have changed, history is repeating itself, starting with Joint Implementation and the Clean Development Mechanisms, REDD+ (Gupta, 2012), and continuing lately with the governance of FLR (Kleinschmit et al., 2024).

A major critique of IFG mechanisms is the persisting exploitative, economic logic of global timber production, which reinforces colonial trade relationships, for example inherent in the FLR concept (Kleinschmit et al., 2024). The asymmetric relationship between the Global North and the Global South are not only of an exploitative character, but are mirrored as well in questions of monitoring, reporting and verification, in REDD+, FLEGT, and other mechanisms, further institutionalizing an asymmetric relationship (Galtung, 1971; Gupta, 2012). Furthermore, FLR and REDD+ imply the risk of leading the responsibilities of countries from the North away from participating and contributing meaningfully to the climate change regime by offsetting their emissions, and hence, not compromising their own behaviour. At the same time, in particular with the implementation of REDD+, the freedom of countries in the Global South to further their own economic development based on their natural resources gets restricted (Galtung, 1971; Gupta, 2012). This critique is strongly connected with the criticism of countries from the South pointing towards the issue of (limiting) national sovereignty. This critique is embedded in the scientific discourse on the Doughnut Economy, which proposes to not base development on the use of natural resources, but rather on changing towards a circular economy (Friant et al., 2020). Many critical studies argue that governance mechanisms still reproduce classic extractivist relations between Global North and Global South, and, therefore, use the term "neo-extractivism" also in connection with forests (Pellizzoni et al., 2022).

➡ Land tenure rights and exclusion

Access to land, being it forest land or other land forms, has been one of the major critiques of IFG in the last decades, with a large body of literature addressing it. Its focus has been on the access of specific actors or institutions gaining control or maintaining access while others, in particular locals, are excluded (Pichler et al., 2022). Exclusion comprises legal exclusion, as it takes place in absence of land rights, norms, and lack of recognition of peoples' rights, but also other mechanisms such as reduced access to markets and capital (Ribot and Peluso, 2003). However, the question of rights and access is complex in itself, as it might benefit those dominant powers claiming legal rights, while other rights that are socially legitimate and widely accepted at the local level might be ignored (Aggarwal et al., 2021). Furthermore, market interests result not only in claims for tenure rights by Non-Governmental Organisations (NGOs), social movements, and local and Indigenous Peoples, but as well by the private sector in order to safeguard their investments

(Kleinschmit et al., 2024; McDermott et al., 2023). With the increasing focus on reducing carbon emission through forest restoration, this problem and the critique of exclusion have become increasingly relevant in IFG (Pichler et al., 2022).

The **legally insecure land rights** critique includes the concern that the implementation of REDD+ leads to strengthening national governments and weakening (or denying) the rights of Indigenous and *forest-dependent people* over their territories and resources (Brown et al., 2008; Kanowski et al., 2011; Katani and Babili, 2012; Pokorny et al., 2019b; Schroeder, 2010). Beyond that, not only the dominance of national governments, but also the concern that powerful, industrialized nation states colonize forestlands of the local communities, "strip them of their rights, and deny their identities" (Suiseeya, 2017). For example, concerns are growing over the social and economic implications of FLR as a mere tree-planting scheme, including flaws in the governance fostering asymmetries in land access and control over resources that can lead to the exclusion of local communities, pastoralists, and minorities, specifically women (Elmhirst et al., 2017; Pichler et al., 2022; Turner et al., 2021). This criticism not only addresses exclusion, but also the missing inclusiveness of IFG instruments such as REDD+, pointing to the problematic of (unclear) Indigenous Peoples' agency in (international) negotiations (Kanowski et al., 2011; Schroeder, 2010).

➡ Commodification

A much broader critique of IFG and its mechanism questions the more general concepts of commodification, privatization, and marketization of nature as it is inherent in the concept of *Payments for Ecosystem Services* (PES) and its related mechanisms (Kosoy and Corbera, 2010; McDermott, 2014). For example, REDD+ puts a price on carbon sequestration as a forest service, and thus, makes it tradable, allows and supports changes in forest ownership, and allows it be sold to those bidding highest, which may contribute to injustice (Gupta, 2012). Closely related to the issue of commodification is the critique of monetary compensation for carbon emissions, leading approaches away from the explicit consideration of the reduction of emissions through decreasing consumption (McDermott, 2014). An in-depth analysis on finances in IFG is provided in Chapter 3 of this report.

5.3.2 Overcoming weaknesses of IFG and proposing alternative futures

Irrespective of the type of the critique, being it oriented towards problem solving, or based in critical theory, we can recognize that major criticisms have changed over time with the development of IFG, and so have the scholarly solutions trying to respond to these criticisms. With attention drawn to the lack of an inter-governmental hard-law agreement in the beginning of the 1990s, and the push of NGOs towards environmental labels, private governance mechanisms such as NSMD certification appeared as an alternative solution to the problem of global deforestation. The low uptake of certification in targeted countries with high levels of deforestation and degradation has lowered this expectation of private governance to solve the remaining problem of deforestation. Hybrid governance, integrating self-governing markets and government action, being responsible for frameworks, design, and functioning, have evolved in the form of a legality verification regime, the Bonn Challenge, and REDD+. The latter two have entered the IFG, not only with the goal of limiting deforestation, but with a win-win narrative as they also respond to climate change by sequestering CO_2. The synthesis of literature above shows that these have also received criticism. Thus, new proposals to overcome the weaknesses of the IFG have appeared.

Following the structure of the first section of this Chapter, the alternative future governance will firstly focus on problem-solving alternatives, and secondly on more radical changes of governance matching the critical theory critique. However, we have to recognize that both are well interconnected. Many studies do not differentiate between them and, in particular in empirical studies, the different perspectives are often only partially addressed.

5.3.2.1 Problem-solving alternatives of IFG

Problem-solving alternatives are mainly rooted in liberal theories emphasizing ideas with a focus on processes of international institutions, including its diverse (organized) actors, in effectively shaping IFG. These rarely provide new alternatives, but very much follow the path of existing governance with only incremental changes. They mirror as well the full range from market-driven to state-centred approaches, including the majority opting for balanced, networked versions. According to our bi-directional framework, scholars of the former propose building on mechanisms such as carbon trading, ecosystem service valuation, or certification, to strengthen and expand the development of market-driven approaches. For example, Bartley (2018) assumed that private govern-

ance might help to create a 'new global corporate liberal block'. At the other end, scholars assume that formalized governance grounded in legally-binding instruments is still key to enhance effectiveness, as this might "carry more weight when it comes to guiding the behaviour of both subjects and administrators (…)" (Young, 2021, p. 77). This is based on the dominant observation that a "withering away of the state as a primary form of social organization on a global scale" (Young, 2021, p. 147) is not foreseen for the future. Empirical results from Begemann et al. (2021) supported this observation that nation states are, despite weaknesses in the past, still central for IFG. This follows an observation of Giessen et al. (2016) perceiving a shift back from governance to government, resuming that neither civil society nor the private sector can substantially change the forest situation without the state. However, the state still needs the information about technological options and practical experiences from non-state actors, and as such, the state is still not able to govern forest-related policies isolated from society. Though the results of this literature might be supportive for the argument of governmental and hierarchical characteristics of effective governance, it does only rarely result in the presentation of a central (hierarchical) world environmental organization as a likely alternative for the future (Biermann, 2017). As Rayner et al. (2010) described, most often a multi-actor and multi-institutional governance is proposed as the way forward to balance state and non-state actors, conceptualized as, for example, network governance, participatory governance, or adaptive governance. These concepts will not be detailed here, as they were extensively debated in the report of Rayner et al. (2010).

➡ New techniques for monitoring and reporting

In recent years, the literature on new ways to support monitoring and reporting has evolved and has focused on advanced technologies, including different techniques of digitalization and the growing use of Artificial Intelligence (AI) supporting governance in all phases of the policy cycle. Popular examples are the developments in remote sensing allowing higher resolution images, providing the basis for robust monitoring and enforcement of forest protection efforts (Galiatsatos et al., 2020). This includes the enforcement of safeguards on conservation of natural forests and biodiversity, and meeting the needs of REDD+ measurement, reporting, and verification (Goetz et al., 2015). It is proposed that international agreements might focus on data sharing, technological collaboration, and information transparency to combat illegal logging, land-use changes, and other threats to forests (Mechik and von Hauff, 2021). One specific proposal to enforce FLEGT is a *blockchain*-based contract management platform allowing administrative and technical control over cutting volumes of timber in conformity with the whole supply chain to the final consumer (Mechik and von Hauff, 2021). Furthermore, it is proposed to strengthen the existing institutions relevant for monitoring, for example by building a common platform allowing the exchange between exogenous (scientific) and endogenous (indigenous) knowledge (Kankeu et al., 2020).

➡ Overcoming fragmentation

Solutions debated as a response to fragmentation of IFG are not so much providing an alternative, but are divided between general advice, and those refuting concerns against fragmentation. Those providing advice point to the natural response of fragmentation, the need for an improved coherence, for example by addressing trade-offs as well as synergies within the forest sector, but also across other sectors such as agriculture, mining, bioenergy, etc. (Sotirov et al., 2020). Integrating the different sectoral policies should support avoiding undesirable effects, or even perverse incentives (Hogl et al., 2016; Kraxner et al., 2013). These are said to be gained through more coordination and cooperation amongst different governance levels (Begemann et al., 2021). How this is transferred into practice is rarely explained. Biermann et al. (2009) supported a cooperative fragmentation where a diversity of institutions and decision processes are loosely, but sufficiently, integrated (see also Kanowski et al., 2011) in a way of coordinating the gaps of fragmented or differentiated institutions (Zelli and van Asselt, 2013). Rodríguez Fernández-Blanco et al. (2019, p. 202) more sceptically inferred that the development of the regime complex into a coherent direction is "an overambitious endeavour". In contrast, other scholars have focused on the merits of a fragmented IFG as this is an adequate response to the complexity of IFG, allowing it to be more flexible and responsive to stakeholder needs relative to larger and more centralized systems (Young, 2021). Those scholars dealing with IR from an international law perspective, thus mainly concentrating on intergovernmental agreements, conclude that the concerns about fragmentation are overstated, because legal mechanisms to overcome fragmentation are in place, and hence the demand for response is limited (Megiddo, 2019).

Orchestration has been introduced as a way to organize the complexity of governance (Abbott

and Snidal, 2010). Abbott et al. (2015) identified this non-mandatory mode of governance in many areas of global governance, including climate governance. It is suggested to work mainly through orchestrators, which could be International Governmental Organizations (IGOs), experts, or NGOs working through like-minded intermediaries, facilitating innovation and systematic learning by utilizing soft means. These orchestrators need to be equipped with "sufficient legitimacy, focality, and resources" (Abbott, 2017, p. 3). One way to achieve orchestration is presented by the model of **experimentalist governance** (Sabel and Zeitlin, 2008), understood as "[…] an institutional transnational process of participatory and multilevel problem-solving in which particular problems […] are framed in an open-ended way […]" (De Búrca et al., 2014, p. 447; see as well Chapter 2). The basic assumption is that the interactions among different IFG approaches are "generating an effective patchwork or joined-up regime, whose core elements have experimentalist characteristics" (Overdevest and Zeitlin, 2014, p. 36). However, most often these are informal, and the literature suggests instead a structured approach by conducting formal experimentation and promoting learning through structured investigations (Abbott, 2017). On the one hand, Abbott (2017) optimistically concluded that all elements for these experiments are in place, and that they just need to be mobilized. On the other hand, it is recognized that orchestration has its limits, for example in the case of North-South conflicts (Abbott and Bernstein, 2015).

5.3.2.2. Radical changes to IFG

In contrast to the changes (rather than alternatives) proposed above, several scholars agree that the increasing trade-offs resulting from the diverse and increasing interests placed on forests cannot be solved by following the legacy of neo-liberal approaches represented by additional and new market-based instruments (Rutt et al., 2018). Instead, they propose more radical changes, including the reduction of resource consumption, and alternative forms of governance, such as transformative governance, people-based approach, and Third World Approaches to International Law (TWAIL). These alternative forms are not mutually exclusive but strongly intersecting and overlapping, starting from a different perspective but aiming for similar goals, including just international governance.

➡ Reduced consumption

A reduced consumption is perceived by diverse scholars as a prerequisite for an effective IFG. It builds on the recognition that responsible and ethical consumption as a solution to environmental and social harms has its limits (Grabs et al., 2021). Hence, it is concluded that fair distribution of the existing wealth is needed, rather than new tools for expanding markets (Rutt et al., 2018). This call is mainly directed towards the Northern Hemisphere (Kraxner et al., 2013), which is supposed to take the first steps as this is where "the unsustainable and unethical global systems both were birthed and are perpetuated today" (Rutt et al., 2018, p. 271). Overpopulation and urbanization are recognized as counterproductive issues for reducing consumption and as putting extraordinary pressure on forests and other natural resources. However, alternatives are rarely discussed, for example in form of informational instruments such as access to education (Ganivet, 2020). Those mentioned are highly criticized, for example moving people to degraded areas, or limiting population growth (Baldy, 2023).

➡ Transformative governance

The critique reasoned in critical theory, becoming louder, demands for more encompassing changes in governance, asking for transformative governance. This form of governance can be understood "as the formal and informal (public and private) rules, rulemaking systems, and actor networks at all levels of human society that enable transformative change" (Visseren-Hamakers et al., 2021, p. 21). It aims to go beyond routine administrative functions and incremental policy changes. Instead, it seeks to bring a "radically different approach to governance than conventional approaches" (Visseren-Hamakers et al., 2021, p. 25). More specifically, Aguiar et al. (2021), with reference to Blythe et al. (2018), clarified that transformative governance "explicitly considers that values, interest, and power are fundamental issues for promoting policies for socio-ecological transformation that are not only effective but also legitimate and equitable" (Aguiar et al., 2021, p. 524). Transformative governance is ideally a holistic approach, recognizing that many complex issues are interrelated and require comprehensive solutions. These should create substantial and lasting positive changes, not only for the environment but specifically as well for society. It is long-term perspectives rather than short term goals that are in the centre. The process of transformative governance demands inclusive processes in order to set the starting point for empowerment, justice, and equity. Aguiar et al. (2021) exemplified how transformative governance can support FLR by promoting ecological integrity and human well-being. How-

ever, key gaps in enabling transformative change have already been identified, demanding to become more emancipatory and inclusive of grassroots initiatives (Chaffin et al., 2016). The central idea of transformative governance approaches in terms of long-term goals and perspectives contradicts many studies from political science about the general short-term orientation of politics and governance.

➡ Local-based, people-centred approach

Rutt et al. (2018) suggested a new approach leaving the persistent logics behind and starting from a people-centred perspective with participatory decision-making, inclusive governance structures, and the recognition of customary rights and traditional governance, thus having the local control over natural resources at the core, and building on robust land tenure security, traditional knowledge, and local initiative. Integrating local responsibilities in IFG and specifically more inclusive tenure and use rights has received an increasing awareness of scholars in the last decade, mirroring that communities are increasingly recognized in different political arenas (Aggarwal et al., 2021; Arts and Babili, 2013; Begemann et al., 2021; Gupta, 2012; McDermott, 2014). This focus on the local level is strongly linked to an increasingly promoted rights-based approach, eliminating all forms of discrimination and prioritizing the needs of people most marginalised and in most vulnerable situations (Suiseeya, 2017). There is already some evidence that the people-centred and community-based approaches are effective (e.g., Gilmour, 2016).

Here, the literature focuses more often on actors as the starting point of changing IFG, rather than systemic processes. Though the important role of communities is, according to Oström's study on "Governing the Commons" (Oström, 1990), mainstreamed in the scientific governance discourse, communities are until today described as underrepresented in IFG, and therefore, still named as agency with potential to support its development in the future (Arts et al., 2012). Suiseeya (2017), following Cabello and Gilbertson (2012), saw a potential in the complexity of networks of governance actors across multiple scales to open up new leverage points for 'norm entrepreneurship' attributing a specific role to NGOs. These might advocate for marginalized groups such as Indigenous Peoples and local communities in international negotiation arenas.

➡ TWAIL
(Third World Approaches to International Law)

TWAIL supporters start out from the perspective that international policies, as well as states' legal systems and institutions, are embedded in and shaped by the legacy of the colonial empires. In response, TWAIL researchers and supporters seek to establish an international legal order sensitive to the concerns of the Global South (Dehbi and Martin-Ortega, 2023). TWAIL is not a single Global South approach, but stands for an umbrella of criticism and responding concepts opposing the "unequal, unfair, and unjust character of an international legal regime" (Dehbi and Martin-Ortega, 2023, p. 930). They are exploring the "possibilities for egalitarian change" (Gathii, 2011, p. 27). Similar to other approaches, the demand of TWAIL is a dialogue actively engaging impacted and affected communities in the different stages of political decision-making from definition to monitoring. Though it seems that IFG has moved away from large-scale international law initiatives (see Chapter 2), TWAIL does point in this direction, although under a sign reversal.

5.4 Conclusion

This chapter has provided a structured, though not comprehensive overview of the diverse critiques of the existing IFG, ranging from rather technical problems embedded in a more or less accepted system of IFG, to fundamentally questioning IFG in general. Consequently, the problem solutions and alternative governance approaches offered are diverging. They comprise technical solutions, continuing existing governance settings with incremental changes, as well as radical changes.

In contrast to the earlier report from Rayner et al. (2010), the discussion of legally-binding versus non-binding is not at the centre of critiques anymore. Though the state might come back in – or has never really disappeared – the demand for governance beyond governments is dominating.
The results from this review show that critiques of IFG with a problem-solving perspective, in a similar manner as adopted for the results presented in 2010, are complemented by an increasing set of 'critical critiques' addressing fundamental weaknesses in governance and demanding radical changes. This critical perspective has affected, and partly changed, the nature of the problematisation. For example, the limited effectiveness of IFG, in the form of continued deforestation, is still key in the scholarly critique. However, the environmental output focus on effectiveness takes a back seat when a more general societal critique is raised. This points towards unfair processes re-

sulting from power asymmetries, and demands alternative emancipatory governance settings in the future. Hence, effectiveness is much more related to questions of input and throughput legitimacy rather than the output today. We therefore support Cashore et al. (2021) in their suggestion to ask what types of environmental and social problems are actors in governance spheres attempting to address, and what their influence is upon these problem definitions. We would complement this question by proposing to address whether and how solutions and alternatives are responding exactly to those problems.

The importance of addressing the question of what type of problem is central, and whether the solutions are responding to this problem becomes clear with the example of measuring and monitoring addressed in this Chapter. Measuring and monitoring has been raised as a problem, in particular pointing towards the validation of compliance with IFG rules. Technical innovations have emerged as a (partly direct) response to this critique, but offering support as well for other phases of the political cycle. However, depending on the viewpoint, technical innovations are either assumed to contribute to solutions to most of the problems, or as technological fixes that can offer only help to solve minor problems if they do not become a problem themselves. Young (2021) concluded in accordance with the former that digital technologies substantially address governance challenges. He, however, took a problem-solving perspective of governance rather than a critical critique, which points to hegemonic discourse behind the techno-managerial idea of measuring and monitoring (Zelli et al., 2019).

Summing up, this Chapter can conclude in two ways. One way forward is to follow those scholars proposing to not develop another process or new instruments, starting from a similar problem perspective, and aiming for a one-size-fits-all solution. Existing approaches might be further developed as frameworks. These could be understood as learning experiences open to be adapted to the national and local context and entities, and to their specific needs. This could avoid a legacy of 'fads' (Redford et al., 2013) with new processes and instruments agreed and applied enthusiastically, and then buried for the sake of another new and next generation (Rutt et al., 2018). The other way forward, more specifically addressing the critical critique, is to develop a radically new framework of IFG, starting from an understanding of perceived problems of the life world, the people, the local level, and addressing those in a deliberative, collaborative way rather than facilitating hegemonic discourses such as of emissions.

Box 5.1

Regional forest governance: South America

Regional forest governance in South America is characterized by multifaceted issues and opportunities, involving rich biodiversity and ecosystems, Indigenous rights, land tenure rights, illegal logging, deforestation, and balancing economic development with conservation goals within a sustainable development discourse (De Castro et al., 2016). The continent of South America is highly diverse in its social, political, economic, and environmental characteristics. Yet, due to the similar historical and political developments of the individual South American countries, underpinning elements of comparison discourse on these countries are evident (Bull and Aguilar-Støen, 2014). South America's income per capita is higher than that of many other developing regions of the world, and more of its native forest cover remains. Yet, its annual deforestation rate remains greater than that of many other developing regions. Furthermore, South America's forest policy issue has been highlighted by its agricultural expansion, and the subsequent deforestation (Hyde et al., 2022).

As stated in Chapter 2, Latin America and the Caribbean have fewer regional forest agreements in comparison to other regions. Nonetheless, forest governance, specifically in South America, tends to focus on the Amazon region, as the largest, hydrologically important, and biodiversity-rich forest territory of the continent that also extends over 9 of its countries (Charity et al., 2016; Garrett et al., 2021). Similar to the general critique and concerns of IFG, South American countries work with a wide, many times fragmented, range of governance and regulatory measures: UN conventions, agreements and mechanisms (e.g., CBD, Paris Agreement, REDD+), transnational trade regulations and legality verification (e.g., Lacey Act, EUDR),

regional organizations (e.g., MERCOSUR – The Southern Common Market; ACTO – Amazon Cooperation Treaty Organization; IIRSA - Initiative for the Integration of the Regional Infrastructure of South America; CAN, The Andean Community; UNASUR - The Union of South American Nations; COICA - Coordinating Committee of the Indigenous Organizations of the Amazon Basin), market-based private governance (e.g., certification for a variety of commodities grown in the region such as coffee, soy, palm oil, or corn), hybrid governance settings (e.g., Brazilian Soy Moratorium), and domestic forest and environmental laws and policies (Bull and Aguilar-Støen, 2014; Garrett et al., 2021; Levy et al., 2023; Pokorny et al., 2021). Furthermore, the role of Brazil as a hegemonic leader cannot be denied when discussing South American regional forest governance, given its large territory and global political influence (Mesquita and Chien, 2021).

For the purpose of this regional forest governance case study, we use the ACTO as an example of the region's acting forest governance. ACTO is an intergovernmental organization, founded in 2002, that encourages sustainable development and social inclusion in the Amazon region, working through its Permanent Secretariat, coordinating the procedures under the Amazon Cooperation Treaty (Tratado de Cooperación Amazónica – TCA) and the Strategic Agenda for Amazon Cooperation (Agenda Estratégica de Cooperación Amazónica – AECA) (OTCA, 2024). The TCA is a legal instrument that aims at promoting a coherent and integrated development of the basin, as a basis for regional economic cooperation to improve the lives of local residents, and permits the conservation and rational use of their resources (Nunes, 2016). Without harming the countries' sovereignty, these measures are to be implemented bilaterally or by groups of countries. In the last 45 years, many binational projects and studies were executed (OEA, 1993; TCA, 1978). To facilitate monitoring of the Treaty, the ACTO implemented in 2010 the Amazonian Strategic Cooperation Agenda (AECA).

Given the high importance of the Amazon Rainforest for global environmental governance, the ACTO plays a crucial part in its regime, defining how member states are to use and conserve the goods and services the Amazon provides. Based in Brasilia, capital of Brazil, ACTO has four means of financing: i) annual fixed contributions of the member states; ii) extraordinary government contribution for financing specific activities; iii) contributions from international cooperation; and iv) contributions from national public or private companies to support activities of valorisation of the Amazonian culture that are approved by the Member Countries (ACTO, 2010).

To analyse ACTO's role, limitations, and potentials, one should look at the objective behind its foundation, the members' interests, available resources, and how it acts upon its proposed mission. There are various reasons behind the TCA. Nunes (2016) identified three main motives for the elaboration of the TCA: i) the affirmation of sovereignty over territory and natural resources, in order to guarantee the continuity of economic projects in the region, and to remove the threat of internationalization; ii) present to the international society a document that reinforces the exclusive right to manage Amazonian problems in harmony with environmental protection; and iii) the Brazilian concern with possible isolation from its neighbours due to the construction of the Itaipu dam. Other factors favoured the creation of the Treaty, such as the pending territorial disputes among several member states, the global energy crisis of the 1970s, the emerging environmental movement, and global conferences such as the United Nations Conference on the Human Environment (Stockholm, 1972) and the United Nations Conference on Water (Mar del Plata, 1977) (Nunes, 2016).

It is also important to mention that in 1978, Brazil, Bolivia, and Ecuador were under dictatorship, and countries of South America, in general, were following a 'developmentalist approach'. After 1978, some of these countries went through processes of democratization, and were confronted with the economic crisis in the 1980s (Pokorny et al., 2021). Therefore, it was largely after the 1992 Rio Summit that the political conditions in the region allowed ACTO to gain further significance (Nunes, 2016).

An additional challenge is the large number of actors playing a role in the region (e.g., state national entities, international organizations, (international) banks, (multi-)national companies, (international) NGOs, development cooperation agencies, Indigenous groups, local residents, illegal agents, educational institutions, etc.). Furthermore, although the TCA is legally-binding for the signatory member states,

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Essential problems in the region remain (e.g., deforestation, integration of river basins, and illegal activity). X

The organisation is not well-known internationally, and not even in the region. X

There is still a high lack of scientific, technological, and educational cooperation. X

The periodicity of the meetings of the Foreign Affairs Ministers, with respect to the entity, is extremely low. X

With regard to social inequality, poverty, and rights violations in the Amazon region, the ACTO has not been active in changing this reality, which seems to exacerbate each year. X

Source: Araújo da Silva and Homma (2015); Mancheva (2010); Nunes (2016); OEA (1993)

Table 5.1

TCA and ACTO's problems and critiques, and alternative futures to overcome weaknesses

- The institution led to the implementation of co-management practices, such as the Tropical Forest Institute, and the creation of networks, which exceed the regional level and could be further invested in.
- There has been a larger inclusion of local populations in the management of projects through educational programmes and broad consultation, which could be further invested in.
- It serves as a geopolitical, regional and global instrument for all member states, since they share the urgency for geopolitical repositioning, which could be more valued.
- It has potential for promotion of "binational infrastructure projects in transportation and communications, and in energy interconnections for population centres and rural communities" in the Amazon.
- There is an untapped potential in two strategic areas for the benefit of member states: scientific development, and definition of minimum price guarantee policies for Amazonian products (wood, minerals, products derived from extractive industries and their derivatives).

there is no enforcement of specific actions to be implemented domestically. The ACTO promotes cooperation among member countries through non-binding decisions made by the Ministers of Foreign Affairs meetings, under the thematic activities determined in the Agenda. Hence, countries tend to comply more through norms and discourse pathways, which has less output and makes it harder to measure impact.

The problems presented shed light on a considerable gap in regional policies that could be implemented through the ACTO by its member states, with greater impact to accomplish its objectives. However, this reality has started to change, given the increased attention on tackling climate change and viewing the Amazon as one of the Earth's tipping points and carbon sequestration sources (Garrett et al., 2021; Rockström et al., 2009), and given Brazil's current government's lead on assembling the member states again. Furthermore, harder international regulation on deforestation has sparked attention to the region's governance, or lack thereof (Berning and Sotirov, 2023). A recent response has been the signing of the Belém Declaration in August 2023, which takes on a more protectionist discourse. With this, an institutional strengthening of ACTO comes about, using it as an empowering geopolitical tool for the region. Nonetheless, the Belém Declaration is equally non-binding and does not present a common goal of zero deforestation (Spring, 2023).

Regarding alternative futures for forest governance, the region of South America appears to be moving towards a more united and cooperative mode of forest governance, although this will always highly depend on the national politics in place. This reflects the wider trend of multipolar global politics (Schleifer, 2023), and the shift of nation-states seeking to take back control of forest and environmental governance in their countries and regions. It has also been noted that in such regions where civil society is active, the rights of access to information, citizen participation, and justice in environmental matters play a big role in improving the region's forest governance (Terán and Ávila, 2018). Moreover, Hyde et al. (2022) identified an increase towards forest-based tourism and non-timber forest products services in order to preserve forest coverage, and emphasized this region's essential need to apply policies that control agricultural expansion, limiting the loss of forest cover (Hyde et al., 2022).

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Chapter 6

Key Findings and Conclusions

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6.1 Introduction

The 2010 IUFRO Report "Embracing Complexity: Meeting the Challenges of International Forest Governance" (Rayner et al., 2010) pointed to the complexity and fragmentation of international *forest*[1] *governance* (IFG), and to an increased awareness of forests and the diverse efforts at different political levels aiming to address forest-related threats. Since that time, an increasing number of international processes have emerged addressing (sustainable) forest management, climate adaptation and mitigation, and other services that forests deliver. In the last 14 years, there have been increasingly ambitious pledges along with a continued proliferation of new initiatives adding to existing ones, for example the Bonn Challenge and the New York Declaration on Forests. Also, many regional processes have emerged intending to improve the situation of forests internationally, such as processes concerning legality verification of the EU. These processes have included diverse actors (see Chapter 2) and large numbers of financial approaches (see Chapter 3). Despite a plethora of new – and old – forest governance initiatives and related policies, measures, and incentives, there is only limited information about the progress of effectiveness of IFG to deliver sustainable and just outcomes.

The 2010 report argued that IFG needed to embrace complexity and innately take into account certain shortcomings such as fragmentation of the international forest *regime*. Since that time, IFG political processes and activities around halting *deforestation*, as well as *afforestation* and restoration of landscapes, increasingly make use of simple win-win narratives. The processes and activities are claimed to serve diverse goals at the same time, including those responding to *climate change*, preventing the loss of biodiversity, and strengthening human well-being. The present report questions the oversimplification of IFG with its win-win solutions and narratives as presented in statements such as "Plant trees – heal the Earth". Building on an analysis of scientific literature around IFG in the last 14 years, it focuses on conflicting issues and scientific critique, specifically taking note of the human dimension and social relationships. In 2010, the first IFG report pointed out that IFG was not only connected with commodity, biodiversity, and sustainable development, but was also linked to the 'human rights issue'. At the same time, it has been acknowledged that, despite this linkage, the "re-shaping has not been transformative" (Rayner et al., 2010, p. 137), and that paradigms benefitting powerful interests remain. This seems to hold true even 12 years later, as addressed by a background paper from Newton et al. (2020) feeding into the FAO report on the state of the world's forest (FAO, 2022). Building on the usage of new methods, these publications nourish the argumentation that many people outside urban areas live forest-proximate lives of extreme poverty across the globe. This FAO report concludes that, currently, many of these forest-proximate people obtain insufficient benefits from forests (FAO, 2022). We come to a similar conclusion in this assessment, showing that, in particular, the human dimension of IFG needs more in-depth attention, particularly as it concerns people most vulnerable to forest governance changes and their effects.

In the following Sections we report on the main conclusions from the previous Chapters, and briefly summarize and substantiate them. This is followed by a brief discussion on alternative forms of, and mechanisms for, IFG. The last Section of this Chapter is devoted to the limitations of this report, and brings forward suggestions on how to overcome them.

6.2 Key findings

➡ Changes in IFG structures and actors
(see Chapter 2 for details)

The former dominant concept of a centralized IFG in the form of legally binding, or non-legally binding intergovernmental agreements has continued to shift towards a more pluralistic understanding of IFG.

The 2010 report (Rayner et al., 2010) acknowledged that despite the dominance of state governance, co-governance mechanisms, including civil society and private actors, have appeared (e.g., in REDD+, or in the forest certifications systems). Since that time, the diversity of processes and actors has increased substantially. While globally dominant actors continue to shape the rules of IFG, some processes also consider local and Indigenous voices and their knowledge. Yet, social inequalities persist.

A shift towards regionalization, bilateralism, and unilateralism has been another new trend in IFG since 2010. The EU (with its focus on legality verification, the EUTR, and more recently, the EUDR) has been a leader in this shift, using markets to impose trade requirements such as zero deforestation on countries importing into the EU.

1 All terms that are defined in the glossary of this report (Appendix 1) appear in italics the first time they are mentioned in a Chapter.

➡ Limited effectiveness and the "Olympics" of pledges and targets
(see Chapters 2 and 5 for details)

A major critique in the literature of IFG is its 'limited effectiveness', particularly in reference to its failure to adequately address deforestation, forest emissions, and biodiversity loss. Yet, IFG is still presented as the dominant solution to this problem, resulting in an 'Olympics' of pledges and targets.

Globally, the rate of deforestation has decreased from around 13 million hectares of forest per year in 2010, to around 10 million hectares per year in 2020 (FAO, 2020). Though this decrease is acknowledged, the dominant critique of IFG in the scientific literature is about its ineffectiveness to stop deforestation. Forests are essential for many goods and services. However, the continued reference to the deforestation rate as the main indicator for the effectiveness of IFG shows a limited awareness of the diversity of needs and demands connected to forests globally. Neither the number of hectares, nor the deforestation rate, allow for statements that focus on the ecological, economic, or social effects of IFG.

Ambitious and reductionist pledges and targets have increasingly appeared as a political response to the frustration over the perceived lack of progress. In parallel, a rapid growth of science and technology to measure and model progress is needed. With this technical focus, IFG misses out on the opportunity to respond to the already acknowledged diversity of forest goods and services, for example for the livelihood of local people, and simply trusts that these will come along automatically if forest cover grows and degradation decreases. Measuring the effectiveness of IFG against other criteria such as comprehensive sustainability, equity, or justice might open up for new processes and instruments. However, this is not currently mainstreamed in IFG.

➡ Increasing financialization and an ongoing focus on short-term economic gain and growth
(see Chapter 3 for details)

The landscape of forest-related finance for IFG has further increased in complexity, with constantly emerging new policy instruments, incentives, standards, and targets, which come in a variety of forms. This growing complexity is supported by actors and institutions with interests in short-term economic gain, rather than sustainability and a transition towards just forest governance. Alternative finance remains rare.

Though state-led finance (e.g., in form of taxes) is still relevant for IFG, other forms of forest-related finance have gained traction, broadening the options of finance mechanisms, but also risking further financialization of the forest sector. These forest-related finance options appear in different forms, and mainly aim at market augmentation (e.g., through green bonds and other forms of including new sustainability features) and market creation (e.g., in the form of new markets for forest carbon and other *ecosystem services*). Chapters 2 and 3 identified a number of alternative finance mechanisms directed towards development, justice, and sustainability that extend well beyond market augmentation and creation. However, overall, these are in the minority. The main mechanisms follow the economic growth paradigm, with a shift towards financial actors and shareholders more often interested in short-term profits than long-term, just, and sustainable forest governance. Hence, financialization risks to diminish inequalities and to produce perverse effects on *sustainable forest management*. Philanthropic and community-led finance offer an alternative to prevailing finance mechanisms, but at present, these have played a limited role.

➡ Climatization leads to repackaging IFG
(see Chapter 4 for details)

Since 2010, a climatization of the forest discourse in the IFG literature has taken place. This has also become evident in the growing public and private forest carbon markets depicted as 'climatization' or 'hollowing out' of IFG.

Climate had already been identified as a relevant discourse in the literature analysis in the 2010 report, which pointed towards its roots in the 1980s (Arts et al., 2010). While at that time climate was seen as a 'managerial discourse' with regards to forests, it was not deemed to be an overall meta-discourse consistently influencing global environmental decision-making, it was one forest discourse amongst others such as biodiversity or forest conservation. Though these other discourses still exist, they are often 'twisted' towards a climate argumentation. Chapter 4 explains in more detail how deforestation and *forest degradation* have been considered a major problem, but are becoming more closely related to climate change, thus boosting it in the IFG discourses. This problematization supports the aforementioned focus on forest hectares as the main criteria for IFG effectiveness, despite its limited meaningfulness for many other needs. Additionally, climate change is

linked to forests in two more ways: the potential for forests to mitigate climate change, and the effects of climate change on global forests. The former is strongly connected to the aims and targets of the climate regime, for example as formulated in the 2015 *Paris Agreement*. As these targets have been globally agreed upon, and demand (domestic) implementation, many policies and instruments are designed to support these. This focus of IFG towards climate aims, manifested not only in political attention but also financial support, is perceived by some scholars as a shift towards the periphery of IFG fostering a 'hollowing out' and resulting in a 'donut regime' (Singer and Giessen, 2017).

➡ The scientific shift towards a fundamental social relation critique of IFG
(see Chapter 5 for details)

In contrast to the former, more technical critique of the IFG covered in the 2010 report, a 'critical critique' following approaches such as political ecology and critical policy analysis, has gained traction in research on IFG. This form of critique addresses social problems such as power asymmetries, justice, post-colonialism, or exclusion. Often, this critique focuses on uncovering underlying power relations rather than offering specific suggestions for political solutions.

Chapter 5 follows the distinction of Cox, separating 'problem-solving theories' from 'critical theories' (Cox, 1981). While the former accepts the general governance setting as it is, the latter comes with an emancipatory aim, uncovering and questioning power relations. This 'critical critique' of IFG has gained increasing attention in IFG research. Thus, problems concerned with social relationships have gained more attention in IFG research, while in earlier times analysing institutional governance structures and problems such as fragmentation, missing coherence, or knowledge uncertainties were central. Consequently, problems like power asymmetries between different regions (e.g., *North-South*) and different actors (powerful, private sector versus local and Indigenous peoples) result in dominant IFG logics becoming more present in the scientific debate. Though these issues and conflicts have been raised before (e.g., Colfer, 2011; Humphreys, 2012, 2009), the frequency and urgency of the debate has recently gained more traction. This attention on social relations has been fostered, not only by forest scientists, but also by other actors, including affected stakeholders and their practice, knowledge, and experience. Researchers outside the usual IFG scholarship, such as those with a sociological background and with a focus on interpretative, emancipatory research became interested. However, institutional and actor-centred approaches are still prominent in IFG research, pointing towards limited effectiveness, fragmentation, or weaknesses in implementation and validation. Many of these studies mirror (or strengthen) the focus on problems that were recognized in the 2010 report. Those critical issues of IFG that have been addressed for a long time but have not been solved in the last 14 years are now accompanied by societal and scientific critique to pay attention to even more fundamental problems.

This push for attention on social relations and justice perspectives is paralleled by an increased reliance on market mechanisms managing nature and forests. This form of marketization depoliticizes issues and shifts political discourses to an economic arena where benefits and gains rule IFG. Markets are understood as problem-solving structures that serve as political means for the needed societal transformation. Marketization comes with a win-win logic often promising effectiveness in ecological, economic, and social terms. These win-win solutions are, however, questioned by a multitude of studies and by affected stakeholders. Political as well as scientific debates on social relationships and justice instead push the politicization of IFG far beyond ecological and economic goals and targets.

6.3 Future IFG alternatives

Building on the key findings of this report, briefly outlined above, potential ways forward for IFG can be considered. Depending on whether international governance should aim at "maintaining international order or, […] achieving global justice" (Adler, 2005, p. 13) alternatives for IFG can be grouped into two categories: i) pragmatic alternatives, and ii) radical alternatives (see Chapter 5). While technically holding them apart for descriptive purposes, this distinction can get blurred:

(i) Pragmatic alternatives

Pragmatic alternatives embrace the more technical critique to build on existing approaches of IFG, and overcome potential weaknesses through continued improvement. These comprise approaches such as 'overcoming fragmentation' by more effective cooperation and coordination, supporting learning experiences, and innovating and using technical fixes in implementation (e.g., for measurement and verification). Such approaches were

extensively addressed in the 2010 report (Rayner et al., 2010), and have been updated in Chapter 5. Thus, they are not repeated here.

(ii) Radical alternatives

Radical alternatives aim to overcome the aforementioned forms of marketization and financialisation of IFG to address problems of, and between, social relationships and power asymmetries. Here, two alternatives are presented:

Fostering open, global discourses of reduced consumption and implementing mechanisms to support them can work as an alternative to the economic growth paradigm. Reduced consumption, as addressed in recent years by the de-growth discourse, can focus on a suite of different goals: reducing the impact of human activities on the environment, contributing to a just redistribution of income and wealth, and a shift from a materialistic to a participatory society (Cosme et al., 2017). Different mechanisms can be initialized depending on the goal at hand. The first goal on reduced impact of human activities on the environment is already partially addressed by some IFG processes and instruments, leading to, for example, restoration or nature conservation. However, other mechanisms are only rarely taken up, or are even neglected, such as reducing or localizing consumption and production. The second goal of a just redistribution of income and wealth is so far rarely acknowledged in IFG, though it responds to major fundamental critiques of IFG. Mechanisms to support this goal are prices on environmental and social externalities, (local) investments, recognition and management of public goods (Cosme et al., 2017), or alternative funding schemes (see Chapter 3). The last goal of aiming for a "convivial and participatory society" (Cosme et al., 2017, p. 325) can be supported by strengthening democratic institutions and equal participation opportunities within them. Although reduced consumption has gained increasing attention in political and scientific debates, sensitive issues such as its meaning for development, or the question of global population growth, remain not fully addressed.

Fostering local-based, people-centred approaches to respond to problems of global asymmetries and dynamics of privileging powerful actors and their interests over local, affected people is the second radical alternative. Mechanisms supporting such an approach are strongly connected to a human rights-based approach (Cornwall and Nyamu-Musembi, 2004), which focuses on granting equal rights and chances to participate meaningfully in IFG, including the broadening sources of knowledge to include traditional knowledge forms. Mechanisms supporting a local-based and people-centred approach vary. The inclusion of representative forms such as Non-Governmental Organisations (NGOs) acting as norm-entrepreneurs for marginalized people forms part of these mechanisms (Suiseeya, 2017), although the faithful representation of NGOs has been questioned elsewhere (Stoett and Teitelbaum, 2000). Another form of support to the deliberative participation of people in international governance is participation via surveys (Wike, 2021). An example is the My World global survey conducted by the United Nations between 2012 and 2015 in the framework of the development of the SDGs (UN, 2015). A less centralized form of a people-centred approach is the polycentric governance approach, with many, mainly independent, centres of decision-making connected in an interdependent system (Oström, 1990).

No matter which alternatives are enacted for IFG in the future, the concern of limited effectiveness mainly substantiated by the deforestation rate, and supported by the pledges and targets, would benefit from a clear reframing of IFG goals. Redressing the strong environmental focus on forested land to other demands connected with forests, in particular those concerning human and social needs, can broaden IFG goals, and thus, change the starting point against which the effectiveness is measured. Furthermore, it would allow the alignment with the recurring avowal in political discourses that people are at the centre of global governance.

6.4 Limits to cover silences in this report

The critique in this report, as well as the proposed alternative forms for future IFG, build on a review of scientific, peer-reviewed studies written in English, and thus, mirror the scientific discourse. While scientific work is not progressing at the same speed as political decision-making in IFG, it still provides a consistent analysis of dominant structures and discourses. However, this analysis is not comprehensive, as specific scientific perspectives are missing, as is the ability to include evidence across many languages. Despite the attempt to overcome northern perspectives, the authors of this report do not represent the global scientific community dealing with IFG, neither geographically, nor from disciplinary perspectives.

This bias of perspectives and skills is one facet of the silences recognized in the different Chapters of this report. Silences have been identified in the institutions and among the actors of IFG, as well as in the IFG financialization and the discourses. They become apparent if the following questions are asked: who is able to raise voices, who defines what problems to address that should have high priority in the agendas of IFG, and who is able to develop how goals and solutions should be designed to build a clear objective against which IFG should be measured.

Acknowledging these blind spots and uncovering silences will remain a continued task for further research. It, however, cannot stop there. Instead, we propose that the results of this report need to be embedded in a broadened discussion with other stakeholders, political decision-makers, the private sector, and civil society, but also with local people who are, and will be, affected most directly by IFG.

Table 6.1

Summary of approaches to embrace the complexity of International Forest Governance – synthesized from the Assessment of International Forest Governance

FOREST +

A governance framework capturing the diverse forest values and cross-sectoral linkages

A NEW DIPLOMACY *Adapted to complex and fragmented International Forest Governance and bridging the gap between high level diplomacy and experimentation on the ground*	**A NEW LEARNING ARCHITECTURE** *Encouraging situations of policy learning by emphasizing in particular informational instruments*
◗ Determining the most appropriate scale for discourse and action and committing to an appropriate principle of subsidiarity	◗ Implementing and using a clearing-house mechanism to ensure a comprehensive knowledge management
◗ System of inter-arena coordination through learning	◗ Establishing a learning platform with a set of services providing information, tools and resources, building on diverse networks organized around a particular problem
◗ Intelligent stakeholder participation	◗ Making use of e-governance tools
◗ Encouraging leadership by policy entrepreneurs	◗ Improving the network management lead by an organization and making use of policy entrepreneurs
◗ Coordinated portfolio of policy instruments comprising hard law and soft law	

Source: Modified from Rayner et al. 2010

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Appendix I: Glossary

Afforestation

Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest (FAO, 2020). According to the definition used by the UNFCCC, afforestation can take place on land that has not been covered by forest for at least 50 years (UNFCCC, 2013).

Blockchain technology

A method of recording information through a network of computers that makes it extremely difficult (or even impossible) for the system to be changed, hacked, or manipulated.

Climate change

A change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It may be due to natural processes or external forcings. Note that the United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods", making a distinction between climate change attributable to human activities and climate variability attributable to natural causes (IPCC, 2022, p. 544).

Criollo

In Argentina, the term is used to refer to people of either Spanish or of mixed Indigenous and European descent (Dasso, 2010).

Deforestation

The conversion of forest to another land use, or the long-term reduction of the tree canopy cover below the minimum 10% threshold (FAO, 2010). Explanatory notes:

- Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use. Such a loss can only be caused and maintained by a continued human-induced or natural perturbation.
- Deforestation includes areas of forest converted to agriculture, pasture, water reservoirs, and urban areas.
- The term specifically excludes areas where the trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures. Unless logging is followed by the clearing of the remaining logged-over forest (for the introduction of alternative land uses, or the maintenance of the clearings through continued disturbance), forests commonly regenerate, although often to a different, secondary condition. In areas of shifting agriculture, forest, forest fallow, and agricultural lands appear in a dynamic pattern where deforestation and the return of forest occur frequently in small patches. To simplify reporting of such areas, the net change over a larger area is typically used.

- Deforestation also includes areas where, for example, the impact of disturbance, overutilisation, or changing environmental conditions affects the forest to an extent that it cannot sustain a tree cover above the 10% threshold.

Ecosystem	A dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit (CBD, 2010).
Ecosystem services	The results of ecological processes or functions that benefit people, either as goods or as services, and that may have monetary or non-monetary value to individuals or society at large. These include i) provisioning services such as food, water, timber, and fibres; (ii) regulating services that affect climate, floods, disease, wastes, and water quality; (iii) cultural services that provide recreational, aesthetic, and spiritual benefits; and (iv) supporting services such as soil formation, photosynthesis, and nutrient cycling (MA, 2005).
Forest	Land with trees under a specified management. Common definitions combine biophysical aspects of tree cover ("Land spanning more than 0.5 ha, with trees higher than 5 m, and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ") with institutional aspects ("excluding trees that are considered to be agricultural, and/or land that is predominantly under agricultural or urban land use"). It also includes areas temporarily unstocked (e.g., after clearfelling or disturbance) that are expected (without time limit) to revert back to tree cover above the stated threshold (FAO, 2018).
Forest degradation	Changes within the forest which negatively affect the structure or function of the stand or site, and thereby lower the capacity to supply products and/or services (FAO, 2010). Also, when a forest delivers a reduced supply of goods and services from a given site and maintains only limited biological diversity; it has lost the structure, function, species composition, and/or productivity normally associated with the natural forest type expected at that site (ITTO, 2002).
Forest-dependent people	People that have a direct relationship with forests and trees, live within or adjacent to forested areas, and rely on them for their subsistence and/or income.
Forest Landscape Restoration (FLR)	A planned process that aims to regain ecological integrity and enhance human well-being in deforested or degraded landscapes (WWF and IUCN, 2000).
Forest management	The processes of planning and implementing practices for the stewardship and use of forests and other wooded land, aimed at achieving specific environmental, economic, social, and/or cultural objectives. Includes management at all scales such as normative, strategic, tactical, and operational level management (FAO, 2004).
Global North (or North)	According to the UN Conference on Trade and Development - UNCTAD (an intergovernmental organisation within the UN Secretariat that promotes the interests of low- and middle-income countries in world trade), the Global North broadly comprises Australia, Canada, Europe, Israel, Japan, New Zealand, South Korea, and the USA. See also 'Global South'.

Global South (or South)	According to the UN Conference on Trade and Development - UNCTAD (an intergovernmental organisation within the UN Secretariat that promotes the interests of low- and middle-income countries in world trade), the Global South broadly comprises Africa, Asia (excluding Israel, Japan, and South Korea), Latin America and the Caribbean, and Oceania (excluding Australia and New Zealand). Most of the countries included are commonly identified as lacking in their standard of living. See also 'Global North'.
Governance	For the purpose of this publication, we understand international governance as "the formal and informal bundles of rules, roles, and relationships that define and regulate the social practices of state and non-state actors in international affairs" (Slaughter et al., 1998, p. 371).
High-Income Countries (HIC)	A group of countries classified as high-income based on gross national income per capita estimates using the World Bank Atlas method (World Bank, 2023). High-income economies are currently defined as those with a GNI per capita of USD 12,536 or more in 2019. See also 'Low- and Middle-Income Countries'.
Kyoto Protocol	The Kyoto Protocol was adopted at the Third Session of the Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) in 1997 in Kyoto, Japan. It contains legally binding commitments, in addition to those included in the UNFCCC. Countries included in Annex B of the Protocol (most member countries of the Organisation for Economic Cooperation and Development [OECD] and those with economies in transition) agreed to reduce their anthropogenic greenhouse gas emissions (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) by at least 5% below 1990 levels in the commitment period 2008 to 2012. The Kyoto Protocol entered into force on 16 February 2005 (IPCC, 2007).
Leakage	Direct emissions elsewhere caused by the emission reduction in a project/programme area (e.g., protection of a forest area in one location leading to emissions caused by deforestation in other locations).
Low- and Middle-Income Countries (LMIC)	A group of countries classified as low-income or middle-income based on gross national income per capita estimates using the World Bank Atlas method (World Bank, 2023). Low-income economies are currently defined as those with a GNI per capita of USD 1,035 or less in 2019. Middle-income countries consist of two groups: lower middle-income economies with a GNI per capita between USD 1,036 and USD 4,045 and upper middle-income countries with a GNI per capita between USD 4,046 and USD 12,535. See also 'High-Income Countries'.
Nature-based Solutions	The sustainable management and use of natural features and processes to tackle socio-environmental issues (Girardin et al., 2021).
Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change adopted by 196 Parties at the UNFCCC COP 21 on 12 December 2015 and entering into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably 1.5 degrees Celsius, compared to pre-industrial levels. The Paris Agreement provides a framework for financial, technical, and capacity building support to those countries who need it. Central to the Agreement is the development of "nationally-Determined Contributions" (NDCs) by Parties, which include actions that they will take to reduce their Greenhouse Gas emissions in order to reach

	the goals of the Paris Agreement. Countries also communicate in the NDCs actions they will take to build resilience to adapt to the impacts of rising temperatures (UNFCCC, n.d.).
Payments for ecosystem (or environmental) services (PES)	A type of economic compensation (monetary or otherwise) offered to ecosystem managers as an incentive to apply practices that increase or maintain the flow of goods and services provided by the land they manage (Grima et al., 2018). These incentives are typically provided by those who benefit from environmental services, including local, regional, and global stakeholders, but can also come from other sources such as tax revenues.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest after a temporary period (<10 years) during which there was less than 10 percent canopy cover due to human-induced or natural perturbations (FAO, 2010). According to the definition used by the UNFCCC, reforestation can occur on land that was forested but that has been converted to non-forested land.
Regime	A "set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge" (Krasner, 1982, p. 2). See also 'Governance'.
Rio Conventions	The three conventions agreed at the United Nations Conference on Environment and Development (UNCED, also known as Rio Conference or Earth Summit). These are: i) UNFCCC (United Nations Framework Convention on Climate Change), ii) CBD (Convention on Biological Diversity), and iii) UNCCD (United Nations Convention to Combat Desertification).
Sustainable Development Goals (SDGs)	A set of 17 UN-approved goals that define targets, ways of monitoring, and means of implementation to improve human well-being, and reduce negative environmental impacts and feedbacks (UN, 2015).
Sustainable forest management	A dynamic and evolving concept that aims to maintain and enhance the economic, social, and environmental values of all types of forests, for the benefit of present and future generations (FAO, 2018).

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